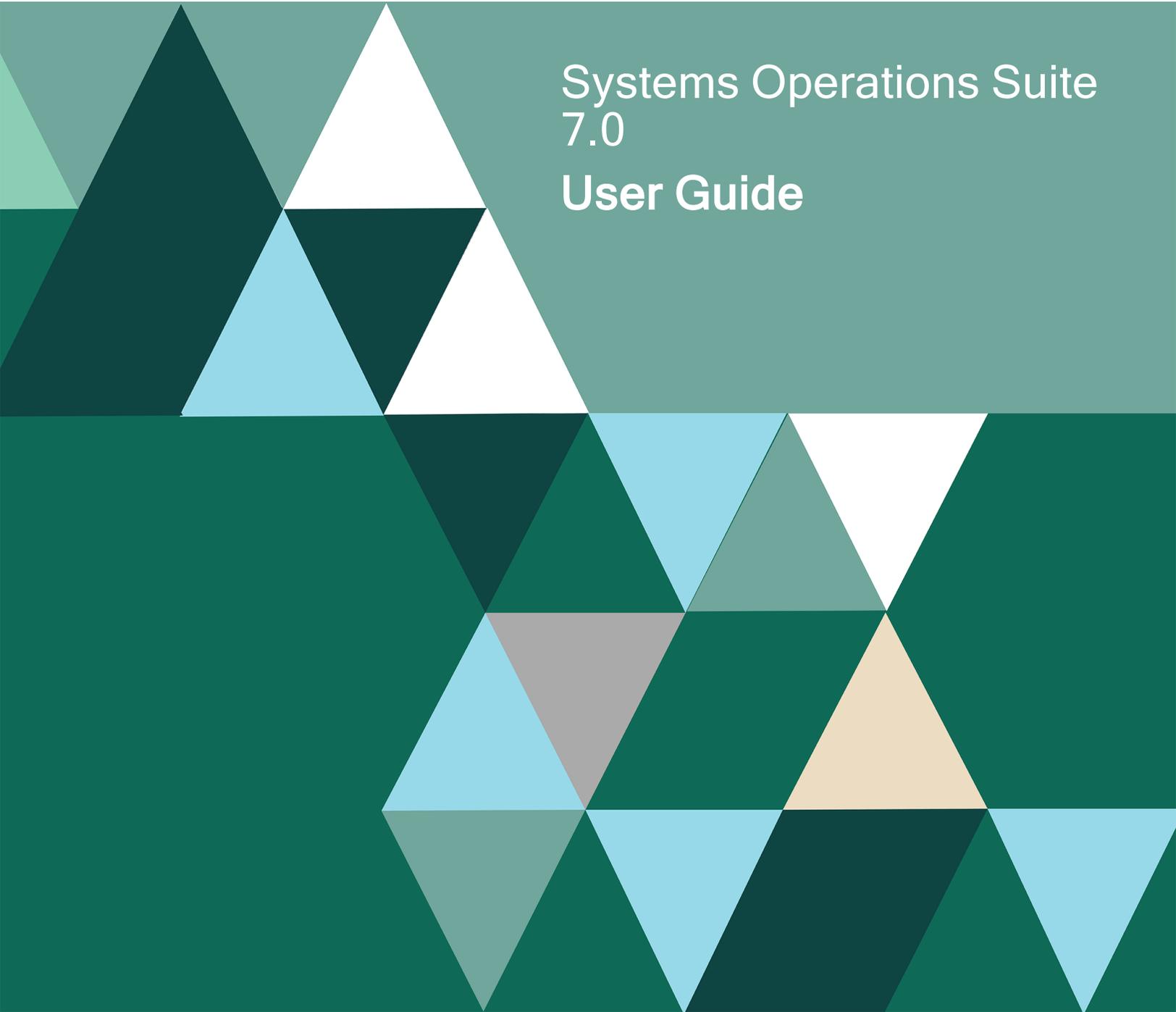


FORTRA



Systems Operations Suite
7.0
User Guide

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Introduction

Overview

Halcyon Product Suites handle IBM i messages, job, output queues and devices for delays or threshold breaches as well as providing additional functionality by interfacing with key business applications, proactively automating the monitoring and management of system events, FTP activity and the security audit journal.

V7.0 includes support for monitoring objects in Auxiliary Storage Pools (ASPs) across all rule-based components.

The business application monitor manages the health of applications and underlying technologies including, but not limited to, Infor M3 (Movex), SAP, JD Edwards, Misys and Quick-EDD. In addition, users can avoid unplanned outages by eliminating points of failure and scheduling essential system backups and housekeeping tasks, reflecting business processes and escalation policies, in a completely unattended environment.

Halcyon Product Suites enable system administrators to maintain the highest possible levels of system availability and business continuity by proactively monitoring the audit journal, receiving real-time alerts of attempted security breaches and accessing comprehensive reporting capabilities, including historical data and trends. Halcyon Product Suites can also monitor for authority failures, periods of inactivity, invalid sign-on attempts, user profiles that become enabled/disabled, including high level users whose profiles are enabled for use.

To combat downtime and ensure continuous operation of critical IT systems, Halcyon Product Suites introduce intelligent templates. These pre-defined tools significantly enhance productivity and facilitate ease of monitoring for virtually any component, job, subsystem or device on your system by automating key repetitive tasks and assigning 'message rules' to execute an action or procedure. The software can be installed remotely and the configuration tested without affecting the live environment.

Using a Halcyon Product Suite means never being caught off-guard should a server, job, subsystem, device or other resource become unavailable. Not only are you alerted to problems, the software automates the correction process and informs you of what it has done, eliminating repetitions of the same issues, avoiding late night calls, significantly reducing manual tasks and troubleshooting without the need for additional staff.

Benefits

- **Monitors for application error messages and system critical messages:** In real-time, you are alerted to a possible impending disaster, such as suspension of disk mirroring or imminent disk failure, or that a time-critical job has not yet finished. You can also add new messages to be monitored by selecting from messages that have appeared, or not appeared on your message queues.
- **Automatic reply to inquiry Messages:** Automate the monitoring of all your message queues such as a system message, user message and device message queues plus QHST in real time and automate your response.
- **Proactively automate the real-time monitoring and management of system and security related events:** Real-time system and message log monitoring enabling you to see at a glance:
 - FTP activity
 - System value and configuration changes
 - A specific command being run
 - Types of objects being created or deleted
 - The number of objects that were not saved in the most recent backup
 - Authority failures
 - Periods of inactivity
 - Invalid sign-on attempts
 - User profiles that become disabled or enabled (including high level users)
- **Intelligent templates:** These pre-defined tools significantly enhance productivity and facilitate ease of monitoring for virtually any component, job, subsystem or device on your system by automating key repetitive tasks and assigning 'message rules' to execute an action or procedure.
 - Monitor system or job response times and status
 - Subsystems being inactive at certain times
 - Performance alerting if customized system thresholds are met
 - Memory and CPU activity both overall and on an individual job basis
 - Disk space utilization (ASP%)
 - Cache battery in addition to capped and uncapped processors
- **Flexibility:** Avoid unplanned outages by eliminating points of failure and scheduling essential system backups and housekeeping tasks, reflecting business processes and escalation policies, all within a completely unattended environment
- **Smart Automation:** Halcyon Product Suites use smart automation commands to automate and replicate how your organization would respond to a given situation
- **Enterprise Console (Graphical User Interface):** You can consolidate your existing tools and have a single 'dashboard' view of your entire system, using the Enterprise Console

- **Virtualization:** Install more than one version of a Halcyon Product Suite on a single platform. You can even install the software with your own configuration and PTF level without affecting your live environment
- **Enhanced Calendar Function:** Emulate your on-call rosters and company working schedules across multiple time zones
- **Security Compliance:** Enhanced Audit Trail and Security Journaling so that you can easily determine what happened, when and by which user

Components

The following components are included with Halcyon Level 2 - Systems Operations Suite:

Message Manager

Message Manager monitors all of your message queues and the QHST History Log for any type of message. Comprehensive rule criteria ensure you are alerted to important messages while ignoring the routine.

TCP/IP Monitor

TCP/IP Monitor can monitor the availability of any device with an IP Address.

Job Log Monitor

Job Log Monitor allows you to create Rules to select Jobs and alert if the Job Log of matching Jobs contains the specified message.

Message Communicator

Message Communicator allows you to send messages to phones, pagers or to email addresses. 2-way SMS and email can be used to answer inquiry messages or to execute any command on an IBMi server. Set up Escalation Lists, Broadcast Groups, Schedules and Rosters so that messages get sent to the appropriate on-call personnel.

System Event Manager

System Event Manager contains a collection of monitors designed to help you keep a check on a variety of potential system events occurring on your IBMi.

The following system event monitors are included within Halcyon Level 2 - Systems Operations Suite:

Job Queue Monitor

Check the status of any job queue, if the number of jobs in the queue exceed a pre-defined threshold or if a job has been waiting too long to be processed.

Device Monitor

Checks the status of any device such as, printers, tape drives and so on.

Output Queue Monitor

Checks the status of any output queue, the number of spooled file entries on a queue, if the number of pages exceeds the threshold for a specified spooled file and so on.

Object Monitor

Checks the existence of any type of object, including objects in the IFS. It can also monitor for the existence of a member within a file. If a file exists, the monitor can check to see whether it contains any data and/or if it contains more than the specified number of records.

Performance Groups Monitor

Checks against pre-defined performance thresholds across system, jobs and pools. Alerts are generated if these thresholds are breached.

User Profile Monitor

Checks the status of User Profiles (for example, users that have had their account disabled or those that have exceeded a predefined threshold for storage used). Users can be selected specifically, generically or globally by user name, class group profile or account code.

Distribution Queue Monitor

Checks the depth of any distribution queue and whether it is in an error status.

Inactivity Monitor

Checks interactive jobs for periods of inactivity and can also check batch jobs. A variety of status conditions such as LCKW (Lock Wait) can also be monitored.

Custom Monitor

If you have the Custom Monitor plug-in module installed, the Custom Monitor checks the status of the custom command rules and raises an alert if the command ends by sending an escape message to the requester. Alerts are processed by the Primary Action Monitor.

Audit Journal Manager

Use Audit Journal Manager monitors, in real-time the system audit journal, QAUDJRN. Comprehensive filters can identify important security events and bring those to your immediate attention.

Restricted Tasks Manager

Schedule, or submit to a job queue, any number of restricted state functions, such as SAVSYS, SAVLIB(*NONSYS), RCLSTG etc. to be executed in a completely unattended environment. Monitor and answer messages during restricted state and optionally notify personnel about completion and error messages by SMS or email.

Enterprise Console

Use the Enterprise Console to view messages and alerts generated by any of the IBMi and PC products on a single graphical PC console.

Replies can be given to inquiry messages and alerts closed from the central console and color coded options help identify different servers and/or different types of alert. Full details regarding the message or alert received is displayed in a separate panel. Filters and escalating actions can be set up on the Enterprise Console to add additional decision making routines.

NOTE: Operation of the Enterprise Console is covered in a separate user guide.

Operational Pre-Requisites and Useful Information

Email Pre-Requisites

The following pre-requisites are required when using the Send Text Message (SNDTXT) action to send a message to an email address:

- TCP/IP must be fully configured on the IBMi
- SMTP (Internet) email must be available across the LAN
- Any valid email address can be used in the EMAIL action parameter
- SMTP email gateway must be accessible from the IBMi *
- At least one directory entry must be routed through the email gateway *
- Only one directory entry is needed (for example; INTERNET SMTPRTE) *
- The system name of the email gateway must be used (for example; TCPIP) *

* Not required when using an external SMTP server for email delivery. See [Sending an email via an external SMTP/POP Server](#) for more information.

Halcyon PTF and IBM O/S Level Requirements

Performance Monitor

Performance Monitor requires Halcyon PTF2014.048 or higher running on IBMi O/S v6.1 or higher. Attempting to run PFT2013.343 or earlier on IBMi v7.1 or higher causes a GATHERDATA error.

Installing a GSM Terminal or NETGSM Terminal

To send messages to cell phones and pagers, Halcyon Product Suites require either a GSM terminal phone connected to a V24 communications adapter on your IBMi or a NPort NETGSM device connected to your local network.

When attempting to send phone or pager messages from the IBMi, please ensure that the communications line you have specified in the system defaults is not being used by another active resource.

This can be determined by using the following command:

WRKHDWRSC TYPE(*CMN)

Now look at the configuration status of the communications resources. You have to 'vary off' any resources that have a status of 'Active' or 'Rcypnd' that you want [Message Communicator](#) to use.

Installing and configuring a GSM terminal

1. From a V.24 port on your IBMi, connect the V.24 cable to the GSM via a 9-21 pin adapter cable.
2. Insert the SIM card into the GSM (make sure it is data enabled) and power on the terminal.
3. From the Halcyon main menu select option **21=Message Communicator**.
4. From the Message Communicator menu select option **31=Work with Communications Resources**. A default communications resource is displayed.
5. Select option **2=Change** against the default communications resource to display the Change Communications Resource display.

```

HMC2800R                               Halcyon Message Communicator                               HAL525P3
PROD                                     Work with Communications Resources                               23/01/15 09:08:55

Type options, press Enter.
 2=Change 4=Delete 5=Display 6=Release 7=Hold
      Device  Device
Opt Name Type  Name      Description      Current      Status/
 2 COM1 *GSM   ZHMCCOM1  Default Comms resource  Network      Sig Qual
                                     Held

```

6. Change the **Comm Port** setting to the same as that identified for the V.24 Port in the Work with Communications Resources display.

```
HMC2800R          Halcyon Message Communicator          HAL720P4
QA               Change Communications Resource          23/01/15 09:17:56
                                                         (1 of 2)

Name . . . . . COM1
Description . . . . . GSM
Comm port . . . . . CMN05          *NETGSM, *EMAIL, *POP, F4=Prompt
Device description . . . . . ZHMCQA1
Device type . . . . . *GSM          *GSM, *MDM
Baud rate . . . . . 115200       50, 75, 110, 150, 300, 600, 1200...
Parity . . . . . *NONE          *EVEN, *ODD, *NONE
```

Keep all other parameters as their default settings (unless the communications device is a shared resource, in which case change the Shared setting to *YES) and press Enter.

NOTE: Changes made on this display are only effective when the Primary Action monitor is stopped and restarted. If this is already in a stopped state when the changes were applied it only needs to be started.

Installing and Configuring a NPort NETGSM device

A NPort device is a small data communications device that allows you to control RS-232 serial devices over a TCP/IP-based Ethernet and can be used as an interface between multiple GSM devices and a server. It also provides a method of accessing a GSM Data Terminal when no V.24 port or cable is available.

1. Connect the NPort device so that it is visible on your network.

TIP: A quick installation guide for the NPort device can be found at:

http://www.moxa.com/support/sarch_result.aspx?prod_id=237&type_id=7&type=doc

2. Connect the GSM device to the NPort.
3. Load the installation CD that came with the NPort device. From the software directory install the appropriate NPort administrator for your operating system, following the on-screen installation instructions.
4. Once installed, from the NPort Administrator - Configuration toolbar select **Search**. The configuration tool searches your network for NETGSM devices. Once the device has been located it is displayed in the Configuration panel of this display.
5. Double-click this device to open the Configuration display. If not already displayed, select the Network tab of this display. To be able to amend the current IP Address, click **Modify** in the top panel to enable the IP Address parameter.
6. Configure the IP Address settings according to your network (although we recommend the use of a fixed IP Address). Click **OK** to confirm the new settings and close the Configuration display.
7. Double-click the device again, so that it is highlighted, and from the toolbar, click **Web**. This opens a web configuration page 'NPort's Web Console' from where additional settings can be modified.

MOXA www.moxa.com

Welcome to NPort's web console !

Model Name	NPort 5110
MAC Address	00:90:EB:18:D9:B2
Serial No.	6117
Firmware Version	2.2 Build 08042219
System Uptime	0 days, 01h:27m:07s

NPort's web console provide the following function groups.

Basic Settings
Server name, real time clock, time server IP address, and Web console, Telnet console Enable, Disable function.

Network Settings
IP address, netmask, default gateway, static IP or dynamic IP, DNS, SNMP, IP location report.

Serial Settings
Baud rate, start bits, data bits, stop bits, flow control, UART FIFO.

Operating Settings
Operation mode, TCP alive check, inactivity, delimiters, force transmit timeout.

Accessible IP Settings
Accessible IP or Accessible IP group. Disable to accept all IP's connection.

Auto Warning Settings
Auto warning E-Mail, SNMP Trap server IP address.

Monitor
Line, Async, Async-Setting

Change Password
Change Password support user to set the password for login the console screen.

Load Factory Default
Load Factory Default support user to load the factory default settings.

Save/Restart
Before any configuration take effect, save and restart NPort.

8. From the left-hand menu, select **Serial Settings | Port One** and ensure that the Baud rate is set to **115200**. Click **Submit** followed by **Save/Restart** followed by **Home**.
9. From the left-hand menu, select **Operating Settings | Port One** and ensure that the Operation mode is set to **TCP Server**. Configure all other settings on this display to match those in the screen shot below. Click **Submit** followed by **Save/Restart** followed by **Home**.

The screenshot shows the MOXA web interface for configuring a device. The left-hand menu is expanded to 'Operating Settings' for 'Port 1'. The main content area is titled 'Operating Settings' and contains the following configuration fields:

- Operation mode:** TCP Server Mode (dropdown)
- TCP alive check time:** 7 (0 - 99 min)
- Inactivity time:** 0 (0 - 65535 ms)
- Max connection:** 1 (dropdown)
- Ignore jammed IP:** No (radio button)
- Allow driver control:** No (radio button)
- Data Packing:**
 - Packing length:** 0 (0 - 1024)
 - Delimiter 1:** 0 (Hex) [Enable checkbox]
 - Delimiter 2:** 0 (Hex) [Enable checkbox]
 - Delimiter process:** Do Nothing (dropdown) (Processed only when Packing length is 0)
 - Force transmit:** 100 (0 - 65535 ms)
- TCP Server Mode:**
 - Local TCP port:** 4001
 - Command port:** 966

A 'Submit' button is located at the bottom right of the configuration area.

10. From the left-hand menu, select **Auto-Warning Settings | E-mail and SNMP Trap**. The settings on this page allow you to configure the server settings for Email alerts and SNMP Traps. Enter details as required for your network configuration, specifying the SNMP trap server as the IP Address of the Enterprise Console to which you want SNMP traps to be sent. Click **Submit** followed by **Save/Restart** followed by **Home**.
11. From the left-hand menu, select **Auto-Warning Settings | E-mail and SNMP Trap**. The settings on this page allow you to configure the event types on which you want to be alerted. For each event type you can select to be notified by mail, trap or both. Alerts are then sent via the server options specified in step 9. Enter details as required for your network configuration. Click **Submit** followed by **Save/Restart** followed by **Home**. The configuration of the NPort NETGSM device is now complete.

Configuring the NETGSM device within a Halcyon Product Suite

1. Log-on to Halcyon Product Suite and select option **21=Message Communicator** followed by option **31 = Work with Communications Resources**. The *NETGSM is supplied as a default setting on COM1.
2. Select option **2=Change** against this device to open the Change Communications Resource display.
3. Leave the **Name**, **Description** and **Comm Port** parameters as the default entries.
4. Enter the **IP Address** of the NETGSM device (as configured earlier).
5. Ensure the NET-GSM port number is set to 4001.

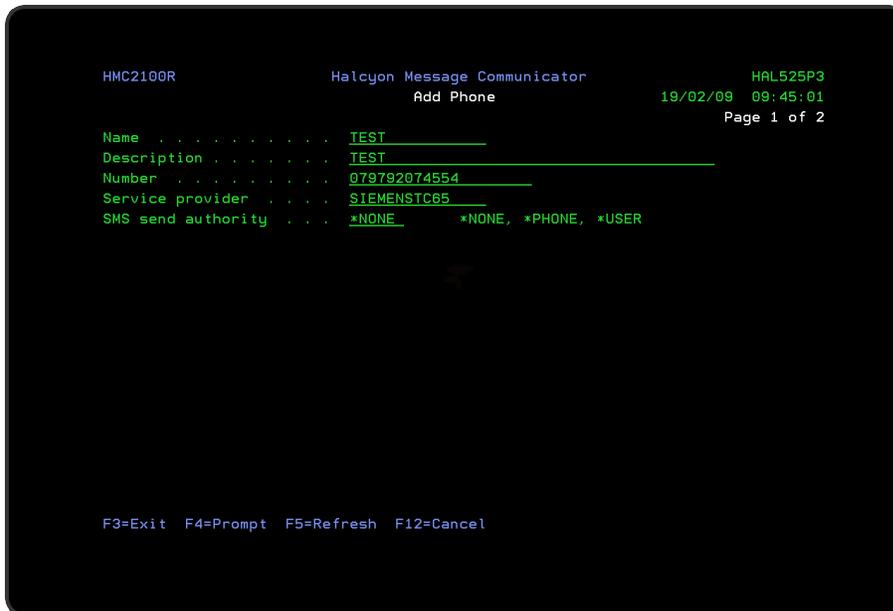
NOTE: This entry must be the same as that configured in the Local TCP Port setting of the Operating Settings of the NETGSM device. If you change this setting within the Halcyon Product Suite, you must change the corresponding entry on the NETGSM device and vice versa.

6. Leave the remaining parameters as their default settings and press **Enter** to confirm.

Adding a Phone

In order to test the functionality of the GSM/NETGSM terminal it is important to add a mobile phone as a message device.

1. From the Halcyon main menu, select option **21=Message Communicator** followed by option **10=Work with Phones**.
2. To create a new mobile phone, use **F6=Add** from the main Work with Phones display to open the Add Phone display.

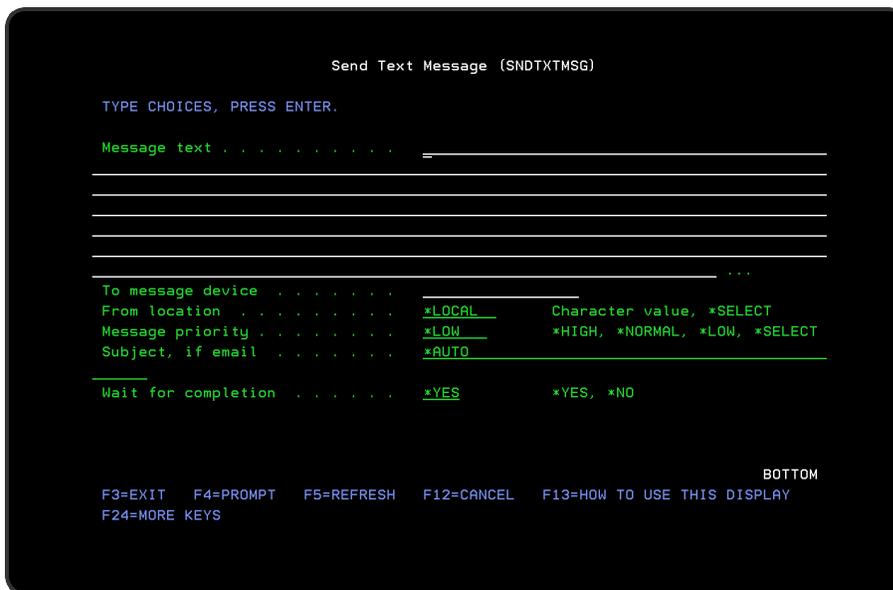


3. Enter a **Name** and **Description** for the new phone, such as 'Test'. (The phone can be deleted once the test is complete).
4. Enter the phone number of the mobile to be used for the test. You can enter spaces if you want as these are ignored when the number is used.
5. Leave the 'Service Provider' and 'SMS Send Authority' parameters as their default settings and press **Enter** to create the phone.

Sending a test message via the GSM/NETGSM

The next stage of the process is to ensure that it is possible to send messages to the phone using the GSM/NETGSM terminal.

1. From the command line, type the **SNDTXTMSG** command and press **F4** to open the Send Text Message display.



2. Type **Test Message** into the 'Message text' parameter.
3. Position the cursor on the 'To message device' parameter and type in the name of the phone that you added in the previous section.
4. Press **Enter** to send the test message, which should arrive at the phone within a few moments.

NOTE: If the phone was simply being used for the purposes of this test you may want to delete it from the list of message devices. (Use option **4=Delete** against the Phone in the Message Communicator - [Work with Phones](#) display).

If the Test Message does not arrive

If the message fails to arrive, the best option is to send the communications log to the technical support team so that they can diagnose the problem. To do this:

1. From the Halcyon main menu, select option **40=Reports Menu**
2. From the Reports menu, select option **2=Print Communications Log**
3. Leave all parameters as their system defaults and press **Enter**. The communications log is printed
4. Send the communications log as an email attachment to: support.halcyon@fortra.com

Troubleshooting

Dumping Product Data

Although Halcyon write very robust and stable products, there are times when problems may arise. So that we can assist you fully, there is an in-built utility that allows you to download system information to a *SAVF file and then forward it to our support team as an email attachment.

The following products (providing they are installed) can be selected:

HAM	Audit Journal Manager
HEM	System Event Manager
HMC	Message Communicator
HMQ	MQ Manager
HMX	HA-MX Monitor
HRP	Record & Playback
HRT	Restricted Tasks Manager
HXP	Exit Point Manager

Additionally, you can select the type of data to include in the SAVF file.

*ALL	All product data is included
*CONFIG	Configuration data is included. This data includes rules, calendars, phones and so on
*NONSYS	Non system data is included. This data includes alert log, message log, performance data and so on
*SYS	System data is included. This is data that ships with the system and does not change, such as menu files, function lists, and so on

NOTE: System data is data stored in files that does not change, except when upgrading to a new version or PTF. Examples of system files are menu option files lists of constants, and so on.

To Dump Product Data:

From the Halcyon main menu, select option **41=Utilities** followed by **30=Dump Product Data**.

1. Select the **Product Code** to which the issue relates. (HEM=System Event Manager, HMC=Message Communicator, HMM=Message Manager).
2. Select ***YES** for Common Library if you want to include the common library data.
3. Enter the name of the ***SAVF File** that you want to use (or keep the default file name) together with the name of the library in which the ***SAVF** file is held.
4. Select the type of data to dump.
5. Press **Enter** to generate the ***SAVF** file.

Sending the saved Data

After creating the save file, you can email the data to our technical support team as follows:

1. Using a PC, click **Start | Run**.
2. Type **FTP** followed by your IBMi device name, or IP Address and press **Enter**.
3. Sign-on with a **user ID** and **Password** valid on that system.
4. Type 'bin' and press **Enter**.
5. Type 'get qqpl/halcyon c:\halcyon.savf' and press **Enter** to retrieve the save file.
6. Create an email message and attach the file 'c:\halcyon.savf'.
7. Send the email to: support.halcyon@fortra.com.

Running Halcyon Product Suites

From the IBMi main menu command line type:

GO HALCYON (default environment) or **GO HALnnnn/halcyon** (where nnnn is the name of the alternative environment)

NOTE: See [Work with Environments](#) for more information.

```

MAIN                               IBM i Main Menu                               System:  HAL720P4
Select one of the following:

  1. User tasks
  2. Office tasks
  3. General system tasks
  4. Files, libraries, and folders
  5. Programming
  6. Communications
  7. Define or change the system
  8. Problem handling
  9. Display a menu
 10. Information Assistant options
 11. IBM i Access tasks

 90. Sign off

Selection or command
==> GO HALPROD_

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu
(C) COPYRIGHT IBM CORP. 1980, 2013.

```

Notes regarding User Authorization within Halcyon Product Suites

System default [HAL/AUTHMODE](#) allows you to control the Halcyon Product Suite system access for users with *ALLOBJ authority:

0	Users with *ALLOBJ authority ARE NOT allowed to perform any Halcyon product function without specific authority within the Halcyon Product Suite to do so
1	Users with *ALLOBJ authority ARE allowed to perform any Halcyon function, except manage Authority Swapper functions, for their own profile, even if they do not have specific authority within the Halcyon Product Suite to do so. This is the default value

WARNING: Once you set system default [HAL/AUTHMODE](#) to zero, it becomes effective immediately. This can mean that you block yourself out of the Environment if you do not have specific authority for your User profile within Work with User Authority (`WRKUSRAUT`) and you therefore cannot change the system default [HAL/AUTHMODE](#) back as you are not authorized.

If this happens you can signon as a user with `*ALLOBJ` and `*SECADM` authority and access Work with User Authorities (`WRKUSRAUT`) to then add specific authority within the Halcyon Product Suite for the relevant user.

When using a Halcyon Product Suite with Authority Swapper

A user profile with `*ALLOBJ` and `*SECADM` authority is always able to access 'Work with User Authority' (`WRKUSRAUT`).

However, these authorities must be for the actual signed on user as they are ignored if you have swapped to a user with these permissions. When using Authority Swapper, this ensures users do not Profile Swap and then alter their own user authorities.

- Use **F18=Bottom** to refresh the display and return to the most recent message.
 - This option only works if you are not already at the bottom of the page when used.

Refreshing the display

You can refresh the display at any time to view new messages that may have arrived since this instance of the Message Log was opened.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Message Log display

The following parameters are available on this display.

Type

Indicates the type of message entry.

MNT	Maintenance message
SYS	System message

Severity (Sev)

Displays the severity of each message using the following rating.

0	Information
10	Warning
20	Error
30	Severe error
40	Abnormal end of program or function
50	Abnormal end of job

Date

Displays the date on which the message was logged.

Time

Displays the time at which the message was logged.

Message

Displays the message text. If the text is truncated, use option **5=Display** to show the full message detail.

Using the Message Log display

The following options are available when working with the Message Log. Type the option number on the Opt column against the required message.

Select job

Use option **1=Select job** to display a subsetted list of messages sent by the same job that sent the selected message.

NOTE: The top right-hand corner of this display now indicates that you are viewing a subsetted list.

```

HAL0010R                               Halcyon Software                               HAL720P2
MANL                                     Display Message Log                               4/10/19  10:52:16
Position to date . . . . .              Subsetted List
Position to time . . . . .

Type options, press Enter.
 1=Select job  5=Display  6=Print  7=Alert Log  8=Network Log  9=Comms Log
11=Set as admin alert

Opt Typ Sev Date   Time      Message
_  MNT 00 05/08/19 14:14:27 Output Queue List *NEW added.
_  MNT 00 05/08/19 14:30:02 Output Queue List *NEW deleted.

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F22=Print
Bottom

```

NOTE: To return to the full list of messages use **F17=Subset**, then **F5=Refresh** and press Enter.

Display

Use option **5=Display** to open the Display Message Detail window that shows additional information for the selected message. This is useful when the main display shows a truncated version of the message.

NOTE: This option can be taken from both the main Message Log display or a subsetted list.

```

HAL0010R                               Halcyon Software                               HAL720P2
|
|                                     Display Message Detail
| Message Id . . . . . HEM0019           Job . . . . . QPADEV0005
| Message type . . . . . MNT             User . . . . . ANDY
| Date sent . . . . . 28/08/19           Number . . . . . 830015
| Time sent . . . . . 10:50:36          Program . . . . . HEM_MNTRUL
|
| Message . . . . . : Rule 905 added to User rule group EXAMPLE.
| Cause . . . . . : A new rule was added.
|
| F3=Exit  F12=Cancel                    Bottom

```

Additional Detail for Acknowledged Alerts

If an alert has been acknowledged, additional information is available in the Display Message Detail display, regarding the rule that raised the alert. To view this information, press **Page Down** from the first page of the display. The details of the rule that caused the alert are displayed at the bottom of the second page.

TIP: If additional information is available, **More...** is displayed in the bottom right-hand corner of the first page.

Print

Use option **6=Print** to print the complete message log detail for the selected message entry.

Alert log

Use option **7=Alert log** to open the Work with Alert Log display for the alert associated with the message (if any alert exists).

NOTE: See [Work with Alert Log](#) for more information.

Network log

Use option **8=Network log** to open the Display Network Log display for the network messages associated with the message (if any network messages exist).

NOTE: See [Display Network Log](#) for more information.

Communications log

Use option **9=Communications log** to open the Display Communications Log display for the communications messages associated with the message (if any communication messages exist).

NOTE: See [Display Communications Log](#) for more information.

Options 7, 8 and 9 are not displayed when the Message Log has been accessed from on of these log screens. For example, if you open the Message Log from the Work with Alert Log display, option 7 is not available on this display.

Set as admin alert

Use option **11=Set as admin alert** to open the [Add Administrator Alert Criteria](#) display with the selection criteria pre-populated with the information from the selected message. You can amend the data if required. Press **Enter** to add the new admin alert criteria or **F12** to cancel.

Functions on the Display Message Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Message Log display which allows you to set or clear the filter parameters that restrict the visibility of messages on the main display. See [Working with Subset Message Log](#) for more information.

NOTE: Messages are automatically subsetted when accessed through the individual product Message Logs.

F18=Bottom

Use **F18=Bottom** to refresh the display and position the view at the bottom of the Message Log.

F22=Print

Use **F22=Print** to open the Print Message Log display.

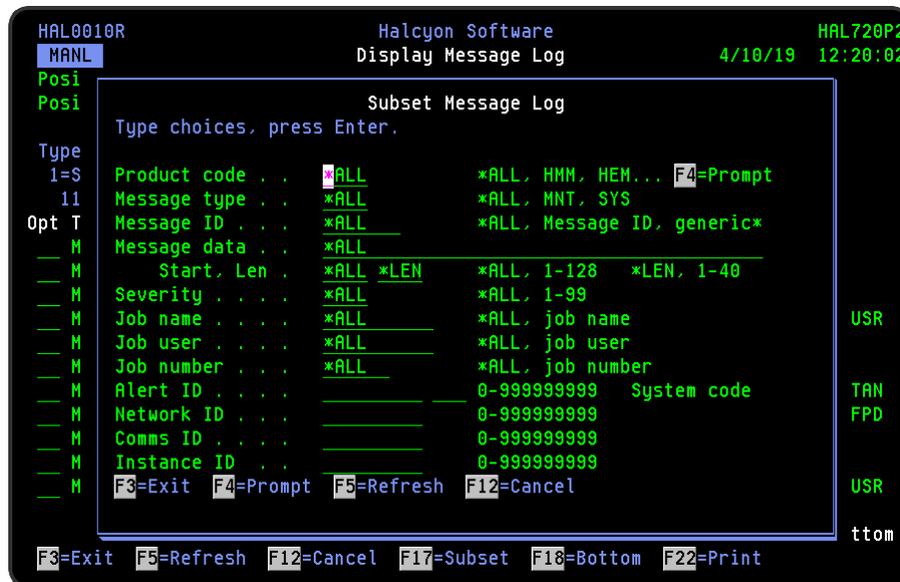
NOTE: See [Print Message Log](#) for more information on the parameters available on this display.

Working with Subset Message Log

The Subset Message Log display allows you to set or clear the filter parameters that restrict the visibility of messages on the main Message Log display.

Getting there

Use **F17=Subset** on the [Display Message Log](#) display to open the Subset Message Log.



Parameters on the Subset Log display

The following parameters are available on the Subset Message Log display.

Product code

Enter the Halcyon product code of the messages that you want to display. For example, type HMM to select only the messages sent by Halcyon Message Manager. Use **F4=Prompt** to display a list of available product codes from which a selection can be made.

*ALL	All products
*COM	Common library (HAL programs)
code	Enter a three letter acronym to represent the required product

Message type

Enter the message type of the messages that you want to display.

*ALL	All message types
MNT	Maintenance messages
SYS	System messages

Message ID

Enter the message ID of the messages that you want to display.

*ALL	All message IDs
msgid	Enter a specific or generic message ID

Message data

Enter text to be compared to all or part of the message substitution data of the messages that you want to display.

*ALL	Display messages with any message data
msgdta	Enter the text to be compared

Start

Enter the start position of the text within the message substitution data which should be compared to the text typed in the 'Message data' subset parameter.

*ALL	The Message data subset field is compared to the whole of the message substitution data of the messages
1-128	Enter the start position of the text

Len

Enter the length of the text within the message substitution data which should be compared to the text typed in the 'Message data' subset parameter.

*ALL	The length of the text specified in the 'Message data' subset parameter is used
1-40	Enter the length of the text to use

Severity

Enter the severity of the messages that you want to display.

*ALL	All messages are displayed
1-99	Messages with the specified severity or higher are displayed

Job name

Enter the name of the sending job, the messages of which you want to display.

*ALL	All job names
job	Enter a specific job name

Job user

Enter the user of the sending job, the messages of which you want to display.

*ALL	All job users
job	Enter a specific job user

Job number

Enter the number of the sending job, the messages of which you want to display.

*ALL	All job numbers
job	Enter a specific job number

Alert ID and System code

Enter an alert ID and optionally a system code to select messages related to a specific alert.

0 or blank	All messages
1-999999999	Enter an alert ID. If this alert is from a remote system, also type the remote system short code

Network ID

Enter a local Network ID to select messages related to a specific network send.

0 or blank	All messages
1-999999999	Enter a network ID

Comms ID

Enter a Comms ID to select messages related to a specific communication.

0 or blank	All messages
1-999999999	Enter a Comms ID

Instance ID

Enter an Instance ID to select messages related to a specific instance. The instance ID has different meaning in different products.

As Instance ID is unique only within a specific product and not within the environment as a whole, it should be used in combination with the Product Code subset to correctly select the required instance as per the following example:

Example usage of Instance ID:

RTM	Instance ID identifies a specific run of a Restricted Task Group
0 or blank	All messages
1-999999999	type and instance ID

Functions on the Subset Message Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Alert Log

Overview

The Work with Alert Log display is used to display any alert messages that have been generated as a result of user-defined criteria being triggered within any Halcyon products you may have installed on your IBMi.

NOTE: See [Work with Rules](#) for more details on how to set rule criteria.

Getting there

Select option **2=Work with Alert Log** from the Halcyon main menu.

```

HAL0020R                               Halcyon Software                               HAL525P3
SOS                                     Work with Alert Log                               21/01/10 10:29:51
Position to date . . . . . _____
Position to time . . . . . _____
Type options, press Enter.
4=Delete 5=Display 6=Print 7=Messages 9=Reply 10=Close 11=Omit in future
13=Action history 14=Message count 18=Acknowledge 20=Change rule...
Opt Status Date Time Alert Message
__ CONSOLE 20/01/10 09:44:22 236 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 09:45:07 237 JD - User parameter of job description HEMQ
__ CONSOLE 20/01/10 10:35:05 238 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 10:35:05 239 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 10:35:06 240 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 10:35:06 241 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 11:45:00 242 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 11:45:00 243 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 11:45:01 244 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 11:45:02 245 JD - User parameter of job description HALQ
__ CONSOLE 20/01/10 11:45:49 246 JD - User parameter of job description HEMQ
__ CONSOLE 20/01/10 12:14:51 247 ST - Service tools action processed by QSRV

                                           BOTTOM
F3=Exit F5=Refresh F11=Show rules F12=Cancel F13=Repeat F24=More keys

```

Alerts are displayed in chronological order, most recent last. When you first open the Work with Alert Log display, you are automatically taken to the most recent alert at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date' / 'Position to Time' parameters and press Enter.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alert nearest to the date/time combination requested.

- Use the **Page Up/Page Down** keys to scroll through the list of alerts
- Use **F18=Bottom** to return to the most recent alert
 - This option only works if you are not already at the bottom of the page when used

Refreshing the Display

You may refresh the display at any time to view new alerts that may have arrived since the Alert Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent alert

Parameters on the Work with Alert Log display

The following parameters are available on this display.

Alert status

Displays the current status of the alert. The alerts that are displayed on the Alert Log can be in a status of 'open' or 'closed'. Any alert that does not have a status value of closed is an open alert.

An open alert is one that has been raised by a filter criteria in one of the Halcyon products but that has not yet been closed. An open alert indicates an issue that needs further investigation. The current status can be any one of the following values:

OPEN	The alert is currently open
ACKNOWL	The alert has been acknowledged but is still open
ACTIVE	Open alert for which an action is currently in progress
CONSOLE	Open alert for which a console action has been successfully completed
SNDTXT	Open alert for which a Send Text Message action has been successfully completed
PENDING	Open alert for which an action is pending
ERROR	Open alert for which an action has failed
WARNING	All devices to which the alert is being sent are in Held status and therefore the alert has not been sent. Message HMC0086 is added to the Message Log

A 'closed' alert status indicates an alert that has had an issue resolved or has been noted. Alerts can be closed either manually or automatically as a rule action.

CLOSED	The alert is closed
--------	---------------------

About Open Alert Action Processing

Each monitor handles any open alert action processing and checks are run at the time interval specified for each monitor.

If you set the monitor interval to a long time period, for example 2 hours, the monitor will not check for any existing open alert actions, or close the alert if the condition no longer exists, until the interval period has elapsed. Therefore, your environment could be reporting a lot of alerts for conditions that no longer exist.

For critical events, consider reducing the time interval of the monitor to counteract the issue of open alerts that are for non-existing conditions.

Date

Displays the date on which the alert was logged.

Time

Displays the time at which the alert was logged.

Alert

Displays the unique identification number allocated to the alert.

About Alert Numbering

When an alert is raised and the next available number is 10000, 100000, 1000000, 10000000 or 100000000, the number allocator checks the lowest alert number still in use. If it is more than half-way past the next available number, the allocator issues number 1 instead. This is to keep the alert number as short as possible so it is easier to use in SMS messaging.

For every number the allocator is about to issue, it first checks that the alert does not exist. If it does, it tries the next number instead.

Should the alert number reach 999999999, then the number allocator starts again at 1 without any checks.

Message

Displays the alert text. If the text is truncated, use option **5=Display** against the required alert to view the full text.

When a Message Queue alert is raised, it has the 'ASP group' set as per the rule. If this is incorrect or the message cannot be found in the message file, as the message may have come from a different ASP group than that defined on the rule the alert text reads 'Message ID not found in Message File'.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

Using the Work with Alert Log display

The following options are available when working with the Alert Log. Type the option number in the Opt column against the required alert.

Delete

Use option **4=Delete** to remove the selected alert from the Work with Alert Log display. Prior to the alert being deleted you are prompted on a secondary display to confirm the action by pressing **Enter**.

WARNING: Using the Delete option also closes the alert.

Display

Use option **5=Display** to show the full details of the selected alert on a new display. This is useful if you cannot determine the content and context of the message from the summarized version on the main display.

Use **F11=Message information** on this screen to display the message ASP Group and CCSID information.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

NOTE: None of the information on this display can be changed at this point.

```

HAL0020R                               Halcyon Software                               HAL525P3
-----
                                Display Alert Detail
Monitor . . . . . MSG                Message Id . . . . . CPF1164
Queue or Group . . . . . QHST        Alert ID . . . . . 21197
Rule number . . . . . 990           Log date . . . . . 30/01/09
Alert status . . . . . CONSOLE       Log time . . . . . 09:36:02

Message . . . . . : JOB 049380/JLILLEYMAN/CHECK ENDED ON 30/01/09 AT
09:35:52; 3 SECONDS USED; END CODE 0

X.
CAUSE . . . . . : JOB 049380/JLILLEYMAN/CHECK COMPLETED ON 30/01/09 AT
09:35:52 AFTER IT USED 3 SECONDS PROCESSING UNIT TIME. THE JOB HAD
ENDING CODE 0. THE JOB ENDED AFTER 1 ROUTING STEPS WITH A SECONDARY
ENDING CODE OF 0. THE JOB ENDING CODES AND THEIR MEANINGS ARE AS
FOLLOWS:
  0 - THE JOB COMPLETED NORMALLY.
  10 - THE JOB COMPLETED NORMALLY DURING CONTROLLED ENDING OR
CONTROLLED SUBSYSTEM ENDING.
  20 - THE JOB EXCEEDED END SEVERITY (ENDSEV JOB ATTRIBUTE).
F3=Exit  F12=Cancel                               More...

```

Print

Use option **6=Print** to print an Alert Log report for the selected alert.

Messages

Use option **7=Messages** to open the Display Message Log display, subsetting to show any messages regarding the progress of this alert and any associated actions.

NOTE: See [Display Message Log](#) for more information.

Reply

Use option **9=Reply** to open the Reply to Inquiry Message display which displays additional information for the selected alert and allows a message reply to be typed.

NOTE: This option is only valid for alerts which have been raised to indicate an outstanding inquiry message. It is not possible to reply to a QHST inquiry message. For more details on using this display see [Working with the Reply to Inquiry Message display](#).

Close

Use option **10=Close** to close the selected alert from the Work with Alert Log display. Prior to the alert being closed you are prompted on a secondary display to confirm the action by

pressing **Enter**. Performing a Close action also stops any pending actions and associated escalation.

Omit in future

Use option **11=Omit in future** to specify that the selected alert should not be raised in future.

NOTE: This option is only available for message alerts. For more details on using this display see [Working with the Omit Criteria display](#).

Display action history

Use option **13=Action history** to open the Display Action Log, subsetting to show the actions invoked by the selected alert.

By using this screen you can check the actions that have been invoked or investigate the issues that caused an action to fail.

NOTE: See [Working with the Action Log display](#) for further options on this display.

Message count

Use option **14=Message count** to open the Display Message Counts window which displays the current message count information for the selected alert.

```

HAL0020R                               Halcyon Software                               HAL525P3
SOS                                     Work with Alert Log                               17/08/09  11:47:11
Position to date . . . . .
Posi
Type
4=D                                     Display Message Counts
13=                                     Message queue . . . QSYS0PR Alert ID . . . . . 643
Opt                                     Library . . . . . QSYS
14                                     Message file . . . QCPFMSG Message ID . . . . . CPA3DD5
   Library . . . . . QSYS
   Rule number . . . . 450 CPA3DD5: Device not Ready
   Job number . . . . . 077640

6=Reset
   Action Action Current Total
Opt Seq Limit Action Count Action Count
= 450 4 3 3

F12=Cancel
F3=E
BOTTOM
M

```

NOTE: Message counts are set when creating message queue rules. See [Adding more than one action to a Message Queue rule](#) for more information.

Message count information is only available if the rule has at least one action that does not have *NOMAX for Count specified. If the rule has no actions or all actions are set to *NOMAX then the message count option is inoperative, even if triggered count values have been specified.

Acknowledge

Use option **18=Acknowledge** to open the Confirm Acknowledge of Alerts display. Press **Enter** on this display to acknowledge the selected alerts, or press **F12** to cancel.

Acknowledging an alert cancels all outstanding actions for the alert and changes the alert status to ACKNOWL. You can acknowledge alerts that have a status of Open or Acknowledge. Acknowledging an alert that has already been acknowledged, performs no action but is not an error. You cannot acknowledge a closed alert.

The acknowledging of alerts is optional, but is useful if you need to send an SMS message to acknowledge that the alert has been received but leaving it open pending further investigation. You can still close an open alert, entirely omitting the acknowledged status.

Change rule

Use option **20=Change rule** to open the Change Rule display, with the rule that generated the alert, available for editing. Change the rule details as required and press **Enter**.

NOTE: See [Work with Rules](#) for more information on using this display.

Release rule

Use option **26=Release rule** to release a rule that is showing as currently held in the Status column. This information is available by selecting **F11>Show rules** from the Work with Alert Log display and provides the convenience of not having to return to the actual rule within the Work with Rules display to perform the Release task.

Hold rule

Use option **27=Hold rule** to hold a rule. Held rules do not run and therefore do not generate any alerts. This option provides the convenience of not having to return to the actual rule within the Work with Rules display to perform the Hold task.

Functions on the Work with Alert Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F11=Show rules/Show messages

Use **F11=Show rules/Show messages** to display either the rule information (origin of the alert) or the first level message text of the alert.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=Repeat

Use **F13=Repeat** to copy an option from the point of insertion to the end of the current list. The option must be visible against a selection on the main display when the Repeat option is used.

If multiple options are shown against selections, the last option in the display is used as the basis for the repeat though preceding options remain unchanged.

This functionality is most commonly used when the display has been subsetting (see **F17=Subset**):

F16=User options

Use **F16=User options** to display a pop-up window that allows you to specify the time interval at which the Alert Log display is refreshed.

F17=Subset

Use **F17=Subset** to open the Subset Alert Log display which allows you to set or clear the filter parameters that restrict the visibility of alerts on the main display.

NOTE: See [Working with the Subset Alert Log display](#) for more information.

F18=Bottom

Use **F18=Bottom** to refresh the display and position the view at the bottom of the Alert Log.

F20=Work with User Defined Options

Use **F20=Work with User Defined Options** to open the Work with User Defined Options display. This display allows you to create user defined options which can then be run by typing the option code in the Opt column.

NOTE: See [Work with System Level User Defined Options](#) for more information.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

F22=Print

Use **F22=Print** to open the Print Alert Log display.

NOTE: See [Print Alert Log](#) for more information on the parameters available on this display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Working with the Reply to Inquiry Message display

The Reply to Inquiry Message display shows additional alert information and allows for a reply to be entered. It is not possible to reply to a QHST inquiry message.

NOTE: Message Queue monitor automatically picks up the reply for an Inquiry message when it is answered directly on the message queue. Message HAL0370, which is added to the Halcyon [Message Log](#) for a reply to a message, is added with the reply used on the message queue.

Getting there

Use option **9=Reply** from the [Work with Alert Log](#) display opens the Reply to Inquiry Message display.

```

HAL0020R                               Halcyon Software                               HAL525P1
Reply to Inquiry Message
Monitor . . . . . MSG                      Message Id . . . . . CPA5305
Queue or Group . . . . . QSYSOPR          Alert ID . . . . . 68859
Rule number . . . . . 1                   Log date . . . . . 15/04/09
Alert status . . . . . CONSOLE           Log time . . . . . 09:55:45

Message . . . . . : Record not added. Member HALCYON is full. (C I 9999)

Cause . . . . . : The maximum size has been reached for member HALCYON
file in library. The record format is and the member number is
16448.

Recovery . . . . . : Enter one of the following:
C -- To cancel the request.
I -- To ignore this message, increase the file size by one increment,
and add the record to the file.
1-9999 -- To ignore this message, increase the file size by the
More...

Type reply below, then press Enter.
Reply . . . . .
F3=Exit F12=Cancel

```

Parameters on the Reply to Inquiry Message display

The following parameters are available on this display.

Monitor

Displays the monitor code of the monitor that raised this alert.

NOTE: It is only possible to reply to messages with a monitor code of MSG.

Queue or Group

Displays the name of the queue or rule group that contains the rule that raised this alert.

Rule number

This is the rule number that raised this alert.

Alert status

Shows the current status of the alert.

NOTE: For more details on the various levels of Alert Status see [Parameters on the Work with Alert Log display](#).

Message Id

Displays the Message Identification Number. In the case of Message Monitor (MSG) alerts, this is the ID of the message found on the monitored message queue. For other monitors, it is the message ID of the message used to describe the alert.

Alert Id

This is the unique identification code given to this alert.

Log date

The date on which the alert was logged.

Log time

The time at which the alert was logged.

Message

Displays the full message text. In the case of Message Monitor (MSG) alerts, this is the message text of the message found on the monitored message queue. For other monitors, it is the message text used to describe the alert.

Cause

Details the reason why the inquiry message was generated.

Recovery

Details the possible options and their outcomes for recovery of the job, when the selected option is entered in the 'Reply' parameter.

Reply

Enter the required option from those listed (additional options may be listed on a secondary page that can be accessed by using **Page Down**).

Press **Enter** to send the desired reply to the IBMi inquiry message.

Functions on the Reply to Inquiry Message display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Working with the Omit Criteria display

Specific criteria can be amended so that the omission only applies to the selected subset of messages from which the Omit action was raised. Alternatively, 'Job name', 'User name' and 'Program name' parameters can be set to *ALL, meaning that ALL occurrences of this message arriving on the specified message queue are ignored from now on.

Getting there

Select option **11=Omit in future** from the [Work with Alert Log](#) display to open the Add Omit Criteria display, showing the rule that raised the selected alert and with the required parameters preset ready to add an Omit Criteria rule. Once added, this prevents further occurrences of the alert from being generated in the future.

NOTE: Entering information on this display is slightly different than on other displays within Halcyon products. You can change and enter details as required, pressing Enter each time to register the entry. Use either **F12=Cancel** or **F3=Exit** to exit the display.

```

HMM_OMTRUL                Halcyon Message Manager                HAL525P1
                          Add Omit Criteria                26/03/09 12:10:28
Message queue . . . . . QHST      QSYS
Rule number . . . . . 460      CPF1124 test
Message file . . . . . QCPFMSG   *LIBL
Message . . . . . CPF1124 / Job &3/&2/&1 started on &5 at &4 in subsyste
m &8 in &9. Job entered system on &7 at &6.&17
Select / Omit. . . . . 0
Job name . . . . . Q1PPMSUB     Name, *ALL
User name . . . . . QPM400     Name, *ALL
Program name . . . . . *ALL     Name, *ALL
Compare data:
      &Variable No.      Equal To Compare Data
AND/OR  _____
_____
_____
_____
_____
_____
_____
F3=Exit F4=Prompt F12=Cancel F15=Global Exclude F18=Clear Variables
F21=Command Line
Omit criteria defaults are specific, please amend to suit or use F18=Clear

```

Parameters on the Add Omit Criteria display (for Message Queue rules)

The following parameters are available on this display.

Message queue/library

Displays the message queue and library for which the selected message was created.

Rule sequence number

Displays the rule sequence number as defined on the Work with Rules display.

Description

Displays the rule description as defined on the Work with Rules display.

Message file/library

These entries are automatically completed with the values from the alert.

NOTE: Do not change these values unless the message exists in more than one message file.

Message ID/description

Displays the message ID and description of the message that raised the selected alert.

Job name

Enter a job name to restrict the omit criteria entered on this display to the specified job name. Enter *ALL if you want any job name to be covered by the entered omit criteria.

*ALL	All job names are included
Job name	Only messages from the specified job name are omitted

User name

Enter a user name to restrict the omit criteria entered on this display to the specified user name. Enter *ALL if you want any user name to be covered by the entered omit criteria.

*ALL	All user names are included
User name	Only messages from the specified user name are omitted

Program name

Enter a program name to restrict the omit criteria entered on this display to the specified program name. Enter *ALL if you want any program name to be covered by the entered omit criteria.

*ALL	All program names are included
Program name	Only messages from the specified program name are omitted

Comparison variable

Up to eight comparison variables can be entered with and/or relationships. Only messages that match all the entered criteria are considered to have passed the rule. The following variables are available:

&nn variable number	A message variable number. Use command WRKMSGD to display a list of options
nn character position	A numeric start position in the message text. If this corresponds with the actual start position of a variable, the display is converted to the '&nn' format as above
*CT (CONTAINS)	Contains. This can be a string of text which occurs anywhere in the message data
*CA(CONTALL)	Contains. A string of text which occurs anywhere in the first level message text or replacement message data
*CX (CONTTEXT)	Contains. A string of text which occurs anywhere in the unresolved first level message text

Comparison variable type

This is the data type for the selected comparison variable. This is automatically assigned by the system and is one of the following:

*CHAR	Character. The comparison variable type is always *CHAR when no message details are retrievable because a specific ID, message file or message file library has not been entered
*CONTAINS	Contains. This can be a string of text which occurs anywhere in the message data
*POSITION	A character position. the first character position of a string of text which occurs anywhere in the message data
*DEC	Numeric digits

*HEX	Hexadecimal string. The comparison value must be entered in the format X'nn'
*BIN	Binary character. The comparison value must be entered in the format B'nn'

Comparison value

Enter the value to be compared:

For a variable number comparison (&nn)	The entered value must match the type of variable entered: *CHAR: Character A-Z, a-z, 0-9. The special value *BLANK may be used to indicate spaces for the entire variable *DEC: Numeric 0-9 *BIN: Enter in the format B'nn' *HEX: Enter in the format X'nn'
For a start position comparison (nn)	The entered value must be a text string. The special value *BLANK may be used to indicate a single blank character
For a *CT comparison	The entered value must be a text string. The special value *BLANK may be used to indicate a single blank character.

And/Or relationship

Enter either AND or OR to specify the required relationship between all of the entered comparison variables.

Parameters on the Add Omit Criteria display (for audit and custom journal rules)

```

HAM_OMTRUL          Halcyon Audit Journal Manager          HAL720P2
MANL                Add Omit Criteria                    24/11/15 09:11:24

Rule group . . . . . ALL
Rule number . . . . . 0075 CP-Password changed

Audit Journal Entry Type . CP

Select or omit . . . . . 0          0=Omit

Job name . . . . . EMASW          Name, *ALL
Job user . . . . . OSYSOPR       Name, *ALL, F4=Prompt
Actioning user . . . . . OSYSOPR  Name, *ALL, F4=Prompt
From program name . . . . . HEM1700R Name, *ALL, generic* name
Affected user . . . . . FTP1      Name, *ALL, F4=Prompt

Omit when:
Password . . . . . Y              } Y=Changed,
Special authority . . . . . -      } N=Not changed,
Limit capabilities . . . . . -     } Blank=Ignore
Status . . . . . -                }
User class . . . . . -            }
Reason code . . . . . A           Code, *=All, F4=Prompt
F3=Exit F4=Prompt F12=Cancel F18=Clear variables F21=Command line
Omit criteria defaults are specific, please amend to suit or use F18=Clear.
    
```

The following parameters are shown on the Add Omit Criteria display for audit and custom journal rules.

Rule group

Displays the name of the rule group that contains this rule.

Rule number

Displays the sequence number of the rule within the rule group.

Audit Journal Entry Type

Displays the audit journal entry type of the rule.

Select or Omit

Enter either 'S' to Select or 'O' to Omit, depending on whether you want to select this rule criteria for action processing or omit it from action processing.

S	Select if the selection criteria is met unless omitted by another specific rule
O	Omit if the selection criteria is met

Job name

Specifies the job name. This is the name of the job that causes the audit journal entry to be generated.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk
name	Enter a specific job name

Job user

Specifies the job user. This is the name of the user running the job that causes the audit journal entry to be generated.

*ALL	All job users are selected
-------------	----------------------------

generic*	To specify a generic job user name, type starting characters followed by an asterisk
name	Enter a specific job user name

Actioning user

Specifies the user profile responsible for the action which caused the audit journal entry to be generated. This may be different to the user running the job.

*ALL	All user profiles are selected
generic*	To specify a generic user profile name, type starting characters followed by an asterisk
name	Enter a specific user profile name

From program name

Specifies the program to select. This is the name of the program that causes the audit journal entry to be generated.

*ALL	All program names are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk
name	Enter a specific program name

Affected user

Specifies the affected user profile to select. A change to this user caused the audit journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile name, type starting characters followed by an asterisk
name	Enter a specific user profile name

Select When/Omit When

The Select/Omit When group is treated as a unit when determining whether the overall Select/Omit criteria has succeeded. This group comprises the following five attributes:

- Password
- Special authority
- Limited capabilities
- Status
- User class

For each attribute, type one of the following options:

Y	To return true if that value was changed
N	To return true if that value was not changed
blank	To return false

The overall group returns true when either of the following are true:

1. When any of the five attributes return true
2. When all of the five attribute fields are blank

The overall Select/Omit criteria succeeds when the Select/Omit when group is true and the Job name, Job user, User profile, User, and Reason code criteria are also true.

NOTE: Special authority values must be explicitly assigned in order to be detected by audit journal type CP. Changing the special authority value to *NONE (or to *USRCLS when the user class has no special authorities) will not be detected as a change.

Reason code

Specifies further description of the journal entry. Use **F4=Prompt** for a list of valid Reason Codes.

*	All reason codes are selected
code	Or type a specific reason code

Functions on the Add Omit Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F15=Global exclude (Message Queue rules)

Use **F15=Global exclude** to add the entered omit criteria as a global exclusion for the message queue.

F18=Clear variables

Use **F18=Clear variables** to refresh the display after clearing all variable information.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

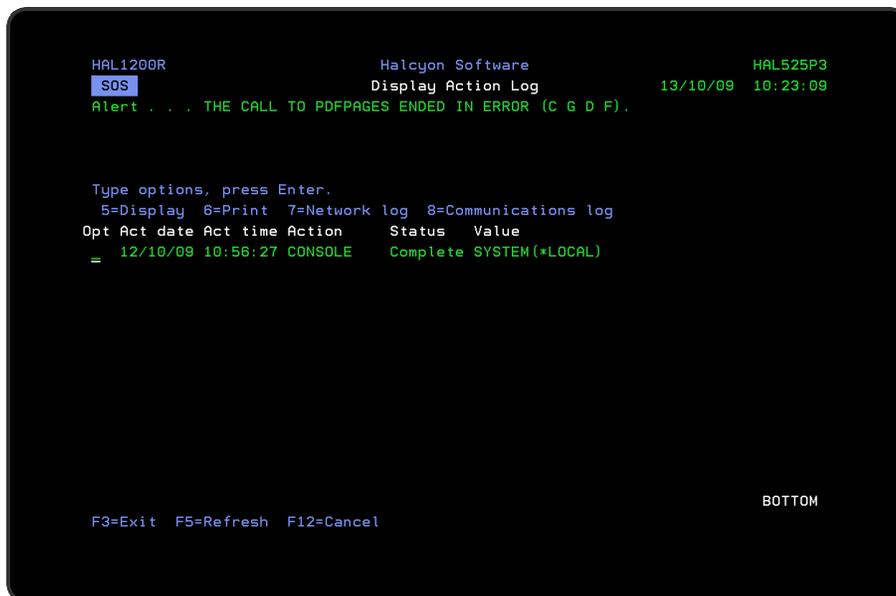
Working with the Action Log display

The Action Log display shows all associated actions that have been invoked as a result of the alert being raised.

NOTE: When this option is invoked from the [Work with Alert Log](#) display, the Action Log display is already subsetted to show the actions specific to the selected alert.

Getting there

Use option **13=Action history** on the Work with Alert Log display to open the Display Action Log display.



```

HAL1200R                               Halcyon Software                               HAL525P3
[SOS]                                   Display Action Log                               13/10/09  10:23:09
Alert . . . THE CALL TO PDFPAGES ENDED IN ERROR (C G D F).

Type options, press Enter.
5=Display 6=Print 7=Network log 8=Communications log
Opt Act date Act time Action      Status  Value
= 12/10/09 10:56:27 CONSOLE      Complete SYSTEM(*LOCAL)

F3=Exit  F5=Refresh  F12=Cancel                                BOTTOM

```

Parameters on the Display Action Log display

The following parameters are available on this display.

Action date

The date on which the action was logged.

Action time

The time at which the action was logged.

Action

The type of action that was taken. The following actions are permitted.

ACTSCH	Action schedule
CLOSE	Close alert
COMMAND	Run command
CONSOLE	Console alert
HOLDRULE	Hold rule
REPLY	Reply to inquiry message
RLSRULE	Release rule
RSTRULE	Reset rule incident count
SNDMSG	Send message queue message
SNDTXT	Send text or email message

NOTE: See [Rule Actions](#) for more information on each action.

Status

This shows the current status of the alert action. The following statuses are possible:

Pending	The action is ready to be performed
Delayed	The action is waiting for a scheduled start time
Active	An action is currently being performed
Complete	The action completed successfully
Closed	The alert was closed before the action was fully escalated. This only applies to SNDTXT actions with an associated escalation list
Error	The action ended in error

Value

Displays summary information obtained from the 'Action' parameters. The information displayed varies according to the type of action. To view the full information use option **5=Display**.

Using the Action Log display

The following options are available on the Display Action Log display:

5=Display

Use option **5=Display** to open the Display Log Detail display which shows additional information for the selected action. This is useful if the 'Value' parameter on the Display Action Log display does not provide enough detail.

```

HAL1200R                               Halcyon Software                               HAL525P3

Display Log Detail
Alert ID . . . . . 21220      Log date . . . . . 30/01/09
Action ID . . . . . 1        Log time . . . . . 10:21:42
Action . . . . . CONSOLE     Schedule date . . . . .
Location . . . . . *LOCAL    Schedule time . . . . .
Network UID . . . . .       End date . . . . . 30/01/09
Status . . . . . Complete    End time . . . . . 10:21:43

Offset *...+...1...+...2...+...3...+...4...+...5...+...6...
 0 <CONSOLE Icon="i" Severity="00" System="*LOCAL" Source="JOB" Del
64 ay="0" Msgid="HEM0059" Msgf="HEMMSGF" Msgtype="04" Msgflib="HEM
128 EST" Queue="QBATCH" QueueLib="QGPL" RuleNo="20"><Msgtxt>Job queu
192 e QBATCH in QGPL has 6 jobs in queue.</Msgtxt><Msghlp>&N Cau
256 se . . . . . : The rule selection criteria specifies that this
320 condition should raise an alert. &N Job queue . . . : QBA
384 TCH &N Library . . . : QGPL &N Description . . :
448 BATCH SUBSYSTEM QUEUE &N Jobs in queue: &N Actual .

F3=Exit F5=Refresh F12=Cancel
F3=Exit F5=Refresh F12=Cancel

```

6=Print

Use option **6=Print** to print the complete action log detail for the selected entry.

7=Network log

Use option **7=Network log** to open the Display Network Log display that shows the network data related to this action. See [Display Network Log](#) for more information regarding the parameters on this display.

NOTE: This option only applies to actions that are performed on a remote location.

8=Communications log

Use option **8=Communications log** to open the Communications Log display showing any communications data relating to the action. See [Display Communications Log](#) for more information regarding the parameters on this display.

NOTE: This option only applies to `SNDTXT` actions that are performed on the local system.

Functions on the Display Action Log display

The following functions are available on the Display Action Log display (when viewed from option **13=Action history** on the Work with Alert Log display).

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Working with the Subset Alert Log display

The Subset Alert Log display allows you to set or clear the filter parameters that restrict the visibility of alerts on the main display.

Getting there

Select **F17=Subset** on [Work with Alert Log](#) display to open the Subset Alert Log window.

```

HAL0020R                               Halcyon Software                               HAL525P3
QA                                       Work with Alert Log                               8/08/12  15:19:07
Position to date . . . . .
Posit
Type
4=De                                     Type choices, press Enter.                       future
13=A
Opt S                                     Subset Alert Log
__ C   Alert ID . . . . . *ALL                *ALL, Alert reference                             /08/12
__ C   Product code . . . *ALL                *ALL, HMM, HEM... F4=Prompt                       /08/12
__ C   Monitor. . . . .  *ALL                *ALL, MSG, TCP... F4=Prompt                       /08/12
__ C   Rule group . . . .  *ALL                *ALL, name, F4=Prompt                             /08/12
__ C   Library . . . . .  *ALL                Name                                               /08/12
__ C   Rule . . . . .     *ALL                *ALL, 1-9999                                       /08/12
__ C   Alert status . . .  *ALL                *ALL, OPEN, CLOSED, F4=Prompt                     /08/12
__ C   Job name . . . . .  *ALL                *ALL, job name                                     /08/12
__ C   Affected user . . . *ALL                *ALL, name, F4=Prompt                             /08/12
__ C   Action . . . . .   *ALL                *ALL, name, F4=Prompt                             /08/12
__ C   Message ID . . . .  *ALL                *ALL, Msg ID                                       /08/12
__ C
__ C   F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  OTTOM
F3=Exit  F5=Refresh  F11=Show rules  F12=Cancel  F13=Repeat  F24=More keys

```

Parameters on the Subset Alert Log display

The following parameters are available on this display.

Alert ID

Enter the unique numeric identifier of a single alert. If this parameter is set to anything other than *ALL, all other parameters must remain in their default state.

Product code

Enter the Halcyon product code for which you want to display alerts. For example, HMM displays all alerts raised by rules defined within Message Manager.

*ALL	All products
code	Enter an individual product code

Monitor

Enter the monitor code for which you want to display alerts. For example, MSG only displays alerts raised by rules defined within the Message monitor.

NOTE: The list of monitor codes available for selection in this field are dependent on the products installed on your system.

*ALL	All monitors
AIM	Alert IntelligenceMonitor
ASW	Authority Swapper Monitor*
AUD	Audit Journal Monitor
CST	Custom Monitor
CTL	Job Scheduler Control Monitor
DEV	Device Monitor
DSQ	Distribution Queue Monitor
INA	Inactivity Monitor
JBL	Job Log Monitor
JOB	Job Queue Monitor
JRN	Custom Journal Monitor
MMQ	MQ Monitor*
MMX	HA-MX Monitor*
MSG	Message Monitor
OBJ	Object Monitor
OUT	Output Queue Monitor
PFM	Performance Monitor
RPY	Job Scheduler Reply Monitor
TCP	TCP/IP Monitor
USR	User Profile Monitor
XPM	Exit Point Monitor*

* Additional Halcyon products which are not included as part of this product suite by default.

Queue or group

Enter the queue or rule group for which you want to display alerts. For example, QSYSOPR only displays alerts raised by rules defined in the QSYSOPR queue.

*ALL	All queues and rule groups
name	Enter a specific queue or rule group name

Library

Enter the queue library for which you want to display alerts. For example, QSYS only displays alerts raised by rules defined in a queue in the QSYS library. When a rule group name is specified in the 'Queue' or 'Group' parameter, this parameter automatically defaults to *ALL.

*ALL	All libraries
name	Enter a specific queue library name

Rule

Enter the rule number of the alerts that you want to display. For example, 123 only displays alerts raised by rule number 123.

*ALL	All rules
1-9999	Enter a specific rule number

Alert status

Enter the alert status of alerts that you want to display. For example, OPEN only displays alerts with a status of OPEN.

OPEN	Selects OPEN alerts including those shown on the Work with Alert Log displays as OPEN, ACTIVE, CONSOLE, SNDTXT, PENDING or ERROR
ACKNOWL	Only selects alerts with a status of ACKNOWL
CLOSED	Select only CLOSED alerts

Job name

Type the name of job associated with the alerts that you want to display. The job associated with an alert depends upon the rule that raised the alert. For example, with a message manager alert, the associated job is the job that sent the message that was detected.

*ALL	All job names are selected
job	Enter a specific job name

Affected user

Type the name of the user associated with the alerts you want to display. Which user is associated with an alert depends on the rule that raised that alert. For example, with a message manager alert, the associated user is the user that sent the message that was detected.

*ALL	Selects all user names
user	Enter a specific user name

Program name

Type the name of the program associated with the alerts that you want to display.

*ALL	All program names are selected
program*	Enter a specific or generic program name for which alerts are displayed

Action

Type an action name to select alerts that have successfully invoked an action of the specified type. For example, type CONSOLE to select only alerts that have successfully invoked a CONSOLE action. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	All actions are selected
action	Enter the name of a specific action

Message ID

Type an individual message ID to select only alerts with the specified ID.

*ALL	All message IDs are selected
-------------	------------------------------

message ID	Enter a specific message ID
msgID	Enter a generic message ID

Functions on the Subset Alert Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Monitors

Overview

The Work with Monitors display shows all the Halcyon monitors that are available for the monitoring of your IBMi.

The monitors are the ‘engine-room’ of the software and operate in conjunction with individual rules to constantly check multiple services, conditions and components of your IBMi environment.

Getting there

To open the Work with Monitors display select option **3=Work with Monitors** from the Halcyon main menu. The displayed list of available monitors depends on which products have been installed and authorized for use.

```

HAL0110R                               Halcyon Software                               HAL720P2
MANL                                     Work with Monitors                               19/02/20  12:31:18
                                          Subsetted List

Type options, press Enter.
1=Start  3=Hold  4=End  5=Display  6=Release  7=Messages  8=Supervise
9=Stop supervising

Op Mon  Description                               Sup Status  Function
  |-----|-----|-----|-----|-----|-----|
  HALAAA Monitor Supervisor                     Stopped
  HALACT Primary Action Monitor                 N Active    DEQW
  HALAX1 Auxiliary Action Monitor #1            Active      DEQW
  HALRCV Network Receive Monitor                N Active    SELW
  HALSND Network Send Monitor                   N Active    DEQW
  HALSX1 Auxiliary Network Send Monitor #1     Active      DEQW
  HALSZ1 Network Router - TECH802              Active      DLYW
  HAMAUD Audit Journal Monitor                  N Held
  HAMJRN Custom Journal Monitor                 N Active    DEQW
  HAMJX1 Auxiliary Custom Journal Monitor       Active      DEQW
  HAMJX2 Auxiliary Custom Journal Monitor       Active      DEQW
  HEMAIM Alert Intelligence Monitor             N Active    DEQW
  HEMASW Authority Swapper Monitor              N Held
  HEMCST Custom Monitor                         N Active    DEQW

More...
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with subsystem jobs  F17=Subst

```

NOTE: Some of the actions performed in Halcyon products require that the relevant monitors are in a stopped status prior to the action being confirmed.

Work with Monitors Display Initial View

The initial view of the Work with Monitors display is governed by the setting in system default [HAL/SHOWWEBAGENTS](#). The setting determines whether generic web agent monitors are shown by default. It is possible to change the display by using **F17=Subset** and amending the 'Show web agents' parameter.

```

HAL0110R                               Halcyon Software                               HAL525P3
DMS                                     Work with Monitors                               5/12/13 09:34:54
                                                                                               Subsetted List

Type options, press Enter.
1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
9=Stop supervising

Opt Monitor Description                               Sup Status   Function     Busy
-----
Subset Monitors                                     1%
Type choices, press Enter.
Product code . . *ALL          *ALL, HAM, HDM, HEM, HJS... 0%
Status . . . . . *ALL          *ALL, *ACTIVE                 0%
Show web agents  *NO           *YES, *NO                      0%
F3=Exit F5=Refresh F12=Cancel                       1%
                                                                                               0%
HEMDSQ  Distribution Queue Monitor                   N Active    DEQW        1%
HEMINA  Inactivity Monitor                           N Active    DEQW        0%
HEMJOB  Job Queue Monitor                            N Active    DEQW        0%
                                                                                               MORE...
F3=Exit F5=Refresh F12=Cancel F15=Work with subsystem jobs F17=Subset

```

Running monitors as a different user

Following installation, system monitors run under the generic user profile specified in the Monitor User Profile system default. Each monitor has its own system default setting which can be used to override the default user profile. However, the generic user profile specified in the [HAL/MONUSRPRF](#) system default must have the *USE permission to the specified user profile in order for the monitors to start.

To change the user profile that currently runs the monitor, select **4=End** against the required monitor, change the entry in the associated system default and then select **1=Start** against the monitor. The user profile attempting the start must also have *USE permission to the specified user profile under which the monitor now runs.

NOTE: The value cannot be changed to any of the following 'system' user profiles:

- QDBSHR
- QDOC
- QLPAUTO
- QLPINSTALL
- QRJE
- QSECOFR
- QSPL
- QDFTOWN
- QTSRTQS

Parameters on the Work with Monitors display

The following parameters are shown on the Work with Monitors display.

Monitor

Displays the name of the installed monitor.

Description

Provides a brief description of the monitor purpose and duties.

Supervised

This indicates whether the monitor is enabled for supervision by the monitor supervisor.

Y	Supervision is currently enabled
N	Supervision is currently not enabled
(blank)	Supervision is not applicable to this monitor

NOTE: Auxiliary Monitors, along with the supervisor itself, cannot be supervised

When the monitor supervisor is active, the following occurs for monitors that are currently in supervised status and are not held: If a monitor is stopped, it is started by the supervisor.

If a monitor has failed and is waiting for an inquiry message reply (showing as a Status of MSGW), the supervisor replies to the message, trying replies in the following sequence:

D	Dump
C	Cancel
	Default reply

Status

Shows the current status of the monitor.

Held	The monitor is stopped and held. A monitor is not started when the Start Monitors command STRMON MONITOR(*ALL) is used
Starting	The Monitor is starting
Active	The monitor is active but is not being supervised
Active-Sup	The monitor is active and is being supervised
Ending	The monitor is ending
Stopped	The monitor is stopped

Function

For an active monitor, this indicates the function that the monitor is currently performing. Monitors that are currently idling show either DEQW or SELW in this parameter. Any monitor that has a job currently in a Held status is shown as HLD in reverse image red.

Busy

Only displayed if the system default [HAL/SHOWMONACTIVITY](#) is set to *BUSY or *EVENT. If set to *BUSY, this parameter indicates the percentage of time (during the last 60 seconds) that this monitor spent processing a request.

NOTE: Busy time is not the same as CPU time. For example, when processing a request, the Network and Communications Monitors may spend significant time waiting for a response in SELW or ICFW status, during which time, no CPU time is actually being used.

If set to *EVENT, this parameter displays the total number of events processed by the monitor during the last minute.

This is calculated as the number of events that have already occurred in the current minute plus the relevant percentage of the number of events from the previous minute to make an equivalent minute.

For example:

Current Time: 30 seconds into current minute

Previous minute Events: 80

Current minute Events: 30

The Events figure is calculated as 30 (current minute Events) + 50% of the previous minute Events, as we are half way through the minute (50% of 80 Events = 40). Therefore the Events figure would show as 70 Events (30+40).

The Halcyon Monitors

The following monitors are available from within Halcyon Suite products.

NOTE: Additional monitors may be visible if other Halcyon products have been licensed to run on your IBMi. Please refer to the documentation for the individual product for more information.

Monitor Supervisor

The Monitor Supervisor acts as the controlling monitor for the other monitors if they are Started. If any monitor fails for any reason, the Monitor Supervisor attempts to end and restart the monitor. If the Supervisor is unable to continue to supervise a monitor it sends a message to the Halcyon [Message Log](#) and the message queue defined in the system default [HAL/ADMINMSGQ](#).

NOTE: The Monitor Supervisor cannot monitor itself.
The Monitor Supervisor cannot supervise monitors that are stopped.
The Monitor Supervisor cannot supervise Auxiliary monitors.

Primary Action Monitor

The Primary Action Monitor performs the actions as requested from the rules, for example; Send to Console, Send Text Message and so on. If an action relates to a network device (such as another IBMi or Enterprise Console) it sends the action to the relevant monitor. So, for example, a Send to Console action goes to the Network Monitors and a Send Text Message action goes to the Primary Communications Monitor. If the Primary Action Monitor gets too busy you can use Auxiliary Action Monitors.

Auxiliary Action Monitor

Auxiliary Action Monitors are additional monitors used to spread the workload. If your machine is busy, these can improve performance by getting actions processed. The number of Auxiliary Monitors is controlled in system defaults [HALACTMONMIN](#), [HALACTMONMAX](#) and [HALACTMAXBUSY](#). The maximum number of auxiliary action monitors available at any one time is 35.

Network Receive Monitor

This monitor is required if actions are to be performed on this system for alerts generated elsewhere in the network. This function is also required when the alert originated on this

system, the details were passed to another system in the network, and a reply or acknowledgment will be returned.

Network Send Monitor

If the actions required for alerts on the local system are to be performed on another system, then the details of the alert are passed to the Network Send Monitor. This then determines the route (DDM or TCP/IP) to that other system and pass the data across the network. This function is also required to process replies or acknowledgments from the central console, when the information is passed back to the original system.

NOTE: Where a system has multiple network interfaces it is possible to 'bind' the Halcyon Network Send Monitor to a specific interface (IP Address/Port). This makes it possible, as part of a Role Swap, to switch Halcyon to send using the new interface. Please contact Technical Support for help with this feature. See system defaults [HAL/NETBINDPORT](#) and [HAL/NETBINDHOST](#).

Auxiliary Network Send Monitor

Auxiliary Network Send Monitors allow network actions to be carried out across multiple systems simultaneously (such as Send alert to Enterprise Console A; Send alert to Enterprise Console B; Send alert to another IBMi and so on). Each of these network actions can then go through a different auxiliary Network Send Monitor so they get actioned quicker than sitting in a queue waiting for the previous action to finish.

Notes about using the Network Monitors with Unicode

Using a system that is Unicode enabled and contacting a system that does not have Unicode networking, causes a network error (malformed XML) to occur if the non-Unicode remote system tries to send a network buffer containing more than 16,310 characters.

It is possible that this might occur in the following scenarios:

- Requesting a list of groups from the remote system Job Scheduler if there are more than about 260 groups in existence
- Requesting a list of jobs from a specific group on the remote system Job Scheduler if there are more than about 380 jobs in the group
- Requesting a list of message devices from the remote system Message Communicator if there are more than about 350 message devices
- Requesting a list of system objects (e.g. a message queue, file etc.) from the remote system if there are more than about 310 objects
- If there is too much data for a network buffer, the remote system returns whatever it can fit in one buffer.
- If this error occurs, the only remedy is to upgrade the remote system so the Network Monitors are also Unicode enabled.

Audit Journal Monitor

The Audit Journal Monitor monitors the System Audit Journal, looking for journal entries that require actions to be performed. If it does find such an entry, the details are passed to the Action Monitors for processing.

Auxiliary Audit Journal Monitors

Auxiliary Audit Journal Monitors are additional monitors used to spread the workload. If your machine is busy, these can improve performance by getting audit journal entries processed. The number of Auxiliary Monitors is controlled in system default [HAM/AUDMONMAX](#).

Custom Journal Monitor

The Custom Journal Monitor monitors entries in journals that are not covered by the Audit Journal Monitor. This allows you to monitor bespoke or unique in-house journal entries.

Auxiliary Custom Journal Monitors

Auxiliary Custom Journal Monitors are additional monitors used to spread the workload. If your machine is busy, these can improve performance by getting custom journal entries processed. The number of Auxiliary Monitors is controlled in system default [HAM/JRNAUXMON](#).

Custom Monitor

If you have the [Custom Monitor](#) plug-in module installed, the Custom Monitor checks the status of the custom command rules and raises an alert if the command ends by sending an escape message to the requester. Alerts are processed by the Primary Action Monitor.

Device Monitor

The Device Monitor can monitor the configuration status of any type of device, including printers, tape drives, communication lines etc. and can raise an alert or take appropriate action if an undesirable situation is detected.

EXAMPLE: The Device Monitor can take immediate action if a communication line status changes to Varied Off or Recovery Pending.

Distribution Queue Monitor

The Distribution Queue Monitor can monitor the status of any distribution queue as well as the queue depth. Up to 256 distribution queues can be monitored simultaneously.

Inactivity Monitor

The Inactivity Monitor can monitor any interactive job, including those connected via TCP/IP, to detect when a job has been inactive for more than a specified amount of time.

Different selection criteria can be applied to different groups of jobs, users or subsystems.

The action taken can be made dependent on the program being run, the job status (e.g. LCKW, DSPW etc.), the user or the time of day, and so on. Jobs that are in a status of END, EOJ or that are being ended in a controlled manner are ignored.

Signed-on sessions can be locked, disconnected or ended.

Job Queue Monitor

The Job Queue Monitor can monitor the status of the job queue itself and can also monitor the number of jobs waiting on a job queue. It can also determine whether a particular job has been queuing for longer than expected.

You decide what action to take if an undesirable situation is detected. Timings of certain critical jobs may be important to the smooth running of a business.

IMPORTANT: Check to ensure that the following IBM PTFs have been applied in order to resolve an IBM API issue that can cause problems with Halcyon Job Queue Monitoring.

V7R1 - SI63584

V7R2 - SI63526

V7R3 - SI63525

A Message is added to the Halcyon Message Log if not applied.

Object Monitor

The Object Monitor can monitor the existence of any type of object, including objects in the IFS. It can also monitor for the existence of a member within a file. If a file exists, the monitor can check to see whether it contains any data and/or if it contains more than the specified number of records.

The contents of data areas can also be checked against specific values.

The Object Monitor allows a single Rule to take over 28 hours to process.

WARNING: The Object Monitor runs as QSECOFR adopted authority and, as such, could be used to expose secure data. It must run as QSECOFR to see all objects in order to be able to raise alerts.

NOTE: The IFS does not support object permissions for programs running under *OWNER authority. (i.e. QSECOFR adopted). Therefore, the user running the Object Monitor must have permission to the relevant folders / objects within the IFS that you want to monitor or it will not behave as expected. Also note that this applies to the whole folder path to the folder to be monitored. If any folder in the path does not grant the relevant authority, the Object Monitor is not allowed access.

Auxiliary Object Monitors

Auxiliary Object Monitors are additional monitors that are used to spread the workload. If your machine is busy, these can improve performance by getting object entries processed. The number of Auxiliary Monitors is controlled in system defaults [HEM/OBJMONMAX](#) and [HEM/OBJMONMIN](#).

Output Queue Monitor

The Output Queue Monitor monitors the number of spooled files queuing on any output queue and can raise an alert or take the appropriate action if a specified threshold is exceeded. The Output Queue Monitor can also monitor for a particular spooled file entry arriving on an output queue, or the length of time spooled files have been queuing.

Additionally, it can raise an alert if the number of pages in a spooled file exceeds a certain amount.

The Output Queue Monitor can also monitor the status of the output queue itself.

Performance Monitor

Rules can be set against this monitor so that alerts are generated if user- defined event thresholds are breached.

The Performance Monitor must be in an active status in order to collect performance data.

IMPORTANT: A message is added to the Halcyon Message Log if a required IBM PTF has not been applied. (V7R2=SI77189 / V7R3=SI77173 / V7R4=SI76677). Failure to apply the IBM PTF may result in incorrect function of the Performance Monitor.

User Profile Monitor

The User Profile Monitor can monitor the status of user profiles, detecting any that become disabled. The storage used by each user profile can also be monitored.

Primary Communications Monitor

The Primary Communications Monitor monitors the sending and receipt of text messages, emails and commands from cell phones, pagers and such like.

Auxiliary Communications Monitor

An Auxiliary Communications Monitor runs for each defined Communications Resource. *EMAIL virtual resources can be created using the [Work with Communications Resources](#) display. Each email resource created results in a dedicated email-handling auxiliary monitor. To create an *EMAIL virtual resource, use Message Communicator, menu option **31=Work with Communications Resources**. Use **F6=Add** and set the [Comm port](#) parameter to *EMAIL. There are no parameters for the *EMAIL resources. You can create up to 9 Communications Resources in total and these can be any mix of *EMAIL, *GSM, *MDM and *NETGSM. The Primary Monitor always handles the starting, ending and workload balancing of the delivery of emails, therefore it is only necessary to create *EMAIL resources if you need additional throughput.

See [Comm port](#) for more information.

Message Monitor

The Message Monitor scans the specified message queues, which can include QHST, looking for messages that require actions to be performed. If the Message Monitor fails to attach a QHST file, messages are logged to provide clarity on the cause of failure.

NOTE: When monitoring the QHST message queue, the system may become unresponsive due to the volume of messages received. To overcome this issue, the system default [HMM/QHSTOPTION](#) can be set to pass the processing of QHST to the Auxiliary Action Monitors.

The Message Monitor may end when attempting to open QPDSPLOG if the user profile under which the monitor is running has insufficient space for object references. The issue cannot be resolved without the owned objects being removed from this user profile. Use the command **PRTPRFINT** (as provided by IBM), to determine the number of owned objects for the user profile.

If the Message Monitor has more than 2,680 open Inquiry Alerts on a single message queue, message;

'HAL1124 - Internal error. User space overflow detected in HAL_LSTALT'

is added to the Halcyon Message Log and open Inquiry Alerts from 2,681 onwards are not checked to see if they can be closed as the message has already been replied to outside of Halcyon.

If you are likely to have more than 2,680 open Inquiry Alerts on a message queue it is advisable to [Add Administrator Alert Criteria](#) to monitor for message HAL1124 with relevant actions to make you aware of the problem.

NOTE: The Message Monitor will automatically hold a Rule Group if a message queue is full.

If you do not have the relevant PTF applied, the following message is added to the Halcyon Message Log and sent to the QSYSOPR message queue each time you start the Message Manager Monitor:

HMM0531 - WARNING! A required IBM PTF is missing. Message Manager may not function as expected.

Should the Message Monitor not be able to process a message queue, the action it takes is specified in system default [HMM/MSGQERRACTION](#).

IMPORTANT: The Message Monitor may fail with a 'Lock enforcement' error. This is due to an IBM issue which requires an IBM PTF to be applied:

- V5R4 - SI46690
- V6R1 - SI40330

Warnings are written to the Halcyon [Message Log](#) upon monitor start-up if the PTF has not been applied.

Message Processing Lags

The Message Queue Monitor can warn when message processing "lags". System Defaults [HMM/MSGQLAGWRN](#) (minutes "lag" allowed) and [HMM/MSGQLAGWRNFRQ](#) (time between warnings) control this interval. The Message Queue Monitor adds message HMM0640 to the [Halcyon Message Log](#) when the difference between the message and current time is larger than the 'Lag minutes' value. Additionally, HMM0640 is added to [Admin Alert Criteria](#) (WRKADMALT).

TIP: Message Queue Rule Groups have a '[Lag minutes](#)' parameter that can be used to override the System Default.

TCP/IP Monitor

The TCP/IP Monitor monitors PING connections to networked devices which have IP Addresses. If the PING fails, an alert is sent to the Action monitor, to notify that the device is not responding.

Auxiliary TCP/IP Monitor

As there is a timeout over which a PING is deemed unsuccessful, a monitor could have to wait for a long period of time before determining that the remote device is not responding. In the meantime, other networked devices are not being checked. By using Auxiliary monitors you can perform multiple PING checks simultaneously.

Job Log Monitor

The Job Log Monitor checks within the job log of currently active jobs for messages.

Starting and Ending the Monitors

There are three ways in which you can start and end the Halcyon monitors:

- Use options directly from the Work with Monitors display
- Using commands
- Using AutoStart and Controlled Ends

Using the Work with Monitors display

Using options **1=Start** and **4=End** from the Work with Monitors display enables you to start and end individual monitors as required. You can also hold and release monitors from this display.

NOTE: Monitors with a status of 'Held' cannot be started.

Starting a monitor also starts the subsystem if necessary.

Using Commands

Starting

To start all non-held monitors, use the Start Monitors (**STRMON**) command. This also starts the subsystem if necessary. Parameters on this command allow you to start any number of specific monitors.

NOTE: When a monitor cannot be started, the Start Monitors (**STRMON**) command logs the error messages to the Halcyon [Message Log](#).

Using the Start Subsystem (**STRSBS**) command to start the subsystem also starts all non-held monitors.

Ending

To end all the currently active monitors, use the End Monitors (**ENDMON**) command. Parameters on this command allow you to end any number of specific monitors. If all monitors are ended, then by default, the subsystem is also ended.

The subsystem end-timeout parameter allows you to specify the amount of time (in seconds) that is allowed to complete the controlled subsystem end operation. If this amount of time is exceeded and the end operation is not complete, any jobs still being processed in the subsystem are ended immediately. You can specify a value in the range of 60-99999 seconds.

The End Monitors (**ENDMON**) command also includes a WAIT parameter which, when set to *YES, means the command does not complete until all the Monitors have actually ended.

NOTE: (**ENDMON**) ends the controlled monitors with a time-out of 90 seconds. Therefore it could be several minutes before the command returns if WAIT(*YES) is specified. Once the controlled end is issued, no follow up is performed to force the end of the Monitors. Therefore, if an **ENDJOBABN** command is required, the command does not return if WAIT(*YES) is specified, until that has been completed manually elsewhere.

Using the End Subsystem (**ENDSBS**) command to end the subsystem also ends all active monitors, but takes longer than using the End Monitors (**ENDMON**) command.

Using AutoStart

It is possible to start the Halcyon monitors automatically when the system is restarted. To achieve this, add the following Autostart Job entry to any subsystem that is automatically started during the Initial Program Load (IPL) process:

ADDAJE SBSD (library/subsystem) JOB(HALCYON) JOB(library/STRSBS)

NOTE: When a monitor cannot be started, the Start Monitors (**STRMON**) command logs the error messages to the Halcyon [Message Log](#).

Autostart is also possible using option 12 > Add/Remove Halcyon Autostart Job Entry. This can be found in the Halcyon Utilities menu: GO HALCYON > 41.

NOTE: Using Autostart with Restricted Task Manager

Halcyon checks if the system is flagged as being in Restricted State. If it is, Halcyon re-checks every second for up to one minute and starts Halcyon if the Restricted State is removed. After one minute Halcyon will stop trying to start due to Restricted State.

Using Controlled Ends

The following commands will end the all active Halcyon monitors and the subsystem:

```
ENDMON MONITOR(*ALL) ENDSBS(*YES)
```

```
ENDSBS SBS(halcyonsubsystem) OPTION(*CNTRLD) DELAY(300)
```

```
ENDSYS OPTION(*CNTRLD) DELAY(300)
```

```
PWRDWNSYS OPTION(*CNTRLD) DELAY(300)
```

NOTE: To allow the monitors to end in a controlled manner, use **OPTION(*CNTRLD)** with a delay time of at least 60 seconds, (300 seconds recommended)

Using the Work with Monitors display

The following options are available when working with the monitors. Type the option number in the Opt column against the required monitor.

Start

Use option **1=Start** to open the Confirm Start of Monitors display.

Press **Enter** on this display to confirm the start of the selected monitors. Only monitors that are currently in a Stopped status can be started.

NOTE: When a monitor cannot be started, the Start Monitors (**STRMON**) command logs the error messages to the Halcyon [Message Log](#).

Hold

Use option **3=Hold** to open the Confirm Hold of Monitors display.

Press **Enter** on this display to confirm the hold of the selected monitors. Only monitors that are currently in a Stopped status can be held.

End

Use option **4=End** to open the Confirm End of Monitors display.

Press **Enter** on this display to confirm the ending of the selected monitors. Only monitors that are currently in an active status can be ended.

Display

Use option **5=Display** to open the Display Monitor display. This display shows performance statistics for the selected monitor.

NOTE: See [Working with the Display Monitor display](#) for more information.

Release

Use option **6=Release** to open the Confirm Release Monitor display.

Press **Enter** on this display to confirm the release of the selected monitors. Only monitors that are currently in a Held status can be released.

Messages

Use option **7=Messages** to open the Display Message Log display, subsetting to show only the messages related to the selected monitor.

NOTE: See [Display Message Log](#) for more information on this display.

Supervise

Use option **8=Supervise** to open the Confirm Supervision of Monitors display.

Press **Enter** on this display to confirm the enabling of supervision for the selected monitors.

NOTE: This only enables supervision. Actual supervision of the monitor only occurs when the supervisor is running.

Stop supervising

Use option **9=Stop supervising** to open the Confirm Stop Supervising Monitors display.

Press **Enter** on this display to confirm the removal of supervision for the selected monitors.

Functions on the Work with Monitors display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F15=Work with subsystem jobs

*ALL	All monitors are displayed, regardless of status
*ACTIVE	Only monitors that are currently active, or that are starting or ending are displayed

Show web agents

Specifies whether the Work with Monitors display shows the generic web agents which are used to serve the Halcyon GUI applications. See system default [HAL/SHOWWEBAGENTS](#).

*YES	Generic web agents are shown
*NO	Generic web agents are not shown

Show AX monitors

As up to 35 auxiliary monitors can be active at any one time, this parameter allows you to specify whether these monitors should be included in the subset display.

*YES	Auxiliary monitors are shown on the subset monitors display
*NO	Auxiliary monitors are not shown on the subset monitors display

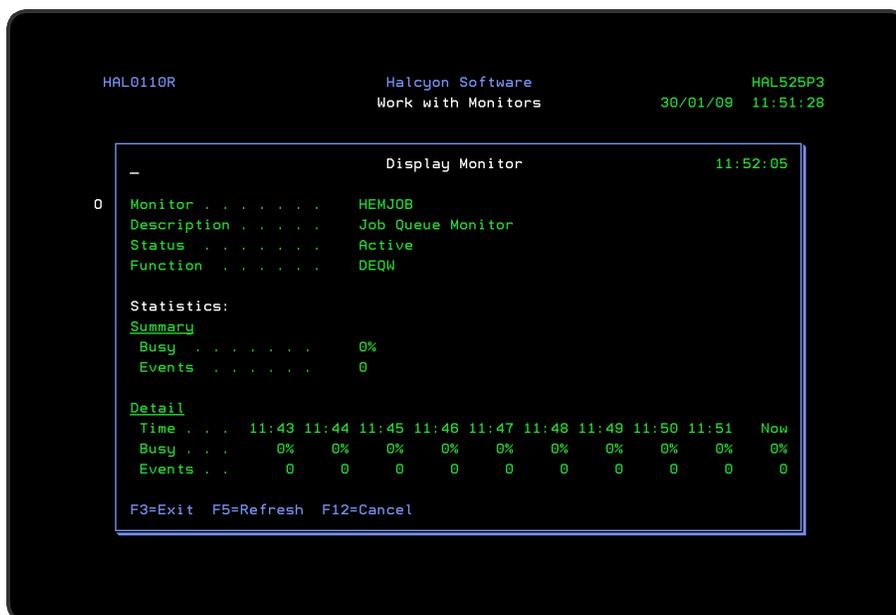
Working with the Display Monitor display

The Display Monitor display shows performance statistics for the selected monitor.

NOTE: Statistical information displayed on this screen is reset whenever the monitor is restarted.

Getting there

To open the Display Monitor display, select option **5=Display** from the Work with Monitors main display.



```

HAL0110R                               Halcyon Software                               HAL525P3
                                         Work with Monitors                               30/01/09  11:51:28

-                                         Display Monitor                               11:52:05
0
Monitor . . . . . HEMJOB
Description . . . . . Job Queue Monitor
Status . . . . . Active
Function . . . . . DEQM

Statistics:
Summary
Busy . . . . . 0%
Events . . . . . 0

Detail
Time . . . 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51  Now
Busy . . .  0%  0%  0%  0%  0%  0%  0%  0%  0%  0%  0%
Events . .  0   0   0   0   0   0   0   0   0   0   0

F3=Exit  F5=Refresh  F12=Cancel
  
```

'Monitor', 'Description', 'Status' and 'Function' parameters on this screen display the same information as the equivalent parameters on the [Work with Monitors](#) display.

Statistics: Summary

The monitor statistics summarize the monitor activity over the past 10 minutes.

Busy

Indicates the percentage of time during the last 10 minutes that monitor has been processing requests.

NOTE: Busy time is not the same as CPU time. For example, when processing a request, the Network and Communications Monitors may spend significant time waiting for a response in SELW or ICFW status, during which time, no CPU time is actually being used.

Events

Indicates the number of events that have occurred in the last 10 minutes. The meaning of these events depends on the monitor.

HALACT	Indicates the number of actions performed
HALRCV	Indicates the number of network receives
HALSND	Indicates the number of network sends
HAMAUD	Indicates the number of alerts raised. Events 2 indicates the number of journal entries processed
HEMOBJ	Indicates the number of alerts raised
HEMOUT	Indicates the number of alerts received
HMCCOM	Indicates the number of phone, pager and email messages successfully received
HMMMSG	Indicates the number of alerts raised

Statistics: Detail

The detail statistics show the activity of the monitor, minute-by-minute, for each of the last 10 minutes.

Time

Indicates the start time of the details shown beneath.

Busy

Indicates the percentage of time that this monitor was processing requests. The last value (current minute) is measured over the last 60 seconds up to the current time. All other values are measured over the 60 seconds beginning at the indicated time.

NOTE: Busy time is not the same as CPU time. For example, when processing a request, the Network and Communications Monitors may spend significant time waiting for a response in SELW or ICFW status, during which time, no CPU time is actually being used.

Events

Indicates the number of events that occurred during the indicated minute. The meaning of event varies according to the monitor.

NOTE: See [Statistics: Summary - Events](#) for more information on these parameters.

Events 2

These entries indicate the number of transactions processed per minute, which may not necessarily result in a triggered rule. Figures in the thousands are indicated using a 'k'. This allows for larger numbers of transactions to be shown on the display. For example, 50,000 transactions is shown as 50k.

Working with Subsystem Jobs

Providing that the subsystem is active, the Work with Subsystem Jobs display shows the names and status information of jobs being processed by subsystem in the system and of user jobs that are on job or output queues.

NOTE: The name of the active subsystem for which the jobs are displayed is shown at the top of this display.

A chosen option can be applied to more than one job simultaneously, but if you press **Enter** without selecting any options you are returned to the previous display.

You can type parameters on the command line to override the defaults for the selected option. However, you can only type parameters if you selected one of the options. For example, if you selected option **5=Work with** next to one or more subsystems, you can type **OUTPUT (*PRINT)** to change the default from **OUTPUT (*)**.

Getting there

Use **F15=Work with Subsystem Jobs** on the Work with Monitors display.

```

                                WORK WITH SUBSYSTEM JOBS                                HAL525P3
                                                                                   30/01/09 11:53:52
SUBSYSTEM . . . . . : ZHALTEST

TYPE OPTIONS, PRESS ENTER.
2=CHANGE  3=HOLD  4=END  5=WORK WITH  6=RELEASE  7=DISPLAY MESSAGE
8=WORK WITH SPOOLED FILES  13=DISCONNECT

OPT  JOB      USER      TYPE  -----STATUS-----  FUNCTION
---  HALACT   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX1   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX2   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX3   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX4   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX5   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX6   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C
---  HALAX7   FRENCH   BATCH  ACTIVE                 PGM-HAL1000C

PARAMETERS OR COMMAND
===>
F3=EXIT    F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F11=DISPLAY SCHEDULE DATA
F12=CANCEL F17=TOP    F18=BOTTOM

```

Parameters on the Work with Subsystem Jobs display

The following parameters are shown on the Work with Subsystem Jobs display.

Job

Provides details of the job name.

User

Identifies the user profile under which the job is started.

The user name is the same as the user profile name and it can come from one of several different sources, depending on the type of job:

Batch	The user name is specified on the Submit Job (SBMJOB) command, in the job description referred to by the Batch Job (BCHJOB) or Submit Job (SBMJOB) commands, or in the user parameter of the job schedule entry
Interactive	The user name is either typed at sign-on, or is provided by the default in the job description referred to by the workstation's job entry
Autostart	The user name is specified in the job description referred to by the job entry for the autostart job
Communications	The user name is specified on the program start request or from the default in the communications entry
Prestart	The user name is specified on the prestart job entry

Type

Displays the type of active job. Possible values are:

AUTO	Autostart
BATCH	Batch
BATCHI	Batch immediate
CMNEVK	Started by Communications
INTER	Interactive
M36	Advanced 36 server job
MRT	Multiple requester terminal
PJ	Prestart job
PDJ	Print driver job
RDR	Reader

WTR	Writer
PRINT	Alternate spool job

Status

Displays the current status of each job. Possible values are:

ACTIVE	The job has been started
ACTIVE HELD	The job has been started. The job has been held
DSC	The job is disconnected
DSC HELD	The job is disconnected and held
END	The job is ending as the result of an End Job (ENDJOB) or End Subsystem (ENDSBS) command, either with the immediate option, or with the controlled option which ends the job when the delay time expires
EOJ	The job is ending for any reason other than End Job (ENDJOB) or End Subsystem (ENDSBS). For example, SIGNOFF, End Group Job (ENDGRPJOB) or an exception that is not handled
FIN	The job has finished
GROUP	The job has been suspended by the Transfer to Group Job (TFRGRPJOB) command
GROUP HELD	The job has been suspended by the Transfer to Group Job (TFRGRPJOB) command. The job is held
JOBLOG PENDING	The job has completed and the job log has not yet been written
JOBQ	The job is on a job queue, but not as a result of a Transfer Job (TRFJOB) or Transfer Batch Job (TFTBCHJOB) command
JOBQ HELD	The job is on a job queue, but not as a result of a Transfer Job (TRFJOB) or Transfer Batch Job (TFTBCHJOB) command). The job is held
MSGW	The initial thread has a message waiting
OUTQ	The job has completed running and has spooled files on an output queue, the spooled files are held by the Hold Job (HLDJOB) command
OUTQ HELD	The job has completed running and has spooled files on an output queue. The spooled files are held by the Hold Job (HLDJOB) command
SCD	The job is scheduled for a particular date and time

SYSREQ	The job has been suspended by the system request key or Transfer to Secondary Job (TFRSECJOB) command
SYSREQ HELD	The job has been suspended by the system request key or Transfer to Secondary Job (TFRSECJOB) command. The job is held
TFRBCH	The job is on a job queue as the result of a Transfer Batch Job (TFRBCHJOB) command
TFRBCH HELD	The job is on a job queue as the result of a Transfer Batch Job (TFRBCHJOB) command. The job is held
TFRJOB	The job is on a job queue as the result of a Transfer Job (TFRJOB) command
TFRJOB HELD	The job is on a job queue as the result of a Transfer Job (TFRJOB) command. The job is held

Function

The last high-level function initiated by the initial thread. This parameter is blank when a logged function has not been performed. This parameter is not cleared when a function is completed. The prefix of this parameter identifies the meaning of the characters after the hyphen:

CMD	The command is run interactively, in a batch input stream or requested from a system menu. Commands in CL programs or REXX procedures are not logged
DLY	The initial thread of the job processing a Delay Job (DLYJOB) command. the time displayed is the number of seconds the job is delayed (up to 999999 seconds) or the time when the job is to resume processing (hh:mm:ss) depending on how the command was specified
GRP	The group name of a suspended group is displayed
I/O	The job is a subsystem monitor that is performing input/output operations (I/O) to a workstation for the sign-on display file. The name displayed is the name of the workstation device
JVM	The initial thread of the job is running via a Java Virtual Machine. the name displayed is the name of the Java Class
MNU	The name of the menu

MRT	<p>This is a Multiple Requestor Terminal (MRT), or an interactive job attached to an MRT job if the type is INT. For MRT jobs, the characters that follow the hyphen are a number, a slash (/) and another number.</p> <p>The first number indicates how many requesters are currently attached to the MRT job. The second number indicates the maximum number (MRTMAX) of requesters permitted</p> <p>NEP indicates that the MRT is a 'Never-ending-program' in that MRT stays active even if there are no requesters of the MRT). If it is an interactive job attached to a MRT, the MRT procedure name follows the dash</p>
PGM	The program name is the high-level program that is interactively called, a program called in a batch input stream, the initial program specified in the user profile or the name of a system request processor. If the high-level program transfers control, the program name remains in the 'Function' parameter even though it is no longer in the call stack
PRC	This is the name of the procedure
IDX	This value is the name of the file associated with an index (access path) rebuild operation. The previously logged value replaces this value when the index rebuild operation has finished
LOG-QHST	History information is being logged to a database file
*-JOBIDXRCY	A damaged job index is being recovered
*-JOBLOGQRCY	The job log server queue is being recovered or rebuilt
*-COMMIT	The initial thread of the job is performing a commit operation. Ending the job or the system during a rollback operation is not recommended
*-ROLLBACK	The initial thread of the job is performing a rollback operation. Ending the job or system during a rollback operation is not recommended because another rollback occurs during the job end or system IPL. The subsequent rollback takes longer to perform than the current one
*-JOBLOG	A joblog is being produced
*-DUMP	A dump is in progress
*-ADLACTJOB	Auxiliary storage is being allocated for the number of active jobs specified in the QADLACTJ system value. This may indicate that the system value for the initial number of active jobs was set too low
*-ADLTOTJOB	Auxiliary storage is being allocated for the number of jobs specified in the QADLTOTJ system value
*-CMDENT	The command entry display is being used
*-PASSTHRU	The job is a pass-through job

*-RCLSPLSTG	Empty spooled database members are being deleted
*-DLTSPLF	A spooled file is being deleted
*-DIRSHD	This job is running under the directory shadowing function
*-SPLCLNUP	A cleanup of jobs on job queues and spooled files is being performed

Using the Work with Subsystem Jobs display

This display uses the standard IBM Work with Subsystem Jobs (**WRKSBSJOB**) command.

For information regarding this and subsequent options available from this screen, please refer to your IBM documentation.

Work with Rules

Overview

Working with rules allows you to define and maintain rules for the installed Halcyon product monitors. Rules form the basis of your system monitoring and are highly configurable as to the frequency and level of monitoring applied as well as defining automatic actions that can be run should an issue arise.

Getting there

The Work with Rules display is accessed from option **5=Work with Rules** from the main Halcyon menu. The Work with Rules display lists the information using three levels of indentation. By default, upon opening the display, only the first level is shown.

```

HAL0030R                               Halcyon Software                               HAL525P3
PROD                                  Work with Rules                               28/11/13  14:14:19
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Msg count 15=Review msgs 23=Rule history
Opt  Item      Description                               Status
--  ---      -
--  Message Queue  Stopped
--  TCP/IP         Stopped
--  Job Log       Stopped
--  Output Queue  Stopped
--  Device        Stopped
--  Job Queue     Stopped
--  Performance   Stopped
--  User          Stopped
--  Distribution Queue Stopped
--  Inactivity    Stopped
--  Object        Stopped
--  Custom        Stopped
--  Restricted Tasks Stopped
--  Audit Journal Stopped
MORE...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F17=Subset F21=Command line F22=Print F23=Expand all

```

Rule Processing Requirements

The following requirements must be met in order for a rule to be processed, in order that alerts may be generated and actions invoked:

1. The rule must be released.
2. The rule group containing the rule must be released.
3. The monitor containing the rule group must be started.

Unauthorized Products

Attempting to access the Work with Rules display for a specific product that is installed, but for which no valid authorization code exists, results in the standard 'Unauthorized Product' message being displayed on screen. A valid license code needs to be applied before you are able to set and maintain rules for the required product.

Quick access

From the Work with Rules display you can access the following options:

Option	Function
Insert	Adds a rule group or rule dependent on the level at which the option is taken
Change	Changes an existing rule group or rule dependent on the level at which the option is taken
Copy	Copies an existing rule group or rule dependent on the level at which the option is taken
Delete	Deletes an exiting rule group or rule dependent on the level at which the option is taken
Display	Displays the details of an existing rule group or rule dependent on the level at which the rule or option is taken
Release	Release a rule group or rule that is currently Held
Hold	Hold a rule group or rule that is currently Active
Alerts	Opens the Work with Alert Log display, subsetting to show relevant alerts generated by the selected monitor, rule group or rule
Print	Prints a rule report based upon the level at which the option is taken
Reset	Reset the rule escalation levels or suspend periods of a rule
Export	Export rule groups and rules up to eight other environments
Message count	At individual rule level, opens the Display Message Counts window. This displays the current message count information for the selected rule
Review messages	Allows the review of current messages for the selected rule group or rule

Option	Function
Rule history	Displays the historical record of changes to queues, groups, rules, criteria and actions
Auto-export	Controls the automatic export of rule groups and rules to remote locations whenever changes are made to the rule configuration on the host device
Resequence	Allows the resequencing of rules within a group

Work with Rules - Levels of Display

The three levels of indentation available for view on the Work with Rules display are:

1. Monitors

At level one view, the monitors to which rules can be applied are displayed. Position the cursor next to any monitor and press F11 to expand the view to show the rule groups defined within the selected monitor.

2. The rule groups defined within each monitor

At level two view, the monitor together with the defined rules groups are displayed. Position the cursor next to any rule group and press F11 to expand the view to show all rules defines within the selected rule group.

3. The rules defined within each rule group

At level three view; the monitor, rule group and defined rules are displayed.

TIP: Use F23=Expand All at any point to display all three levels at the same time

```

HAL0030R                               Halcyon Software                               HAL525P3
                                         Work with Rules                               21/12/10 15:55:25

Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Msg count 15=Review msgs 23=Rule history

Opt Item Description Status
---
Message Queue Stopped
---
EXPORT TEST Export Test Held
---
HMMAPI HMMOCS External API's
---
HMMFTP HMMOCS FTP activity Held
---
MCUSER QUSRSYS x
---
MSGQ @QA QA messages
---
QHST QSYS History Log
---
0 No Global exclusions defined
---
900 Backup objects not saved Held
---
910 Password invalid for QSECOFR
---
920 System startup O.K.
---
930 Job ended abnormally
---
9787 TDIPPER signed on Held
---
QSYSMSG QSYS System message queue
---
MORE...

F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F15=Sort description F16=Position to F17=Subset F24=More keys

```

Parameters on the Work with Rules display

The parameters shown on the Work with Rules display are controlled by the setting used in the system default [HAL/WRKRULESFMT](#). This can be either the standard (*STD) or times (*TIMES) setting.

Parameters shown in *STD setting

The following parameters are displayed when system default [HAL/WRKRULESFMT](#) is set to *STD. This is the shipped default setting.

Item

Shows up to three levels of rules (see above).

Description

The description of the rule level item displayed in the Item column.

Status

This shows the current status of the item. The status information shown changes dependent on the item level selected.

At monitor level	
Held	The monitor is held to prevent it starting
Starting	The monitor is starting
Started	The monitor is running
Ending	The monitor is ending
Stopped	The monitor has been stopped
At rule group level	
Held	The rule group is held. None of the rules are processed
Released	The rule group is released. All released rules may be processed
At rule level	
Held	The rule is released. This rule is not processed
Released	The rule is released. This rule may be processed

NOTE: For Restricted Tasks Manager rules, the 'Status' parameter displays a blank as the rules are only active when the machine is in a restricted state.

Parameters shown in *TIMES setting

If the system default [HAL/WRKRULESFMT](#) is set to *TIMES then the following additional parameters are displayed for individual rule lines.

NOTE: When using the *TIMES setting, the rule description may be truncated in order to display the additional information.

```

HAL0030R                               Halcyon Software                               HAL525P3
                                         Work with Rules                               8/12/10  08:46:24

Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 14=Message count 15=Review messages 23=Rule history
Opt Item      Description          Days      From - To      Status
---
Message Queue                               Active
---
HMMAPI      HMMOCS      External API's
---
0           No Global exclusions defined
---
100         Halcyon Performance Manager *ALL      00:00 - 23:59
---
HMMFTP      HMMOCS      FTP activity                               Held
---
MCUSER      QUSRSYS     x
---
MSGQ        @QA         QA messages
---
QHST        QSYS        History Log
---
QSYSMSG     QSYS        System message queue
---
QSYSOPR     QSYS        QSYSOPR
---
TCP/IP                                           Active
---
Output Queue                               Active
---
Device                                           Active
---
Job Queue                                       Active
---
MORE...

F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F15=Sort description F16=Position to F17=Subset F24=More keys

```

Days

Displays the days of the week on which this rule is enabled. *ALL indicates that the rule is enabled every day or a series of 'Y' and 'N' entries indicate the value for days Monday to Sunday.

From - To

Indicates the range of times within each day that this rule is enabled.

Using the Work with Rules display

The following options are available when working with rules. Type the option number in the Opt column against the required selection.

Insert

Use option **1=Insert** to add a rule group or rule. The option displayed depends on the item level against which the insert action was taken.

Monitor	Opens the Add Rule Group display to allow you to add a rule group to that monitor
Rule Group	Opens the Add Rule display to allow you to add a rule. The rule number is preset so that it becomes the first rule in this rule group. This rule number can be changed if required
Rule	Also opens the Add Rule display but with the rule number preset so that it follows the rule against which the insert option was taken

TIP: You can also add a rule group or rule using **F6=Add**.

Change

Use option **2=Change** to change an existing rule group or rule. The option displayed depends on the item level against which the change action was taken.

Monitor	You are not permitted to change monitor details
Rule Group	Opens the Change Group or Change Rule display to allow you to change an existing rule group
Rule	Opens the Change Rule display that allows you to change an existing rule group

NOTE: Using option **2=Change** against a rule or action for a remote location does not involve the remote location being contacted for validation purposes. Only at the point when part of the rule or action configuration is actually change is the Remote Location verification activated. This prevents unnecessary time-lags between devices.

Rule renumbering

Using option **2=Change** at rule level allows you to renumber the rule, by over-typing the current rule number. Typing a rule number that already exists results in an edit error. Clearing the rule number field causes it to default to the existing rule number. Also see [Resequencing](#) for more rule renumbering options.

Copy

Use option **3=Copy** to copy rule groups and rules. The option displayed depends on the item level against which the copy action was taken.

Monitor	You are not permitted to copy monitors
Rule Group	Opens the Confirm Copy of Rule Groups display. For Message Queue rule groups, type the new Message Queue and Library for the new rule group and press Enter. For all other rule groups, type the name of the new rule group and press Enter. Copying a rule group also copies all of the rules contained within that rule group
Rule	Opens the Confirm Copy of Rules display. Enter a name for the target queue or rule group and rule number. Press Enter.

NOTE: Whenever a rule or group of rules is copied, the newly created rule or group is automatically held. This is so the Monitor does not pick up the new Rule Group or Rule until you have changed it to what you want and released it. The rules must be manually released prior to use.

Copying Global Exclusions

It is possible to copy just the global exclusion rules by using the command **FROMRULE (*GBLEXC)**. This is subject to the following restrictions:

This command can only be used with `PRODUCT (HMM) MONITOR (*MSG)`.

The corresponding **TORULE (*FROMRULE)** is required when **FROMRULE (*GBLEXC)** is specified.

Delete

Use option **4=Delete** to delete rule groups and rules. The option displayed depends on the item level against which the delete action was taken.

Monitor	You are not permitted to delete monitors
Rule Group	Opens the Confirm Delete of Rule Group display. Press Enter to confirm the deletion
Rule	Opens the Confirm Delete of Rules display. Press Enter to confirm the deletion

Display

Use option **5=Display** to view, but not change, an existing rule group or rule. The option displayed depends on the item level against which the display action was taken.

Monitor	You are not permitted to display monitor details
Rule Group	Opens the Display Rule Group display
Rule	Opens the Display Rule display

NOTE: Using option **5=Display** against a rule or action for a remote location does not involve the remote location being contacted for validation purposes. This prevents unnecessary time-lags between devices.

Release

Use option **6=Release** to release held queues, rule groups or rules. The option displayed depends on the item level against which the release action was taken.

Monitor	You are not permitted to release monitors from this option. To release a held monitor, use the Work with Monitors option from the main menu
Rule Group	Opens the Confirm Release of Rule Groups display. Press Enter to release the selected items
Rule	Opens the Confirm Release of Rules display. Press Enter to release the selected rules

Hold

Use option **7=Hold** to hold queues, rule groups or rules. The option displayed depends on the item level against which the hold action was taken.

Monitor	You are not permitted to hold monitors from this option. To hold a monitor, use the Work with Monitors option from the main menu
Rule Group	Opens the Confirm Hold of Rule Groups display. Press Enter to hold the selected items
Rule	Opens the Confirm Hold of Rules display. Press Enter to hold the selected rules

NOTE: Any rules or rules within groups that are in held status are displayed as 'Rule Held' in inverse typeface in the top right corner of the maintenance display

Alerts

Use option **8=Alerts** to open the [Work with Alert Log](#) display, subsetting to show relevant alerts generated by the selected monitor, rule group or rule. The subsequent Work with Alert Log display depends on the item level against which this action was taken.

Monitor	Displays alerts generated by any of the rules defined within the monitor
Rule Group	Displays alerts generated by any of the rules defined within that rule group
Rule	Displays alerts generated by that rule

Print

Use option **9=Print** to print a rules report based upon level at which you selected the option.

Monitor	Prints a report for all rule groups and rules
Rule Group	Prints a report for the selected rule group and all associated rules is printed
Rule	Prints a report for the selected rule

Reset

Use option **10=Reset** to reset the escalation levels or suspend periods of a rule.

Resetting a message queue or Audit Journal rule resets the action escalation levels for the rule. Any alerts raised by this rule then invoke the lowest level of actions defined.

Resetting any other type of rule, cancels any suspends that are currently in force for that rule. Therefore any rules that were suspended, immediately become eligible to raise new alerts.

Monitor	Reset at Monitor level is not permitted
Rule Group	Reset at rule group level is not permitted
Rule	Reset on a rule opens the Confirm Reset of Rules display. Press Enter to confirm the reset of the selected rules

NOTE: Restricted Task rules do not support suspend functionality and therefore option **10=Reset** does not apply

Export

Use option **13=Export** to export rule groups and rules to up to eight other environments. Use of this option on a rule group, exports the group and all of the rules contained within.

Use of this option on a single rule allows the export of just the rule but also allows you to create the associated rule group if it does not already exist.

The rule group/rules are imported into the remote locations using the (CPYRULE) and (CPYGROUP) commands. Export is allowed to an environment that is currently in 'Maintenance Mode'.

Selecting option **13=Export** against a rule group or rule opens the Confirm Export of Rules display. Press **Enter** on this display to open the Rule Export Options display. Otherwise use **F12=Cancel** to cancel the export of rules action.

NOTE: See [Exporting Rule Groups and Rules](#) for more information regarding the Rule Export Options display.

Also see [Auto-export](#).

Exporting Global Exclusions

It is possible to export just the global exclusion rules by using **RULE (*GLBEXC)**. This is subject to the following restrictions:

This can only be used with `PRODUCT (HMM) MONITOR (*MSG)`

If you specify **RULE (*GBLEXC)**, the environment to which you are exporting must have common library PTF2011.196 or later

Message count

Use option **14=Message count** at individual rule level, to open the Display Message Counts window which displays the current message count information for the selected rule.

Message count information is only available if the rule has at least one action that does not have *NOMAX for Count specified. If the rule has no actions or all actions are set to *NOMAX then the message count option is inoperative, even if triggered count values have been specified.

NOTE: Message counts are set when creating message queue rules. See [Adding more than one action to a Message Queue rule](#) for more information

Review messages

Use option **15=Review messages** to display the Review Message display for the selected item.

NOTE: See [Reviewing Messages](#) for more information.

Rule history

Use option **23=Rule history** to open the Rule History display for the selected item.

NOTE: See [Displaying Rule History](#) for more information.

Auto-export

Use option **30=Auto-export** to set automatic export options for rule groups and rules. When entered at monitor level, this option opens the Change Auto-Export Systems display. This allows you to specify the remote systems to which the selected monitor's rules are automatically exported by default. When entered against a rule group or rule, this option opens the Override Auto-Export Systems display.

This allows you to exempt specific rule groups or rules from being exported.

NOTE: See [Auto-export options](#) for more information

Resequence

Use option **38=Resequence** against a rule group to resequence the rule numbers of the rules within the group using the following guidelines:

- **Group with <1000 rules** Rules are resequenced in 10's (Rule 10, Rule 20, Rule 30 and so on)
- **Group with between 1000 and 1999 rules** Rules are resequenced in 5's (Rule 5, Rule 10, Rule 15 and so on)
- **Group with between 2000 and 4999 rules** Rules are resequenced in 2's (Rule 2, Rule 4, Rule 6 and so on)
- **Group with >5000 rules** Rules are resequenced in 1's (Rule 1, Rule 2, Rule 3, and so on)

Resequencing of rules is only allowed at rule group level and is not permitted at monitor or rule level.

Use of option **38=Resequence** opens the Confirm Resequence of Rules display. Press **Enter** to confirm the changes of **F12** to cancel.

NOTE: Rule groups that are subject to auto-export have their rules automatically resequenced whenever this option is used. Actions which include the ability to define the rule number, such as CLOSE, DELETE, HLDRULE, RLSRULE and RSTRULE are not updated.

Functions on the Work with Rules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to add a new queue, rule group or rule. The option displayed depends on the item level against which the insert action was taken.

NOTE: You can also add a queue, rule group or rule using **F1=Insert**.

F9=Move to top

Use **F9=Move to top** to adjust the view, so that the line on which F9 was pressed is moved to the top of the display.

F11=Expand

Use **F11=Expand** to expand or compress the view of a monitor, queue or rule group. Only one monitor can be expanded at one time and only one queue or rule group within the expanded monitor can be expanded at one time, unless you use **F23=Expand all**. The view retrieved depends on the item the cursor was over when F11 was pressed.

NOTE: You cannot expand a group or queue that does not contain any rules.

Monitor	Expands or compresses the monitor to show or hide the rule groups defined within . When expanding a monitor , any monitor previously in an expanded state is compressed
----------------	---

Rule Group	Expands or compresses the rule group to show or hold the rules defined within. When expanding a rule group, any rule group in a previously expanded state is compressed
Rule	Expanding a rule is not allowed

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Rules by Product display, allowing you to control which product rules are displayed.

F18=Edit job list

Use **F18-Edit job list** (available for any rule that uses job lists) to be able to edit the details of the job list that applies to the rule on which this option was taken. See [Work with Job Lists](#) for more information.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

F22=Print all

Use **F22=Print all** to print a Rules Report for all monitor rules defined.

F23=Expand all/Collapse all

Use **F23=Expand all/Collapse all** to expand or compress all monitors, queues and rule groups.

Exporting Rule Groups and Rules

This display allows you to specify certain parameters when exporting rule groups and rules. Any information entered on this display, with the exception of passwords, is saved and re-used for the next time that you invoke the export option.

Getting there

Select option **13=Export** against a Rule Group or rule from the Work with Rules main display to open the Confirm Export of Rules display.

```

HAL0030R                               Halcyon Software                               HAL720P4
QA                                     Confirm Export of Rules                               12/08/15  14:05:30

Press Enter to confirm your choices for 13=Export.
Press F12 to return to change your choice.
To system . . . . . *RMTLOC
-----
Remote location or group . . . PROD      Port . . . . . *DFT
Replace . . . . . *NO      Secure connection . . . *DFT
Create rule group . . . . . *NO      Data protection . . . . *DFT
Status . . . . . *NOCHG
Remote user ID . . . . . ANDY
Password . . . . .

Opt Queue   Library   Type   Rule   Description
13 HMMAPI   HMMQA   *MSGRULE  0100   Halcyon Performance Manager *ALL

Bottom

F4=Prompt  F12=Cancel
Remote location PROD does not exist.

```

Parameters on the Confirm Export of Rules display

The following parameters are available on this display.

To system

Specify the host name or IP address of the system that contains the environment to which the rule is to be exported, or use one of the special values below:

*LOCAL	Enter *LOCAL or 127.0.0.1 to export to an environment on the local server
*RMTLOC	Enter *RMTLOC to specify that the remote system and environment are identified by the Remote Location name

IMPORTANT: The remote location **MUST** be at the same PTF level as the requesting location and you must provide the local system login information which the remote location will use to process the request.

For *LOCAL Systems

To environment

Enter the name of the environment on the local system to which the rule or Rule Group is to be exported.

Replace

Select either *YES or *NO to specify whether or not to overwrite an existing rule or rule group if one with the same name already exists on the chosen environment.

Create rule group

When exporting a single rule, the entry in this field specifies whether to create the rule group on the remote system if it does not already exist. The field does not apply when exporting a rule group.

*NO	If the rule group does not already exist on the chosen environment, an error occurs
*YES	If the rule group does not already exist on the chosen environment, it is created with the same name as the one from which the rule is being exported. If the rule group already exists, it is not changed

Status

Specifies the status, whether 'Held' or 'Released' that the exported rule group or rule has on the local system environment.

*HOLD	Exported rule groups and rules are set to 'Held' on the local system environment
*RLS	Exported rule groups and rules are set to 'Released' on the local system environment
*SAME	Rule groups and rules are set to the same status as the rule groups and rules from which they are exported
*NOCHG	Rule groups and rules that already exist on the local system environment retain their existing status. Rule groups and rules that are replaced are set to 'Held'

FOR *RMTLOC or (Named) Systems

Remote location or group (To environment)

Enter the name of an IBMi Remote Location or Remote Location Group.

TIP: Use **F4=Prompt** to select from a list of valid alternatives.

When a specific IBMi Host Name or IP address has been entered in the 'To system' parameter, specify the name of the environment on the remote system to which the rule or rule group is to be exported.

Replace

Select either *YES or *NO to specify whether or not to overwrite an existing rule or rule group if one with the same name already exists on the chosen environment.

Create rule group

When exporting a single rule, the entry in this field specifies whether to create the rule group on the remote system if it does not already exist. The field does not apply when exporting a rule group.

*NO	If the rule group does not already exist on the chosen environment, an error occurs
*YES	If the rule group does not already exist on the chosen environment it is created with the same name as the one from which the rule is being exported. If the rule group already exists, it is not changed

Status

Specifies the status, whether 'Held' or 'Released' that the exported rule group or rule has on the remote system.

*HOLD	Exported rule groups and rules are set to 'Held' on the remote system
*RLS	Exported rule groups and rules are set to 'Released' on the remote system
*SAME	Rule groups and rules are set to the same status as the rule groups and rules from which they are exported
*NOCHG	Rule groups and rules that already exist on the remote system retain their existing status. Rule groups and rules that are replaced are set to 'Held'

Remote user ID

Enter the user ID to be used to log on to the remote system. The user ID specified requires *ALLOBJ special authority.

IMPORTANT: If the Remote User ID does not have *ALLOBJ special authority, QSECOFR adopted authority is used for the duration of the export rule action.

Password

Type the password associated with the entered Remote user ID. Spaces are allowed if the password contains them.

NOTE: For security reasons, the entered password remains hidden.

Port

If exporting to a remote system, Specify the port number of the FTP server to which you are connecting.

*DFT	Default setting uses Port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Enter the port number to use

Secure connection

Specify the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection.

*DFT	Defaults to *NONE unless *SECURE or 990 is specified for the 'Port' parameter
*NONE	Encryption is not used when connecting with the FTP server
*SSL	The connection to the FTP server is made and then a SSL/TLS session is requested. If the server does not support this type of connection, the session is closed
*IMPLICIT	The connection is attempted using SSL/TLS but if the server doesn't support this type of connection, the session is closed

Data protection

Specify the type of protection used for the data transmission on the FTP connection.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter requires a secure connection. Otherwise, this defaults to *CLEAR
*CLEAR	Data is transmitted without encryption regardless of the 'Secure connection' setting
*PRIVATE	Data is encrypted during transmission. This option cannot be used if the 'Secure connection' parameter does not specify *SSL or *IMPLICIT

Press **Enter** to confirm the export of rule groups and or rules with the selected parameters. Once the command is completed, a message is displayed on-screen confirming success or failure of the export action. Success messages are also written to the Message Log.

NOTE: To export rules and rule groups using more parameter options than are available than using option **13=Export**, run the Export Rule (**EXPRULE**) command. See [Export Rule Command](#) for more information.

Auto-export options

Auto-export allows you to set this system as the central configuration point for monitors, rule groups and rules on remote locations that you have already defined. See [Work with Remote Locations](#) for more information. When you update the rule configuration on this system, Halcyon automatically updates the remote locations with the amended information.

The distribution process is controlled by the settings in system default [HAL/AUTOEXPORTMODE](#). If the remote location cannot be contacted immediately, the export is retried according to the settings in system defaults [HAL/AUTOEXPORTRETRY](#) and [HAL/AUTOEXPORTTMOUT](#). These two system defaults specify the interval in minutes between retries for the duration in hours before a timeout is recorded. If the auto-export process fails, a message is written to the message log. Additions, updates and deletions of rule groups and rules can be controlled by setting [HAL/AUTOEXPORTMODE](#) to *MIRROR.

Auto-export is triggered by manually adding, changing, deleting or copying a rule group or rule using Work with Rules.

Auto-export is not triggered by holding or releasing a rule from within Work with Rules or by using any of the following commands:

- Copy Action (CPYACT)
- Copy Rule (CPYRULE)
- Copy Rule Group (CPYRULGRP)
- Delete Rule (DLTRULE)
- Delete Rule Group (DLTRULGRP)
- Export Rule (EXPRULE) (receiving changes from another system)
- Halcyon Import of Bytware (HALIMPBYTW) (or sub-product commands)
- Hold Rule (HLDRULE)
- Import Environment (IMPENV)
- Release Rule (RLSRULE)

IMPORTANT: Auto-export is only supported between Halcyon Environments at the same PTF Level. If they are different then it may cause Action Monitors to fail as they attempt to run processes that have been changed.

To check the waiting actions during the auto-export process, select one of:

1. From the main menu, use option **41=Utilities** followed by option **2=Display Action Log**
or
2. Type **DSPACTLOG** on the command line and press **Enter**.

NOTE: Auto-export actions are listed as Command actions. See [Display Action Log](#) for more information.

Auto-export user authority

In order to be able to set-up and work with auto-export functionality, a user profile with the 'Limited capabilities' parameter set to ***NO** (WRKUSRPRF) and full authority to Halcyon General Product Use (WRKUSRAUT) must be used.

How to set-up auto export

Use the following instructions to set-up auto-export:

1. Create a user profile with authority to add and update rules on each remote location to which you want to auto-export.
2. Set the user profile and password on each system by creating substitution variables &EXPUSER (*CHAR 10) for the user and &EXPPWD (*PROT 10 or 128) for the password.
3. For each monitor type that you want to auto-export, use option **30=Auto-export** and create the list of remote locations. You can enter either remote locations or remote location groups.
4. Optionally, by using **30=Auto-export** against rule groups or rules within the monitor type, you can prevent specific rules from being automatically exported.
5. Set system default [HAL/AUTOEXPORTMODE](#) to either *UPDATE or *UPDADD.
6. Set system defaults [HAL/AUTOEXPORTRETRY](#) and [HAL/AUTOEXPORTTMOUT](#) to control export retries in the event that a remote location cannot be contacted when a rule is changed.

NOTE: Rules are not automatically exported when added. If you add a new rule and want to export it, use option **2=Change** and press **Enter** after adding the rule.

When exporting a rule group or rule that already exists on the remote location, the status ('Held' or 'Released') on the remote location is not changed. If the rule group or rule did not already exist, the status is set to 'Held'.

Auto-export options are set by using option **30=Auto-export** on the Work with Rules display. Different options and configuration settings are available dependent on the level at which the option is taken.

Status

Specifies the status, whether 'Held' or 'Released' that the exported rule group or rule has on the remote system.

*HOLD	Exported rule groups and rules are set to 'Held' on the remote system
*RLS	Exported rule groups and rules are set to 'Released' on the remote system
*SAME	Rule groups and rules are set to the same status as the rule groups and rules from which they are exported
*NOCHG	Rule groups and rules that already exist on the remote system retain their existing status. Rule groups and rules that are replaced are set to 'Held'

Export

Specifies whether auto-export is enabled.

Y	Enables auto-export
N	Disables auto-export

- The default value for monitors is Y.
- The default value for rule groups, is the value for the monitor the rule group is in.
- The default value for rules is the value for the rule group the rule is in.

Once all remote locations have been added or amended, press **Enter** to confirm and set the auto-export options for the selected monitor.

Auto-export at rule group and rule level

When taken at rule group and rule level, auto-export allows you to specify individual overrides to the auto-export process.

The Override Auto-Export Systems display allows you to override the auto-export settings for specific rule groups or rules. The resolved list of remote locations is shown, together with the override setting and the effective setting.

NOTE: You can only use option **30=Auto-export** at rule group and rule level if the option has been set at monitor level.

Use **F11=Expand groups** on this display to expand the view of a remote location group to show all the remote locations within the selected group. It is then possible to set individual auto-export overrides for individual locations within the remote location group.

```

HAL2150R                                     Halcyon Software                                     HAL720P2
MANL                                         Override Auto-Export Systems                               23/11/15  11:03:00
Monitor . . . . . JOB
Rule group . . . . . EXAMPLE
Library . . . . . QGPL
Rule . . . . . 910
Type new/changed information, press Enter.
Remote
Location      Description                               Export  Export
HAL525P1      HAL525P1/QAHXP                                     Override Enable
                                                    *AUTO   Y

```

F3=Exit F5=Refresh F11=Expand groups F12=Cancel Bottom

Monitor

Displays the name of the monitor for which the auto-export settings are being changed.

Rule group/library

Displays the name of the rule group or qualified queue name for which the auto-export settings are being changed.

Remote location

Displays the name of the remote locations to which rule groups and rules in this monitor use auto-export by default.

Description

Displays the description of the remote location or remote location group.

Export Override

Displays the override code for this remote location. Make amendments as necessary and press **Enter**.

*	No override
Y	Enable auto-export
N	Disable auto-export

Export Enabled

This value in this parameter indicates whether auto-export is enabled to this remote location, taking into account any overrides that have been set.

Y	Auto-export enabled
N	Auto-export disabled

Once all amendments have been made press **Enter** to confirm and set the auto-export override options for the selected rule group or rule.

Export Rule Command

The Export Rule (**EXPRULE**) command export rules or rule groups from the product environment in which this command is running to another environment on the local or on a remote system. Data is exported via the method specified in [HAL/NETXFERMODE](#). If this is set to *NETMGR, corresponding export status messages will be prefixed with *NETMGR for easy identification.

Getting there

Type **EXPRULE** on the command line and press F4.

```

Export Rules (EXPRULE)
Type choices, press Enter.
To system . . . . .
-----
Product . . . . . HAM, HEM, HMM, HMX, HRT...
Export:
Monitor . . . . . AIM, AUD, CST, DEV, DSQ...
Rule group . . . . . *ALL Name, *ALL
Library . . . . . *NONE Name, *NONE
Rule . . . . . *ALL 1-9999, *ALL, *NONE, *GBLEXC
+ for more values _
Replace . . . . . *NO *YES, *NO, *ALL, *ONLY

Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

Authority

In order to be able to export remote locations you require *USE authority to the relevant RULES functions on the local system and *ALL authority to the relevant RULES functions on the remote system.

Parameters on the Export Rules command

The following parameters are available on this display.

To system

Specifies the system to which to export the rules. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFERMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export the rules or rule groups. Type an IP Address, or a name which has been mapped to an IP address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To Remote Location' parameter

Product

Specifies the product codes of the rules that you want to export.

HAM	Audit Journal Manager
HEM	System Event Manager
HMM	Message Manager
HMQ	MQ Manager
HMX	HA-MX Monitor
HRT	Restricted Tasks Manager
HXP	Exit Point Manager

Export

Specifies which rules and rule groups should be exported. You can specify up to 32 values for this parameter. The rule groups and individual rules specified must exist on the local system, unless DELETE(*YES) is specified.

Monitor

Specifies the monitor code of the rules that you want to export.

AIM	Alert Intelligence monitor
AUD	Audit Journal monitor
CST	Custom monitor
DEV	Device monitor
DSQ	Distribution Queue monitor
INA	Inactivity monitor

JBL	Job Log monitor
JOB	Job Queue monitor
JRN	Custom Journal monitor
MMQ	MQ monitor
MMX	MIMIX monitor
MSG	Message monitor
OBJ	Object monitor
OUT	Output monitor
PFM	Performance monitor
RTM	Restricted Tasks monitor
TCP	TCP/IP monitor
USR	User monitor
XPM	Exit Point monitor

Rule group

Specify the queue or rule group name of the rule that you want to export.

*ALL	All rule groups for the specified monitor are exported
name	Specify an individual queue or rule group name

Library

If the 'Rule group' parameter is set to a queue name, specify the library qualifier for the entered queue name.

*NONE	Specify *NONE if the rule group does not require a library qualifier, or if Rule Group(*ALL) is specified
name	Enter the name of the library

Rule

Specifies which rules to export.

*ALL	Exports the whole rule group with all its rules. *ALL must be specified if 'Rule group' (*ALL) is specified
-------------	---

*GBLEXC	Exports the Message rules global exclusions. This value is only valid when 'Product' (HMM) is specified and the 'Monitor' parameter is set to MSG
*NONE	Exports the rule group header only, without exporting any of the associated rules
1-9999	Exports the specified rule

Replace

Specifies whether to add, replace or delete existing rules or rule groups.

*NO	Add only. If a single rule or whole rule group being exported does not already exist on the target environment, it is created. If it does already exist, it remains unchanged
*YES	Add or update. If a single rule or a whole rule group being exported does not already exist on the target environment, it is created. If it does already exist, that rule or group is deleted before being replaced by the rule or group being exported.
*ALL	Add or update. All rule groups for the specified monitor on the target environment are deleted and replaced by the rule groups being exported from the source system. This setting is only allowed when all export parameters are set to *ALL
*ONLY	Update only. If a single rule or a whole rule group being exported does not already exist on the target environment, it is not created. If it does already exist, that rule or group is deleted before being replaced by the rule or rule group being exported

Delete

This parameter is used in conjunction with 'Replace' (*YES) to indicate whether rules and rule groups specified by the 'Export' parameter that do not exist on the local system but do exist on the remote system should be deleted from the remote system.

*YES	Delete rules and rule groups specified by the 'Export' parameter that do not exist on the local system but do exist on the remote system. 'Delete' (*YES) is only allowed when 'Replace' (*YES) is specified
*NO	Do not delete rules and rule groups

Create rule group

For single rules that are exported, specify whether to create the rule groups to contain those rules if they do not already exist on the target environment. This parameter does not affect whole rule groups that are being exported.

*NO	If a rule group does not exist on the target environment to contain a single rule selected for export, then that rule is not exported
*YES	If a rule group does not exist on the target environment to contain a single rule selected for export, the rule group is first exported and then the single rule is exported. If the rule group contains other rules in addition to the selected rule, they are not exported

Status

Specifies the initial status that exported rule groups and rules have on the remote environment.

*NOCHG	Rule groups and rules that already exist on the remote environment retain their existing status. Rule groups and rules that are added to the remote environment are set to Held
*HOLD	Rule groups and rules are set to Held on the remote
*RLS	Rule groups and rules are set to Released on the remote environment
*SAME	Rule groups and rules are set to the same status as the rule groups and rules from which they are exported

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type of *I5. If a remote location group is specified, the rules are exported to all remote locations within the group.

To environment

If the 'To system' parameter is not specified this parameter specifies the name of the environment to which the rules are exported. When the 'To system' parameter is specified, this parameter is ignored.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server
*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. the default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected rules to the specified environment.

Functions on the Export Rule Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Reviewing Messages

The Review Messages display shows the messages received on the selected message queue over the period of time configured in system default [HMM/LRMLOGLIFE](#). To be included in this display, the Message monitor must have been running and processing this queue over the required time period.

The list of messages can be summarized weekly, daily or hourly.

Getting there

Select option **15=Review messages** against a Message Rule Group on the Work with Rules main display to open the Display Message Review display.

NOTE: See also Message Manager Utilities - [Building Message Review](#) and [Work with Messages Review](#).

Building Message History

When you first install the Halcyon Message Manager software you can use the Review Messages option to build history from your current message queues.

Once the list of messages has been compiled, it is possible to view those messages that frequently arise and build rules, using option **1=Add rule** to monitor for these messages and take action accordingly.

NOTE: See [Adding a Message Queue Rule](#) for more information on adding message rules.

```

HMM_MSGRVW           Halcyon Message Manager           HAL525P3
                    Display Message Review           6/06/11 11:42:21
                    7 day summary                   Subsetted list

For Message Queue / Library QHST QSYS Weekly Totals
Position to week number   ___ 1-5 Severity Filter 00
Position to month/year   ___ JAN,FEB,MAR... and year no.
Type options, press enter.
1=Add rule 5=Display

Sel Wk Mth Year Count Msg ID Sv Message Text
-- -- -- -- --
_ 01 JUN 2014 1 CPF590A 40 SESSION TO DEVICE QPADEV0009 ENDED NORMALLY.
_ 01 JUN 2014 1 CPIEF1A 10 SERVICE AGENT AUTO PTF FUNCTION HAS STARTED.
_ 01 JUN 2014 1 HAL0124 00 Warning! Halcyon temporary code for environme
_ 01 JUN 2014 1 HAL0807 00 Warning! Calendar *DEFAULT data has expired.
_ 01 JUN 2014 1 HAL0924 00 Expired temporary product authorization code
_ 01 JUN 2014 2 CPC1126 50 JOB 600533/QSYSOPR/HALACT WAS ENDED BY USER T
_ 01 JUN 2014 2 CPC3703 00 1 OBJECTS RESTORED FROM HALINST TO QTEMP.
_ 01 JUN 2014 2 CPIB029 00 COLLECTION SERVICES IS NOT RUNNING. PM ESERV
_ 01 JUN 2014 9 CPC1236 00 JOB 600519/QESAADM/QSJHEARTBT SUBMITTED FOR J
_ 01 JUN 2014 30 CPIB028 00 PM ESERVR ISERIES JOB ALREADY RUNNING.
_ 01 JUN 2014 45 CPF1164 00 JOB 600521/NEVANS/AUTOUPGINS ENDED ON 01/06/1
_ 01 JUN 2014 48 CPF1124 00 JOB 600526/QSRVAGT/QS9AUTOTST STARTED ON 01/0
                    BOTTOM
F3=Exit F12=Cancel F14=Top F17=Subset F18=Bottom F22=Print

```

Parameters on the Display Message Review display

The following parameters are available on this display.

Message queue/Library

Specifies the selected message queue and library. These entries may be overridden if required.

List type

Displays the type of summary being displayed. Use **F17=Subset** to change the list type in force.

Weekly	Messages totalled by week number within month/year
Daily	Messages totalled by day within month/year
Hourly	Messages totalled by hour within day/month

Position to day/week

Enter the day number or week number to which to position the list.

00-99	Day number
1-5	Week number

Position to hour

If hourly list type is being used, enter the hour number to which to position the list.

01-24 Hour number

Position to month/year

Enter the month and year to which to position the list.

JAN, FEB...	Month
CCYY	Year

Day

Specifies the day on which the message was received.

NOTE: Only visible if Daily selected as the 'List type' parameter.

Week

Specifies the week number on which the message was received.

NOTE: Only visible if Weekly selected as the 'List type' parameter.

Month

Specifies the month in which the message was received.

Hour

Specifies the hour at which the message was received.

NOTE: Only visible if Hourly is selected as the 'List type' parameter.

Year

Specifies the year in which the message was received.

NOTE: Only visible if Daily or Weekly are selected as the 'List type' parameter.

Count

Specifies the number of times that the message has been received during the specified period. This helps you to identify which messages are frequently received and create message rules accordingly.

Msg ID

Specifies the unique message ID reference number.

Severity (SV)

Specifies the severity rating of the message as defined in message rule severity filter.

Message text

Displays the actual text of the message.

Using the Display Message Review display

This display defaults to the current week number in the current month. The following options are available when using the Display Message Review display. Type the option number in the Opt column against the required selection.

Add rule

Use option **1=Add rule** to add a rule to this message queue configuration for this message ID. The new rule is created with default values, a description 'Auto-added' and has no actions configured. By default, the criteria for job name, user name and program name are those from the selected message, but these may be cleared or altered before pressing Enter.

NOTE: See [Adding a Message Queue Rule](#) for more information on adding rules.

Display

Use option **5=Display** to open the Display Reviewed Messages display which shows additional details of the messages selected on the Display Message Review display.

```

HMM1020R          Halcyon Message Manager          HAL525P3
PROD              Display Reviewed Messages        9/09/10 09:23:49
                CPI2417 in QSYSOPR/QSYS from *ERROR at 00:00:00
Type options, press Enter.
5=Display 6=DSPMSGD
Op  Message
=  JOB MESSAGE QUEUE FOR 212876/QSYSOPR/HEMDEVMON HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212878/QSYSOPR/HEMDSQMON HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212876/QSYSOPR/HEMDEVMON HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212878/QSYSOPR/HEMDSQMON HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212889/HJSDFUTUSR/HJSMGRPY HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212876/QSYSOPR/HEMDEVMON HAS BEEN WRAPPED.
-  JOB MESSAGE QUEUE FOR 212878/QSYSOPR/HEMDSQMON HAS BEEN WRAPPED.

F3=Exit  F5=Refresh  F12=Cancel                                BOTTOM

```

Use option **5=Display** against any message on this screen to open a window showing the complete message detail including any variable data.

```

HMM1020R          Halcyon Message Manager          HAL525P3
                Display Message Detail
-  Message Id . . . . . CPI2417      Job . . . . . HEMDEVMON
  Message type . . . . . 04         User . . . . . QSYSOPR
  Date sent . . . . . 07/09/10     Number . . . . . 212878
  Time sent . . . . . 02:25:11     Program . . . . . QMHPQSEH

  Message . . . . . :  JOB MESSAGE QUEUE FOR 212876/QSYSOPR/HEMDEVMON HAS
                        BEEN WRAPPED.
  CAUSE . . . . . :   THE SIZE OF THE JOB MESSAGE QUEUE FOR
                        212876/QSYSOPR/HEMDEVMON REACHED THE MAXIMUM SIZE.  THE MAXIMUM SIZE IS
                        DEFINED IN THE JOBMSGQMX VALUE OF THE JOB DESCRIPTION USED BY THE JOB.
                        WHEN THE JOB MESSAGE QUEUE BECOMES FULL, THE JOB ATTRIBUTE, JOBMSGQFL,
                        IDENTIFIES THE ACTION TO TAKE.  IN THIS CASE, THE JOB ATTRIBUTE VALUE OF
                        *WRAP ALLOWED THE JOB MESSAGE QUEUE TO BE WRAPPED.
  RECOVERY . . . . . :  IF THIS MESSAGE APPEARS FREQUENTLY YOU MAY WANT TO
                        LOOK AT THE MESSAGES IN THE JOB MESSAGE QUEUE TO DETERMINE IF THERE IS
                        A PROBLEM WITH THE JOB.  YOU CAN DO THIS BY USING THE DISPLAY JOB LOG
                        (DSPJOBLOG) COMMAND AND SPECIFYING 212876/QSYSOPR/HEMDEVMON FOR THE JOB

F3=Exit  F12=Cancel                                More...

```

Use **6=DSPMSGD** against any message on the Display Reviewed Messages Display to open the standard IBM Select Message Details to Display screen which provides options you can use to select the parts of a message. See your IBM documentation for further information on how to use this display.

Functions on the Display Message Review display

The following parameters are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Top

Use **F14=Top** to move to the top record in the list.

F17=Subset

Use **F17=Subset** to open the Subset window to restrict or expand the data displayed.



Parameters on the Subset Message Review display

The following parameters are available on this display.

Summary Type

Shows the type of summary being displayed.

W	Messages totaled by week number within month/year
D	Messages totaled by day within month/year
H	Messages totaled by hour within day/month

Message ID

Enter a message ID or generic* message ID to which to limit the returned data.

*ALL	All messages are returned
Message ID	Messages that match the entered message ID are returned
generic*	Enter the starting characters of the message ID followed by an asterisk to return any matching message IDs

Count Limit

Enter a message count total. Only those messages exceeding this amount will be displayed.

Summarise Days

Enter the number of days to summarize. This value controls how much data is extracted to build the summary screen. The default value is the system value in [HMM/LRMLOGLIFE](#).

Severity Filter

Enter the message severity minimum value to summarize. This value controls how much data is extracted to build the summary screen. The default value is 0.

Suppress duplicates

Specify whether message variable data should be included when summarizing messages.

*YES	Messages will be summarized by message ID ignoring the message variable data. The first set of message variable data will be used for the display line
*NO	The first level text complete with message variable data will be used. Note that this option will cause considerably more entries to be produced and the message count will be affected by the contents of the message data variables.

F18=Bottom

Use **F18=Bottom** to move to the last record in the list.

F22=Print all

Use **F22=Print all** to print the message review for the dates and times specified.

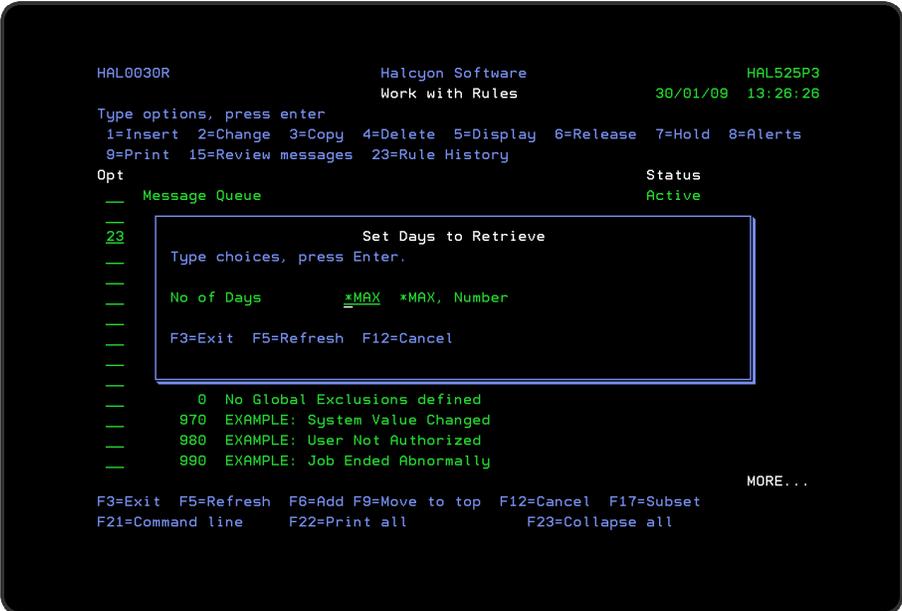
Displaying Rule History

Displaying rule history shows you the historical record of changes to queues, groups, rules, criteria and actions. The data is extracted from the Halcyon journal receivers each time option **23=Rule history** is taken from the Work with Rules display.

TIP: As retrieving data from the receivers can be a lengthy process, an option to skip the retrieval and use the last retrieved dataset is offered, or the amount of data retrieved can be restricted.

Getting there

From the main Work with Rules display, select option **23=Rule history** to display a pop-up window from where you can specify the number of days for which to retrieve rule history. Alternatively you can specify that the maximum number of days for which rule history information is held is retrieved.



The dataset retrieved, includes all queue or group activity within the product selected, but the initial display is subset to the selected line item. This enables you to view other subsets of data via the **F17=Subset** function without having to re-retrieve data.

Activity

The activity is listed in chronological order, with the display beginning with the most recent at the bottom of the list. The activity text is color coded to aid visibility:

- White text Addition
- Green text Change
- Red text Deletion

```

HAL0070R                               Halcyon Software                               HAL525P3
                                         Display Rule History                               30/01/09 14:03:52
Position to Date . . . . .              Subsetted List
Position to Time . . . . .
Group/library and rule . . . . .        QSYSOPR  QSYS      700
Type options, press Enter.
5=Display Fields  6=Display Journal Data
Opt Date      Time  Group/Queue Library  Rule  Activity
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Rule deleted (CPA5305: Cmd = #Q)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Rule added (CPA5305: Cmd = #Q)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Criteria deleted (CPA5305)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Criteria added (CPA5305)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Action deleted (<<CONSOLE)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Action added (<<CONSOLE)
_ 30/01/09 14:00:09 QSYSOPR  QSYS  700  Action added (<<CONSOLE)

                                         BOTTOM
F3=Exit  F5=Refresh  F11=Show Data  F12=Cancel  F17=Subset  F18=Bottom
Use F17=Subset to expand selection if required.

```

Parameters on the Display Rule History display

The following parameters are available on this display.

Position to Date

Enter the date to which you want to position the display, using the format DD/MM/YY.

NOTE: Separators may be omitted.

Position to Time

Enter the time to which you want to position the display, using the format HH:MM.

NOTE: Separators may be omitted.

Queue or Group, library and rule

Shows the current subset values for the display. These may be changed using the **F17=Subset** function.

Activity

Displays the activity associated with the rule history entry using the color scheme as detailed in the [Activity](#) section of this chapter.

Using the Display Rule History display

The following options are available when using the Display Rule History display. Type the option number in the Opt column against the required selection.

Display fields

Use option **5=Display fields** to display the field names and data values for the database changes actually recorded for the selected activity.

```

HAL0072R                               Halcyon Software                               HAL525P3
                                         Display Rule History                          30/01/09  14:06:52
Entry type DL DELETE                    Sequence 13725                               Subsetted List
File HMMRUL      Library HMMTEST      Format HMMRULR
Deleted by QPADEV0007/ANDY/049429      Date 30/01/09 14:00:09
Type options, press Enter.
6=Display Journal Data
  Field      Description
  = RULMQ     Message Queue
  = QSYSOPR
  _ RULLIB    Message Queue Library
  QSYS
  _ RULSEQ    Rule Sequence
  700
  _ RULDSC    Rule Description
  CPAS305: Cmd = #QA/MBRFULL
                                         MORE...
F3=Exit  F7=Previous  F8=Next  F12=Cancel  F17=Subset  F19=Left  F20=Right
Use F17=Subset to expand selection if required.

```

Display journal data

Use option **6=Display Journal Data** to display the raw journal data for the selected activity.

Functions on the Display Rule History display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to allow the display to be expanded or restricted by queue/group, library and rule.

F18=Bottom

Use **F18=Bottom** to reposition the display at the bottom of the Rule History display so that the most recent history data is displayed.

F19=Left

When the display has been expanded using F11, using **F19=Left** allows the data line to be shifted left.

F20=Right

When the display has been expanded using F11, using **F19=Left** allows the data line to be shifted left.

Message Queue Groups and Rules

Message Queue groups and rules are used to monitor, alert and perform actions against specific or generic messages generated by the IBMi or any third party applications that may be running on it that can also be monitored.

Message Queue groups are used to contain rules that perform a similar function such as monitoring BRMS, FTP activity and the QSYSOPR message queue.

NOTE: The Message Monitor will automatically hold a Message Queue Rule Group if a message queue is full.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

NOTE: Message Queues running on Independent Disk Pools (ASPs) are supported (IBMi running on Power Systems v6.1 or later).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               2/10/19 08:55:23
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
 1 Message Queue                               Stopped
  --- TCP/IP                                   Stopped
  --- Job Log                                  Stopped
  --- Output Queue                             Stopped
  --- Device                                   Stopped
  --- Job Queue                                Stopped
  --- Performance                              Stopped
  --- User                                     Stopped
  --- Distribution Queue                       Stopped
  --- Inactivity                              Stopped
  --- Object                                   Stopped
  --- Custom                                   Stopped
  --- Alert Intelligence                       Stopped
  --- Log File                                 Stopped
                                          More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F17=Subset F21=Command line F22=Print F23=More options

```

Global Exclusions

When the Work with Rules - [Message Queue Rules](#) display is expanded, there is already one message rule set up. This is sequence number 0, which is for global exclusions.

Sequence number 0 is a special sequence number which cannot be deleted, even if you do not define any global exclusions for the message queue.

If you do have messages that are to be totally excluded from any type of action, take option **2=Change** against sequence 0 to define the exact criteria for the exclusion. If a global exclusion exists for a message, then none of the other sequence numbers for this message queue are searched for a match and no action is taken.

Identifying when Global Exclusions have been defined

If global exclusions have been defined within a Message Queue rule group, the global exclusions entry is shown in red (as shown below). If no global exclusions have been defined, the entry is shown in green.

This makes it easier to identify any rules that may affect subsequent rule processing. See [How the Message Monitor searches the Message Rules](#) for more information.

```

HAL0030R                               Halcyon Software
MANL                                     Work with Rules                               9/02/17 11:34:31
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Msg count 15=Review msgs 23=Rule history..
Opt Item      Description                               Status
---
HMMFTP      HMMQA      FTP Activity monitoring Queue           Held
KAPSTATUS   KLIBHCY    End of Day monitoring                   Held
0           Global Exclusions defined                Held
10          C05 Phase Started-End of Input & File Backup Held
20          C05 Phase Ended-End of Input & File Backup Held
30          C10 Phase Started-Deal Reporting         Held
40          C10 Phase Ended-Deal Reporting           Held
50          C15 Phase Started-Maturities             Held
60          C15 Phase Ended-Maturities              Held
70          C20 Phase Started-Input Reports          Held
80          C20 Phase Ended-Input Reports            Held
90          C35 Phase Started-Housekeeping & Statement Ex Held
100         C35 Phase Ended Housekeeping & Statement Extr Held
110         C40 Phase Started-Interest               Held
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F15=Sort description F16=Position to F24=More keys

```

How the Message Monitor searches the Message Rules

The method used when the Message monitor reads a new message from a monitored message queue is as follows:

1. Specific Globally Excluded Message ID's

If you have set up any global exclusions for specific message ID's against rule sequence 0 (the special global exclusions filter), then these are searched first to see if the new message received has been specifically excluded.

EXAMPLE: Omit CPF1256 is specified in rule sequence 0.

2. Generic Globally Excluded Message ID's

Generic global exclusions are searched next in the sequence.

EXAMPLE: Omit CPF12* is specified in rule sequence 0.

3. Specific MessageID with matching comparison data

Next to be searched are specific message ID's with matching comparison data.

EXAMPLE: Omit CPF12* with comparison data of &1 Backup.

4. Specific Message ID's specified within the selection criteria

Selection criteria that identify specific message ID's are next to be searched.

EXAMPLE: Select CPF1241.

5. Generic Message ID's specified within the selection criteria

Selection criteria that identify generic message ID's are then searched.

EXAMPLE: Select CPF12*.

NOTE: If there are any omit criteria in the same rule sequence number, then all of these are taken into account before the message is either accepted or rejected. For example, if Select CPF12* is specified but Omit CPF1242 is also specified, then if message CPF1242 is received, it would not be picked up by this sequence number (or following sequence numbers) for processing.

6. Message ID with *ALL specified and with Message Type defined

If the message does not match any of the previous 5 search criteria, message rules that have message ID's defined as *ALL but have a defined Message Type are selected.

EXAMPLE: Message ID=*ALL Message Type=*INQ.

7. Message ID's with *ALL defined

If the message received does not match any of the above search criteria, the message rules that have message ID's defined as *ALL are searched.

EXAMPLE: Message ID=*ALL.

Any inquiry type messages not picked up in the previous searches would be processed under this type of search.

NOTE: If a match is found under one of the above searches, a secondary search is then performed to see if there is any matching compare date, or whether the message rule matches the current day, time and so on. The message received has to match the exact specification before being passed to the Action monitor for processing.

Message Monitor Rule Weighting

In addition to the [search method](#), the Message monitor also uses a weighting against each criteria on a rule to build a total score for all matching rules for any given message. It then selects the rule with the highest point score and the lowest sequence number. The rule must be released and not omitted by omit criteria.

For omit criteria, the omit status applies to all subsequent rule processing. Rules with specific selection criteria will always select a message due to a higher score, over a rule containing an omit.

Message Score Assignment

Scores are assigned to messages as follows:

Whole Message ID	300
*BLANK Message	300
Generic Message ID	150
Problem Analysis=Y	50
Message Type	25
Message Severity	10
Compare Data	10
Whole Message File	10
*NONE Messge Fie	10
Whole Msgf Library	10
BLANK Mgsf Library	10
Whole Job Name	10
Generic Job Name	5
Whole User Name	10
Generic User Name	5
Whole Pgm Name	10
Generic Pgm Name	5
Whole Send User	10
Generic Send User	5

Any value = *ALL	0
------------------	---

Examples

Rule 100	All Inquiry Messages
Message Type	INQ (scores 25)
Severity	00 (scores 0)
Select Criteria	
MsgID	*ALL (scores 0)
MsgF	*ALL (scores 0)
MsgF Lib	*ALL (scores 0)
Total Score	25

Rule 999	Severity >=0
Message Type	*ALL (scores 0)
Severity	90 (scores 10)
Select Criteria	
MsgID	*ALL (scores 0)
MsgF	QCPFMSG (scores 10)
MsgF Lib	QSYS (scores 10)
Total Score	30

An Inquiry message generates an alert based on rule 999, not rule 100, as it scores higher, is released and contains no Omit criteria to exclude it.

Rule 100	All Inquiry Messages
Message Type	INQ (scores 25)
Severity	00 (scores 0)
Select Criteria	
MsgID	*ALL (scores 0)
MsgF	*ALL (scores 0)
MsgF Lib	*ALL (scores 0)
Total Score	25

Rule 555	Severity >=90 and NOT CPA5305
Message Type	*ALL (scores 0)
Severity	90 (scores 10)
Select Criteria	
MsgID	*ALL (scores 0)
MsgF	QCPFMSG (scores 10)
MsgF Lib	QSYS (scores 10)
Omit Criteria	
MsgID	CPA5305 (not scored)
MsgF	QCPFMSG (not scored)
MsgF Lib	QSYS (not scored)
Total Score	30

Rule 999	Severity >=90
Message Type	*ALL (scores 0)
Severity	90 (scores 10)
Select Criteria	
MsgID	*ALL (scores 0)
MsgF	QCPFMSG (scores 10)
MsgF Lib	QSYS (scores 10)
Total Score	30

An inquiry message for CPA5303 will NOT alert. This is because:

1. Message monitor selects rule 555 as it has a matching high score but a lower rule number than Rule 999.
2. Rule 555 includes Omit criteria so processing stops at this point

If rule 100 or 999 had CPA5303 specified in a Select criteria, then that rule would be used as specific MsgID scores 300 making it the highest scoring rule compared to rule 555 which has the Omit.

Adding a Message Queue Rule Group

This option is used to add a message queue rule group to the existing message queue rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against Message Queue on the Work with Rules main display.

```

HAL0030R                               Halcyon Software                               HAL720P4
QA                                       Work with Rules                               5/02/15 09:42:14
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Msg count 15=Review msgs 23=Rule history
Opt Item      Description                               Status
 1 Message Queue                               Active
  TCP/IP                                           Active
  Job Log                                           Active
  Output Queue                                       Active
  Device                                             Active
  Job Queue                                          Active
  Performance                                       Active
  User                                              Active
  Distribution Queue                               Active
  Inactivity                                        Active
  Object                                            Active
  Custom                                            Active
  Alert Intelligence                               Active
  Restricted Tasks                                Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F17=Subset F21=Command line F22=Print F23=Expand all

```

The Add Message Queue Rule Group display is opened.

```

HMM_MNTMSQ                               Halcyon Message Manager                               1/30/25 13:29:34
MANL                                     Add Message Queue Rule Group
Message queue . . . . . Name, F4=Prompt
Library . . . . . *LIBL Name
ASP group . . . . . *SYSBAS Name, *SYSBAS, F4=Prompt
Description . . . . .
Monitor startup option . *CURRENT *CURRENT, *LAST, *IPL, hh:mm, Msg ID
Start time 1 . . . . . *ALL *ALL, HHMM (24 hour)
Check interval 1 . . . . 60 30 - 3600 seconds
Start time 2 . . . . . HHMM (24 hour)
Check interval 2 . . . . 30 - 3600 seconds
Start time 3 . . . . . HHMM (24 hour)
Check interval 3 . . . . 30 - 3600 seconds
Immediate alert level . . 90 01 - 99 (00 = No override)
Max msgs per cycle . . . *SYSDFT *SYSDFT, *NOMAX, 01 - 9999
Max consecutive cycles . *SYSDFT *SYSDFT, 01 - 99
Lag minutes . . . . . *SYSDFT *SYSDFT, *NONE, 05 - 3600 minutes
F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

This display shows the configuration details for the required Message monitor. Type your required selections and press **Enter** to add this message queue rule group to the Message monitor.

NOTE: For the Message monitor, each message queue can be configured for processing at different times and with different periods between monitoring.

Parameters on the Add Message Queue Rule Group display

The following parameters are available on this display.

Message queue/Library

Enter the name of the message queue and library that you want to monitor. Press **F4=Prompt** to display a list of message queues from which a selection can be made.

NOTE: This list is shorter if you enter a library name prior to using **F4=Prompt**.

Description

Enter a description for the message queue rule group. The entry made here is displayed on the Work with Rules main display.

NOTE: If you used **F4=Prompt** to select a message queue/library this parameter is automatically defaulted to the actual message queue description.

Monitor startup option

This defines how the Message monitor treats this message queue upon start up. Select from one of the following values:

*CURRENT	Start at the current position in the message queue (as identified by message ID HMM0066)
*LAST	Start at the message key that was last processed by the monitor for this message queue
*IPL	Start at the position of the most recent IPL message in the message queue

hh:mm	Goes back this amount of time (measured in hours and minutes) and monitors messages from that point. This option is not available for special queues QHST or BRMS
Msg ID	Start at the most recent message with this ID in the message queue

NOTE: The system default for this entry is [HMM/DFTMSGQSTROPT](#).

IMPORTANT: Changing the Startup option for QHST Message Queue

If you change the Startup option on the QHST Message Queue to *LAST from any other value, or the last QHST file processed no longer exists, then you may get duplicate alerts when the Message Monitor is started as ALL QHST files are processed to ensure that there are no omissions.

Start time 1

This entry defines the first start time for the monitoring of this message queue. Select from the following options:

*ALL	Always monitor this message queue. No other start times or intervals may be specified
HHMM	Start monitoring at the specified time (24 Hour clock)

TIP: The system default for this entry is [HMM/DFTMONTIM](#).

Interval 1

The delay interval, in seconds, that applies when monitoring is active from 'Start Time 1'.

30-3600	Wait this number of seconds
---------	-----------------------------

TIP: The system default for this entry is [HMM/DFTMONINTV](#).

Start time 2

Defines the second start time for the monitoring of this message queue. Not applicable if *ALL is specified in 'Start Time 1'.

NOTE: See 'Start Time 1' for details of further settings.

Start time 3

Defines the third start time for the monitoring of this message queue. Not applicable if *ALL is specified in 'Start Time 1'.

NOTE: See Start Time 1 for details of further settings.

Immediate alert level

Specifies the message severity. Any setting other than 00 (No override) causes paging schedules to be overridden to immediate.

01-99	Messages higher than the figure specified here are sent immediately
-------	---

TIP: The system default for this entry is [HMM/DFTPAGOVR](#).

Max msgs per cycle

Specifies the maximum number of messages retrieved each time the monitor processes this message queue.

1-999	The number of messages to retrieve
-------	------------------------------------

TIP: The system default for this parameter is [HMM/DFTMAXPERAPI](#).

Max consecutive cycles

Defines the maximum number of consecutive API calls to be made when processing this message queue. This means that if the number of messages retrieved by the API in one call is equal to the number configured in this parameter, the API is called repeatedly this number of times before the monitor continues with processing the next message queue.

1-999	The number of messages to retrieve
-------	------------------------------------

TIP: The system default for this parameter is [HMM/DFTMAXCONCALL](#).

Lag Minutes

This is the number of minutes that this queue processing can lag behind the current time before a warning message is sent to the Halcyon Message Log. The message will repeat after the number of minutes specified in the system default [HMM/MSGQLAGWRNFRQ](#) if the queue lag condition persists.

*NONE	No lagging message is sent
*SYSDFT	Use the value in system default HMM/MSQLAGWRN
5-3600	Specify the number of minutes

Functions on the Add Message Queue Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Message Queue Rule

To add a message queue rule, select either option **1=Insert** or **F6=Add** against an existing message queue on the Work with Rules main display. This opens the Add Message Queue Rule display.

There are three pages that comprise the creation of a new message queue rule.

Resolving the Message File IASP

Message queue rules auto-resolve the IASP to be used by using the message file library when a message is received.

Using the Message File Library parameter on the message a check is performed for the existence of a library, using the following action sequence:

- *SYSBAS. If found then *SYSBAS is used as the library
- Each available IASP. If the required library is found then that IASP is used.

NOTE: In the event that the library is not found on *SYSBAS or on currently available IASPs, then *SYSBAS is used and it is not possible to resolve the message.

To improve performance, Message Monitor builds an internal "cache" of the ASP/IASP for each message file as it processes messages. It then uses this internal cache as much as possible instead of searching through all IASPs for every message.

NOTE: If a library containing a message file is moved to another ASP/IASP, the Message Monitor does not enforce this change until restarted if the library name remains unchanged.

Every five minutes, the Message Monitor will add a message to the Halcyon Message Log when a message queue on an IASP is not available for monitoring, the Rule Group is released and is within the Monitoring period.

Parameters on the Add Message Queue Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, other than when changing the 'Receive status' the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

```

HMM_MNTRUL      Halcyon Message Manager      HAL720P2
MANL            Add Message Queue Rule      16/08/19 14:41:58
Message queue . . . . . BRMS                (1 of 3)
Library . . . . . QUSRBRM
Description . . . . . BRMS messages

Rule number . . . . . 0450
Rule description . . . . .

Message type . . . . . *ALL                *ALL, COMP, COPY, DIAG..., F4=Prompt
Receive status . . . . . R                  R=Received, N=Not received
Message severity . . . . . 00                00 - 99
Problem analysis . . . . . N                 Y=Available, N=Not available

Monitor by calendar . . . *NONE            Name, F4=Prompt
                               Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

More...
F3=Exit F4=Prompt F5=Refresh F10=Notes F12=Cancel F21=Command line

```

Message queue/Library

Displays the name of the message queue and library to which this rule is to be added.

Description

Displays the description of the message queue to which this rule is added.

Rule number

When adding a message queue rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this message queue configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Message type

Defines the message type to be included for this rule. Select from the following values (or use **F4=Prompt** to display a list of valid options).

ANY	Include messages of any type
INQ	Include only inquiry messages
COMP	Include only completion messages
COPY	Include only copy messages (see Important message below)
INFO	Include only information messages
ESC	Include only escape messages
NOTIFY	Include only notification messages
DIAG	Include only diagnostic messages

NOTE: When working with Message Types it is possible to get a specific message type excluded from the generic rules by creating a message rule for the selected Message Type and not putting any Actions on the rule. Ensure that you amend the Select criteria to pick up the specific messages and/or message files to be selected. This results in a Closed Alert being raised. If you do not want the Closed Alert you can add a [Delete Alert action](#) which deletes the alert as soon as it is raised.

IMPORTANT: When using Message Type of COPY, the Display Message (**DSPMSG**) command at *BASIC Assistance Level does not display Sender Copy inquiry messages until they have been replied to. Although Message Manager processes the Sender Copy immediately, it may not be visible via the Display Message command.

Receive status

Defines the type of event to be monitored. Select from the following values:

R	Received. Specify the days to alert. The day in which the message is received determines whether an alert is raised.
----------	---

N	<p>Not Received.</p> <p>Without a period specified: Specify the days to begin monitoring. If the time range entered crosses midnight the monitor day in which the range starts is the crosses midnight the monitor day in which the range starts is the monitor day used when determining whether a rule should raise an alert.</p> <p>With a period specified: Specify the days to alert. The time range entered should not cross midnight. Use 2 rules if you want to monitor before and after midnight with a period value specified.</p> <table border="1"> <tr> <td>Y</td> <td>Monitor on this day</td> </tr> <tr> <td>N</td> <td>Do not monitor on this day</td> </tr> </table>	Y	Monitor on this day	N	Do not monitor on this day
Y	Monitor on this day				
N	Do not monitor on this day				

Important Notes Regarding 'Message Not Received' Rules

- For a "Not received" rule without a period that crosses midnight, the "Start day" has to be set to Y, not the "End day".

EXAMPLE:

If you want to cover Monday 23:45 to Tuesday 00:15 you set Monday to Y and all other days to N.

- A 'Not received' rule with a period does NOT work if you cross midnight.
 - To workaround this, use 2 rules, 1 up to midnight and one from midnight.
 - You must set "End time" to 00:00 if you want to alert until midnight unless you are covering a 24 hour period.

EXAMPLE:

For 23:00 to midnight with period of *15MINS you set 23:00 - 00:00 but for 24hrs you leave the Rule as default of 00:00 - 23:59.

WARNING: When specifying a time range for Not Received messages, be aware that the Monitor does not start looking for the messages until the check cycle after the Start Time. This time gap, between the Start Time and check cycle, could result in the message being missed and a false alert being generated.

Message severity

Defines the message severity value. Only messages with a severity equal or greater than the entry in this parameter are actioned.

00-99	Message severity value
-------	------------------------

Problem Analysis

Specifies if the message has caused an entry to be added to the problem log. This allows you to create a rule to specifically process messages, usually from QSYSOPR, which have a relating IBM Problem. You are then able to Alert using details from the IBM Problem rather than the message that triggered the rule.

Y	Only process messages with a corresponding IBM Problem that matches the other criteria of the rule
N	The message has not caused an entry to be added to the problem log

Three substitution variables are available for IBM Problem related messages:

&PRBID	The 10 character IBM Problem Reference. This is the reference used on a DSPPRB/WRBPRB command for example
&PRBREF	The 31 character internal IBM Problem Reference. This is NOT the 10 character reference used by the DSPPRB/WRKPRB command
&PRBTXT	A compilation of details from the IBM Problem. This can be used instead of &ALERT for the alert text to give the IBM Problem detail rather than detail from the message that triggered the rule

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the '[Monitor on days](#)' and '[Time range](#)' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active. See also '[Period](#)' and '[Watch ID](#)' parameters below.

HHMM	The 24 hour time range for receipt (or non-receipt) of messages
-------------	---

Period

Operates in conjunction with the '[Time range](#)' and '[Receive status](#)' parameters.

For a not received rule only, the time period within the time range to limit monitoring. This is based on fixed points in time calculated as intervals from the nearest hour. For example, an entry of *6HOURS results in the rule being active from 00:00 to 06:00, then again from 06:00 to 12:00, and so on. At the end of each period the rule resets and begins monitoring again.

Do not specify a time range that crosses midnight where this value is not *NONE.

The following values can be specified:

&NONE	The time range parameter entry acts as the only limit
*5MINS	The rule is reset every 5 minutes
*10MINS	The rule is reset every 10 minutes
*15MINS	The rule is reset every 15 minutes

*30MINS	The rule is reset every 30 minutes
*1HOUR	The rule is reset every hour
*2HOURS	The rule is reset every 2 hours
*4HOURS	The rule is reset every 4 hours
*6HOURS	The rule is reset every 6 hours
*12HOURS	The rule is reset every 12 hours
*1DAY	The rule is reset every day

Watch ID

Operates in conjunction with the [‘Time range’](#) parameter.

Defines the name of the watch ID to be used in conjunction with the **STRWATCH** command or action. This parameter is only available when ‘Not Received’ is specified in the [‘Receive Status’](#) parameter. If this parameter is set to *NONE, the not received rule operates using the specified [‘Time Range’](#) parameters. If a value is specified, the time limit is provided by the **STRWATCH** command or action.

&NONE	Use the time ranges specified on this rule. the STRWATCH command is not used in conjunction with this rule
*JOBID	Use the job name, username and job number to create a name for the watch. The STRWATCH command action is used in conjunction with this rule to create the actual name used
*JOBNAME	Use the job name as the name of the watch. The STRWATCH command is used in conjunction with this rule to create the actual name used
*JOBUSER	Use the user name as the name of the watch. The STRWATCH command is used in conjunction with this rule to create the actual name used
Name	Specify the name of the watch. The STRWATCH command is used in conjunction with this rule using this name

NOTE: Please see [Monitoring for messages completing within a specific time period](#) for more information on using the Message Not Received functionality.

Press <Page Down> to view the second page of Message Rule criteria.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HMM_MNTRUI Halcyon Message Manager HAL720P2
MANL Add Message Queue Rule 19/08/19 08:45:48
Message queue . . . . . AVMSGQ (2 of 3)
Library . . . . . STANDGUARD
Description . . . . . SGAV MSGQ

Triggered count . . . . . 1 1 - 999
Count time range . . . . . 1440 1 - 1440 minutes
Reset counts . . . . . N C=On alert close, N=No, H=Midnight

Console comment . . . . . *NO *YES, *NO
On-close action . . . . . *NONE Name, F4=Prompt

More...
F3=Exit F4=Prompt F5=Refresh F10=Notes F12=Cancel F21=Command line

```

Triggered count

Defines the number of times the rule is triggered before the actions on the rule are processed.

1-999	Do not process the rule actions until the rule is triggered this number of times within the Count time range. Closed alerts will be raised instead
-------	--

IMPORTANT: Triggered count is not the same as message counts. If you specify an entry in this parameter, either standalone or in combination with a Count time range period, then this rule must trigger, based on any of the criteria, that number of times (within a specific time period if set) to generate one message count.

Count time range

Defines the time range within which the message must occur the requisite number of times as specified in the 'Triggered count' parameter.

1-1440 minutes	The rule must trigger the requisite number of times within this length of time
----------------	--

Reset counts

Specifies if the message action counts and triggered count parameters are reset whenever an alert that is raised by this rule is closed, regardless of any other alerts being open.

N	Do not reset action counts and triggered counts
C	All message counts and triggered counts are reset when ANY alert for that Rule is Closed or Deleted. This includes being Closed or Deleted via an action such as REPLY, CLOSE and DELETE
M	Midnight. Counts against the rule are reset just after midnight

NOTE: When an alert is closed, the counts are reset. The actions performed, depend on how many alerts are open rather than occurrences of the message. Rules that have this option set to 'C' do not have the counts reset when a REPLY action replies to an Inquiry alert. The message counts are reset if the message is replied to in any other way. Message rule counts are always reset when the Message monitor is started.

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be used using Display Message Log
*NO	No comment is required

NOTE: This parameter only applies within [Message Console](#). It does not apply to [Work with Alert Log](#), Enterprise Console or any use of the Close Alert (CLSALT) command including in SMS commands.

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **<Page Down>** to display the third page of information for this message queue rule.

Page 3

This page of the display is pre-configured with a default set of rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

```

HMM_MNTRUL          Halcyon Message Manager          HAL720P2
MANL                Add Message Queue Rule          19/02/20  15:47:47
Message queue . . . BRMS                          (3 of 3)
Library . . . . . QUSRBRM
Description . . . . BRMS messages
Type options, press enter.
2=Change 3=Copy 4=Delete 8=Count/Method
Opt Sel/Omit  Msg ID  Message file          Job      User      Program  Cmp
| Select     *ALL   QSYS/QCPFMMSG          *ALL    *ALL     *ALL    No
                Actions
Seq Action          Count Delay
_ 010 ACTSCH ACTSCH(AS1) *NOMAX  0
  
```

Bottom

F3=Exit F6=Add F7=Reorder F11=Alt view F12=Cancel F24=More keys

Actions

At this point, there are no actions applied to the message rule, so any alerts raised by the message rule criteria are not recognized. To add an action, position the cursor into the 'Actions' area of the current display and press **F6**.

NOTE: See [Adding Actions to Rules](#) for more information.

Additional Criteria

A message queue rule can have more than one criteria applied so that only very specific events generate an alert. To add additional criteria to a rule, ensure that the cursor is positioned above the 'Actions' line in this display and press **F6**.

NOTE: See [Adding/Changing Message Queue Rule criteria](#) for more information.

Using the Add Message Queue Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria. Parameters used are the same as when adding message rule criteria.

NOTE: See [Adding/Changing Message Queue Rule criteria](#) for more information.

Copy

Use option **3=Copy** to copy the selected rule criteria into a new rule criteria entry.

```

HAL0030R                               Halcyon Software                               HAL525P3
PROD                                     Confirm Copy of Rules                               22/07/14 16:35:03

Type information and press Enter to confirm your choices for 3=Copy.
Press F12 to return to change your choice.

Opt Queue      Library      Type      New      New      New
3  HMMFTP       HMMPROD    *MSGRULE 0900 HMMFTP   HMMPROD  *NEXT

BOTTOM

F12=Cancel

```

New Queue

Specify the name of the new message queue to which this rule is to be copied. This parameter defaults to the current queue.

New Library

Specify the new library in which the message queue specified in the 'New Queue' parameter resides.

New Rule

Either specify the entry in this field as *NEXT, which creates a new rule with a sequential number of +10 from the rule being copied, or enter a sequence number to which the new rule is assigned.

NOTE: If you attempt to assign a sequence number to the new rule which is already in use, an error message is displayed at the bottom of the screen and you are prompted to retry.

Delete

Use option **4=Delete** to remove the selected rule criteria.

Count/Method

Use option **8=Count/Method** to define the method by which the Message monitor counts occurrences of messages for this rule in order to determine which actions should be performed.

*JOBNBR	Message occurrences are counted separately for each job that issues the message
*MSGDTA	<p>Message occurrences are counted separately by unique message data. Note that dates, times and the job number are removed prior to checking the message for uniqueness.</p> <p>For example, if a 'File Full' message is generated, the message data identifies the name of the file so that in effect, the count is separate for each file.</p> <p>Using this example, you can set the actions so that the first ten times that a file became full, the reply 'I' is used in order to increment the file size and on the next occurrence a 'Console Message' could be sent</p>
*MSGTXT	<p>Message occurrences are counted separately by unique first level message text.</p> <p>The *MSGTXT option works in the same way as the *MSGDTA option but uses the first level message text instead of the message data. You should take care to ensure that any message data fields required for reasons of uniqueness are included in the text</p>

NOTE: If the resolved message text includes invalid data due to, for example, message data corruption, the invalid data is replace with '?'. This could result in the counts for different messages increasing the same count as the resolved message text becomes the same.

Additional Functions on the Add Message Queue Rule Display

F6=Add

Use **F6=Add** to add either additional rule criteria or a new action to the current rule depending on the screen position of the cursor.

F7=Reorder

Use **F7=Reorder** to allow actions or criteria to be reordered. Place the cursor on the item that you want to reorder before pressing **F7**.

Actions can only be reordered within their selection sequence, meaning actions with the same selection sequence number ("and" shown).

Select and omit criteria are ordered exclusively. Select criteria are always displayed before omit criteria.

F11=Alt view

Use **F11=Alt view** to change the display above the 'Actions' line to show additional rule criteria information such as first level text, count method and comparison data. Press continuously to return to the original display.

F17=Selection criteria

When working with multiple selection criteria for a rule, use **F17=Selection criteria** to position the display at the first selection criteria in the list.

F18=Actions

When working with multiple actions for a rule, use **F18=Actions** to position the display at the first action in the list.

Message Queue Rule Criteria Sequencing

When more than one criteria has been applied to a message queue rule, the following display sequence is applied.

- Rules with Select criteria are displayed first in ascending Message ID order.
- Rules with Omit criteria are then displayed in ascending Message ID order.

NOTE: Generic rules are displayed in the list according to the first instance of the * position.

Adding/Changing Message Queue Rule criteria

Getting there

This action is taken from [page three](#) of the Add/Change Message Queue Rule display.

Ensure that the cursor position is above the 'Actions' line in on this display and use **F6=Add** to open the Add/Change Message Queue Rule display for the selected rule.

```

HMM_MNTRUL          Halcyon Message Manager          HAL525P3
                    Change Message Queue Rule      30/06/11 16:39:07
Message queue . . . . . HMMFTP                      (2 of 2)
Library . . . . . HMMLVL4                          Rule Held
Description . . . . . FTP Activity monitoring Queue
Type options, press enter.
2=Change 3=Copy 4=Delete 8=Count/Method
Opt Sel/Omit  Msg ID  First Level Text
| Select  FTP1001 Directory &4 created by &2.
                    Actions
Seq Action          Count Delay
_ 010 ACTSCH ACTSCH(AS1) *NOMAX  0

F3=Exit F6=Add F7=Reorder F11=Alt view F12=Cancel
                    BOTTOM

```

There are two additional pages of criteria that can be used to create a new or change an existing message rule.

```

HMM_MNTRUL          Halcyon Message Manager          HAL720P2
MANL                Add Message Queue Rule          19/08/19  10:31:13
                                                         (1 of 2)

Message queue . . . . . STANGUARD/AVMSGQ
Rule number . . . . .   5 est

Select or omit . . . . . S          S=Select, O=Omit
Message ID . . . . . *ALL          *Msg ID*, *ALL, *BLANK, F4=Prompt
Message file . . . . . QCPFMSG      Name, *ALL, *NONE, *ADMIN, F4=Prompt
Library . . . . . QSYS             Name, *ALL, *BLANK, Blank

Job name . . . . . *ALL            *Name*, *ALL
User name . . . . . *ALL            *Name*, *ALL, *List, F4=Prompt
Program name . . . . . *ALL         *Name*, *ALL

Sending user profile . . . *ALL      *Name*, *ALL, *List, F4=Prompt
Accounting code . . . . . *ALL      *Text*, *BLANK, *ALL

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line          More...

```

Parameters on the Add/Change Message Queue Rule display

The following parameters are available on this display.

Message queue

Display the name of the message queue to which this rule belongs.

Rule number

Displays the number of the rule to which the additional criteria is being added or amended.

Select or omit

Defines the type of rule process:

- S Select.** Select this message unless omitted by another specific rule
- O Omit.** Omit this message

Message ID

Defines the message ID for which this rule criteria monitors. Enter either a full message ID, a generic* message ID, or *ALL. Leave blank to monitor for messages with no generic message ID (Ad-Hoc messages).

*ALL	Monitors for any messages matching the specified criteria (from the specified message file)
Blank	Monitors for any messages matching the specified criteria (from the ad-hoc message - no message file)
Message ID XXXnnnn	Monitors for only messages matching this ID and the specified criteria
Generic Message ID*	Monitors for any messages matching this generic ID and specified criteria

Message file

Enter the name of the message file that contains the message ID, *NONE if the message ID is blank, or *ALL if the message ID can come from any message file. Special value *ADMIN can be used to represent any Halcyon product message file.

Message file name	Message file containing the message ID
*None	Generic message file with no message ID
*ALL	Any message file
*ADMIN	Any Halcyon product message file

Message file library

Enter the message file library name that contains the message file or leave blank if the message ID is blank or the message file name is *ALL. When using special value *ADMIN in the 'Message File' parameter, using, blank in the library name restricts to the current environment library, and *ALL includes all libraries regardless of environment.

Message file library name	Name of the library containing the message file
Blank	When not using message ID, or message file is *ALL or *ADMIN
*ALL	All libraries are included

Job name

Enter the job name or **generic** job name if you wish to restrict the rule by the name of the job issuing the message. Enter **ALL* for no restriction.

- *ALL** Messages from any job name
- Name** Messages from only this job name
- *generic*** Messages from any job matching this generic job name that can include a prefix and/or suffix

User name

Enter the user name or **generic** user name if you wish to restrict the rule by the name of the user issuing the message. Enter **ALL* for no restriction.

- *ALL** Messages from any user name
- *List** All user profiles included in the named user list are selected. Type *** in this field and press **F4=Prompt**. A list of User Lists is displayed. Use option **5=Display** against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use **F6=Add** to create a new user list for this rule
- Name** Messages from only this user name
- *generic*** Messages from any user matching this generic user name that can include a prefix and/or suffix

Program name

Enter the program name or **generic** program name if you wish to restrict the rule by the name of the program issuing the message. Enter **ALL* for no restriction.

- *ALL** Messages from any program name
- *List** Messages only from this program name
- *generic*** Messages from any program matching this generic name that can include a prefix and/or suffix

Sending user profile

Restricts the rule by the name of the user profile issuing the message.

- *ALL** No user profile restriction. Messages are sent by any user name
- *List** All user profile included in the named user list are selected

Name	Messages are only sent from this user profile name
generic*	Messages are only sent from user profiles matching the generic name

Accounting code

Enter the accounting code of the sending user profile.

To restrict the rule by the accounting code of the user profile issuing the message, use a **generic*** accounting code. Enter ***ALL** for no restriction.

*ALL	The rule allows messages sent by any user profile name
Accounting code	The rule only allows messages sent from user profiles with this accounting code
generic* code	This rule only allows messages sent from user profiles matching this generic accounting code
Blank	The rule allows messages sent by any user profiles with blanks specified for the accounting code

Press **Page Down** to move to the second page of the message queue rule criteria.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

&nn variable number	A message variable number (these can be displayed using the WRKMSGD command)
nn character position	A numeric start position in the message text. If this corresponds with the actual start position of a variable, the display is converted to the '&n' format as above
*CT (CONTAINS)	Contains. A string of text which can occur anywhere in the message text or message data
*CA (CONTALL)	Contains. A string of text which occurs anywhere in the first level message text or replacement message data
*CX (CONTEXT)	Contains. A string of text which occurs anywhere in the unresolved first level message text
*CV (COMPVAR)	Compare two variable values from the message. This is a simple expression involving two of the message replacement variable values. The expression used must be in the format &1 <= &2 with a space between each element.

Only '<', '>' and '=' can be used, although they can be paired using the formats, '>=', '<=' and '<>'. Only variables of the same data type can be compared, although you can compare binary and decimal types.

By using the *CV comparison variable you can check for (%CT) 'Contains' and (%NC) 'NotContains' a value against a message variable. See [Monitoring for message variables that contain or do not contain a value](#) for more information.

Comparison variable type

This is the data type used in conjunction with the comparison variable. The data type is assigned by the system and is one of the following:

*CHAR	Character. This type is always assigned when no message details are retrievable because a specific ID, message file or message file library has not been entered
*CONTAINS	Contains. A string of text which occurs anywhere in the message replacement file
*CONTALL	Contains. A String of text which occurs anywhere in the message replacement data or first level message text
*CONTEXT	Contains. A string of text which occurs anywhere in the first level message text
*COMPVAR	Compare two variable values from the message

*POSITION	A character position. The first character position of a string of text which occurs anywhere in the message replacement data
*DEC	Numeric digits
*HEX	Hexadecimal string. The comparison value must be entered in the format X 'nn'
*BIN	Binary character. The comparison value must be entered as numeric digits
*UBIN	Unsigned binary character. The comparison value must be entered as numeric digits
*DTS	System Date/Time stamp Format is: YYYYMMDDhhmmssxxxxx
*UTC	System Date/Time stamp (IBMi v6.1 onwards) Format is: YYYYMMDDhhmmssxxxxx
*UTCD	System Date stamp (IBMi v6.1 onwards) Format is: YYYYMMDD
*UTCT	System Time stamp (IBMi v6.1 onwards) Format is: hhmmss

Comparison value

Enter the value to be compared.

For a variable comparison (&nn): The entered value must match the type of variable entered.

*CHAR	Character A-Z, a-z, 0-9 or optionally a hexadecimal string in the format X 'nn'. The special value *BLANK may be used to indicate that the entire variable is spaces.
*DEC	Numeric 0-9
*BIN	Numeric 0-9
*UBIN	Numeric 0-9
*HEX	Enter in the format X 'nn'
*DTS	Enter a system date/time stamp (YYYYMMDDhhmmssxxxxxx) or *CURRENT
*UTC/UTCD/*UTCT	Currently displayed for clarity but not configurable

- **For a start position comparison (nn):** The entered value must be a text or hexadecimal string. The special value *BLANK may be used to indicate that a single position character is a space.
- **For a *CT comparison:** The entered value must be a text string. The special value *BLANK may be used to represent a single space

- **For a *CA comparison:** The entered value must be a text string. The special value *BLANK may be used to represent a single space
- **For a *CX comparison:** The entered value must be a text string. The special value *BLANK may be used to represent a single space
- **For a *CV comparison:** A simple expression involving two of the message replacement variable values. The expression used must be in the format &1 <= &2 with a space between each element. Only '<', '>' and '=' can be used, although they can be paired using the formats '>=', '<=' and '<>'.

Only variables of the same data type can be compared, although you can compare binary and decimal types. Can be used with *DTS (Date/Time Stamp) variables.

NOTE: See [Using Comparison Variables against entered values](#) for more information.

And/Or relationship

Use AND/OR entries to describe the required relationship between all of the entered comparison variables.

F16=DSPMSGID

Use **F6=DSPMGID** on this view to display the full message details of the message ID allowing you to see variables for both first and second level message text.

Press **Enter** to either add the new criteria to the rule or change existing criteria, depending on the action taken.

Using Comparison Variables Against Entered Values

The *CV comparison allows a comparison to be made against an entered value. This is done by specifying a message variable followed by a comparison operator and a comparison literal/message variable. Each part of the formula must be separated by a space.

Any of the following comparison operators are permitted:

- <
- <=

- =
- >=
- >

Examples:

Any of the following lines provide an example of how comparison variables with entered values may work.

```
*CV *COMPVAR &2 = TAP01
```

```
OR *CV *COMPVAR &3 = *BLANKS
```

```
OR *CV *COMPVAR &4 >= 10
```

```
OR *CV *COMPVAR &5 < &6
```

```
OR *CV *COMPVAR &11 <= '20130101235959000000'
```

NOTE:

- All literal values are case sensitive.
- Do NOT enclose literal values in quotations. If you include quotation marks then they will be treated as part of the value.
- The special value *BLANKS can be used as the literal value to check for a message variable being blank.
- You must use a space between each part of the formula. If a space is omitted a 'Data type mismatch' error is likely to occur as the formula is then treated as a single value.

Monitoring for Message Variables that Contain or Do Not Contain a Value

By using the *CV comparison variable you can check for (%CT) 'Contains' and (%NC) 'NotContains' a value against a message variable.

For example:

```
*CV *COMPVAR &2 %CT CONTAINSTHIS
```

```
AND *CV *COMPVAR &2 %NC NOTCONTAINSTHIS
```

Monitoring for Messages Completing Within a Specific Time Period

If required, you can monitor a message queue for a subsequent message arriving within a time period of another message being received. This is useful, for example, when checking that a backup has completed after it has been started or that a scheduled job has been run within a specific time period.

This process is invoked by using a **STRWATCH** command/action within a message queue rule. This starts checking for a subsequent rule to be received within the specified time period. If the message is not received within this time period, the 'message not received' rule actions are performed. If the message is received in the time period specified, the Watch is closed.

Example:

Rule Group: QSYS\QSYSOPR

Rule: 0010 Backup Started

Checks for: CPF9898 from QSYS/QCPFMSG with &1 of Backup Started

Action 10: STRWATCH WATCHID (&JOBID) WATCHQUEUE (&MSGQLIB/ &MSGQ) WATCHLEN (60)

Action 20: CLOSE

Rule: 0020 Backup Not Finished in 1 Hour

Checks for: Not Received CPF9898 from QSYS/QCPFMSG with &1 of Backup Complete

WatchID: *JOBID

Action 10: ACTSCH AS1

Rule 10 waits for a 'Backup started' message to be received. Once it has been received, it starts a watch called &JOBID (which consists of the Jobname, Jobuser and Jobnumber - for example DAILYBACKUPQSYSOPR123456) on the same message queue.

Rule 20 starts monitoring for the 'Backup Completed' message on the same message queue. If it is not received within the time-frame specified in rule 10 (60 minutes) the action schedule AS1 is triggered.

Important Notes

1. &JOBID is not the same as *JOBID.

NOTE: *JOBID means create the &JOBID using the current job details. If you use *JOBID as part of a STRWATCH action, a Watch with the job details of the Action Monitor that processes it is created.

2. Be careful that you do not add a STRWATCH action to a not received rule for the same watch. If you do, a loop is created as the watch is continuously extended after the initial and subsequent watch periods end.
3. A hard-coded name for the Watch (for example, DAILY_BACKUP) can be entered, but it must be contained within both the STRWATCH and 'Not Received' rule.
4. A Watch is closed by a 'Not Received' rule. Therefore, running a **STRWATCH** command on a command line does not work unless an appropriate 'Not Received' rule exists to perform the checking.

Using 'V' Message Data Parameters in Message Queue Rules

'V' Message Data parameters are used within message queue rules to pass substitution variable values, where only specific values are permitted.

The following example shows the use of the V23 Message data parameter with a message rule that looks for Message ID CPA57A5 (Controller ZHMM400 failure) being received on the QSYSOPR message queue.

Set-up the rule header

Set-up the rule header information in the usual manner.

```

HMM_MNTRUL          Halcyon Message Manager          HAL525P3
                    Change Message Queue Rule      18/11/11  11:34:45
Message queue . . . . . QSYSOPR                      (1 of 2)
  Library . . . . . QSYS                               Rule Held
Description . . . . . Qsysopr Message Queue

Rule number . . . . . 0991
Rule description . . . . . Controller ZHMM400 failure

Message type . . . . . *ALL          *ALL, COMP, COPY, DIAG, ESC..., F4=Prompt
Receive status . . . . . R           R=Received, N=Not received
Message severity . . . . . 00        00 - 99
Monitor on days . . . . . Mon Tue Wed Thu Fri Sat Sun
Time range . . . . . 00:00 - 23:59

Message occurrence . . . . . 1        1 - 999
Occurrence time range . . . . . 1440  1 - 1440 minutes
Reset counts on close . . . . . N     Y=Yes, N=No

More...
F3=Exit  F4=Prompt  F5=Refresh  F10=Notes  F12=Cancel  F21=Command line

```

Ensure that the rule looks for specific message ID CPA57A5

Change the rule so that the 'message ID' parameter is specifically looking for message ID CPA57A5.

```

HMM_MNTRUL          Halcyon Message Manager          HAL525P3
                    Change Message Queue Rule        18/11/11  11:45:45
                                                         (1 of 2)

Message queue . . . . . QSYS/QSYSOPR
Rule number . . . . . 991 Controller ZHMM400 failure

Select or omit . . . . . S          S=Select, O=Omit
Message ID . . . . . CPA57A5      Msg ID, *ALL, *BLANK, F4=Prompt
Message file . . . . . QCPFMSG     Name, *ALL, *NONE, F4=Prompt
Library . . . . . QSYS            Name, *ALL, Blank

Job name . . . . . *ALL           Name*, *ALL
User name . . . . . *ALL           Name*, *ALL
Program name . . . . . *ALL        Name*, *ALL

Sending user profile . . . *ALL     Name*, *ALL

More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line

```

Specifying the Message Variable

Use **Page Down** to be able to enter the variable value.

Note that the message text uses the single variable '&23'. The only variable that is acceptable for use in this message text is '&23'. Therefore, to understand the message text, the variable '&23' must be defined.

Position the cursor to the first field in the '&Variable or Posn and compare data' parameter. Enter the value '&23', press **tab** and type ZHMM400. Press **Enter** to confirm the variable value.

A screen shot of the completed display is shown below:

Messages

Messages are sent to the Halcyon [Message Log](#) when the QUSRBRM/BRMS message queue group is held or released within Halcyon.

```
HMM0628 - Message queue rule group BRMS in QUSRBRM released by  
user &3
```

```
HMM0629 - Message queue rule group BRMS in QUSRBRM held by user  
&3
```

The purpose of these messages is to let you know when monitoring is enabled, locking file QA1ALG which can prevent some applications, such as FlashCopy, from running.

How to use Message Queue rules to enable NetServer users

Message Queue rules can be used to enable NetServer users by following these instructions:

1. Configure the message rule to check for message ID CPIX682 - User profile &1 disabled for IBMi Support for Windows Network Neighborhood access.
2. Add the [RSTNETUSR action](#) to the rule.
3. Save the rule.

Any NetServer users that have had their user profiles disabled will automatically be reset.

Adding more than one action to a Message Queue rule

You can add more than one action to any queue or rule group rule so that a sequence of events happens when the rule generates an alert. This is done using Action Sequence numbers. When working with message queue rules, a slightly different approach is taken.

If you use the same sequence number for multiple actions, the word 'and' appears in the sequence number column of the rule display to indicate simultaneous actions are to be performed.

Message Counts

When working with message queue rules, Action Sequence numbers are used in conjunction with Message Counts to escalate actions. For example, setting a Reply action with a Message Count of three and a subsequent action of Console results in the system

replying to the alert on the first three instances prior to sending the alert to Enterprise Console on the fourth occasion that the alert is triggered.

NOTE: If you set the message count to *NOMAX, subsequent actions are not completed as the count never gets past this sequence number.

Message count information on the [Work with Alert Log](#) display is only available if the rule has at least one action that does not have *NOMAX for the count specified. If the rule has no actions or all actions are set to *NOMAX then the message count option is inoperative, even if message occurrence values have been specified.

Getting there

Use option **8=Count/Method** against a specific action on the Work with Message Queue Rules display to set the required message count level for that action.

```
HMM_MNTRUL      Halcyon Message Manager      HAL720P2
MANL            Add Message Queue Rule      16/09/15 09:18:11

Message queue . . . . . @QA/MSGQ
Rule number . . . . . 45 test

Perform action for . . . . . 8=NOMAX      *NOMAX, 1 - 999
Within minutes . . . . . 0                0 - 1440 minutes

F12=Cancel
```

Parameters on the Message Queue Rule - Message Counts display

The following parameters are available on this display.

Perform action for

Specifies how many messages need to perform this particular action. The value can be between 1 and 999 messages, or *NOMAX can be specified which result in the action being performed for an unlimited number of messages. If '3' is specified here, the action would only be performed for the first three occurrences of the selected messages. The default is *NOMAX. A warning message is displayed if no actions have *NOMAX specified as this could cause some occurrences of the message to take no action.

- *NOMAX** All occurrences of the selected message cause the action to be performed
- 1-99** The action is not performed after this number of occurrences has passed

Within minutes

Specifies how many minutes should be allowed for the number of messages specified in the 'Perform action for' parameter to arrive. This value can be set between 1 and 1440 minutes (24 hours).

For example, if '3' is specified in the 'Perform action for' parameter and '10' specified in this parameter, the action would be performed three times in ten minutes. If the ten minute period passes without three messages being received, the actions reset to the first on the rule and counting restarts. If the number of messages are received in the ten minute period, the next specified action in the sequence is invoked.

A warning message is displayed if no actions have *NOMAX specified as this could cause some occurrences of the message to either take no action, or simply to continue using the same action because there is no further escalation.

- 0** No time limit is set
- 1-1440** The action is escalated when the number of messages in the 'Perform action for' parameter occur within this number of minutes

Resetting Message Counts

To reset the message count back to zero following a series of message counts and associated actions, add a final action of RSTRULE (Reset Rule). This works as an 'and' action with the last action created so both actions are completed simultaneously.

NOTE: See [Closing Alerts](#) for further information.

TIP: There may be occasions, when resetting a message rule that performs actions for a specified number of times, that the following scenario may apply. For example, a message rule may be instructed to reply on the first four times that the message is received, but on the fifth message generate a Console alert and then reset before receiving the next four messages and so on.

However, because it takes time for the Action monitor to process these actions, if multiple messages are received in a short time period then it is possible that the messages that arrive after the reset should have been actioned are actually posted as Closed alerts with no actions performed as they have been processed by Message Manager before the Action monitor has had time to reset the rule. To overcome this problem, set the Message Count to *NOMAX on the Console action so that subsequent messages also generate a Console message prior to the rule being reset.

TCP/IP Rule Groups and Rules

TCP/IP rule groups and rules are used to monitor, alert and perform actions against Transmission Control Protocol/Internet Protocol (TCP/IP), communication protocols that interconnect network devices on the internet or in a private network such as an intranet or an extranet.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               2/10/19 08:55:23
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
---
  Message Queue                               Stopped
 1| TCP/IP                                         Stopped
  Job Log                                       Stopped
  Output Queue                               Stopped
  Device                                       Stopped
  Job Queue                                    Stopped
  Performance                                 Stopped
  User                                         Stopped
  Distribution Queue                           Stopped
  Inactivity                                  Stopped
  Object                                       Stopped
  Custom                                       Stopped
  Alert Intelligence                           Stopped
  Log File                                     Stopped
More...
F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

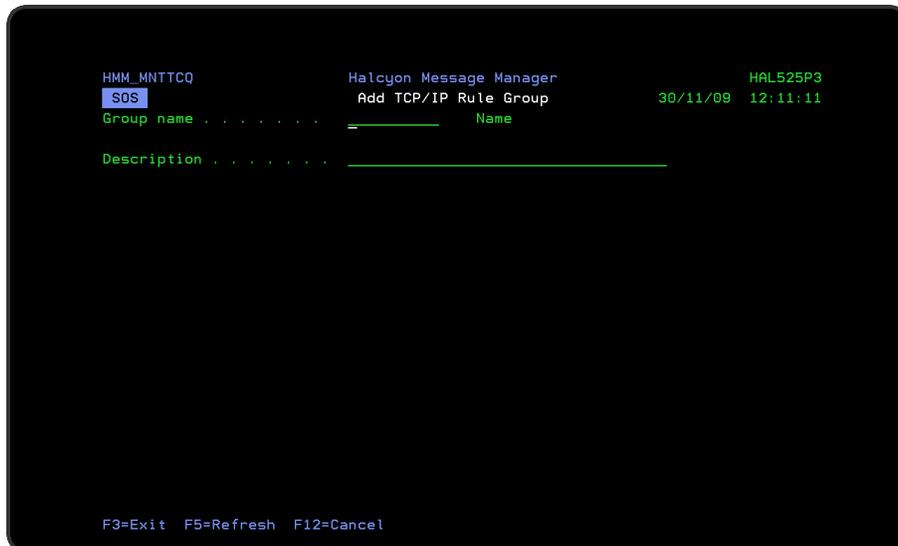
Adding a TCP/IP Rule Group

This option is used to add a TCP/IP rule group to the existing TCP/IP rule groups.

Getting there

Position the cursor against the TCP/IP Monitor on the Work with Rules main display.

Select option **1=Insert** or **F6=Add** to open the Add TCP/IP Rule Group display.



Parameters on the Add TCP/IP Rule Group display

The following parameters are available on this display.

Group name

Enter the name by which this TCP/IP rule group will be identified.

Description

Enter a description for this TCP/IP rule group. The entry made here is displayed on the Work with Rules main display.

Functions on the Add TCP/IP Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a TCP/IP Rule

To add a TCP/IP rule, select either option **1=Insert** or **F6=Add** against an existing TCP/IP rule group entry to open the Add TCP/IP Rule display.

There are three pages that comprise the creation of a new TCP/IP rule.

Parameters on the Add TCP/IP Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HMM_MNTTCP          Halcyon Message Manager          HAL720P2
MANL                Change TCP/IP Rule              25/11/20  07:07:45
Rule group . . . . . EXAMPLE                          (1 of 3)
Description . . . . . Example TCP/IP rules           Rule Held

Rule number . . . . . 0910
Rule class . . . . . *PING *PING, *PORT, *SYSMON
Rule description . . . . . Check main router is active

Monitor by calendar . . . *NONE          Name, F4=Prompt
                          Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Primary rule . . . . . N                Y, N
SLA statistic . . . . . N                Y, N
Suspend on alert . . . . *DFT           *DFT, *NONE, 1-1440 minutes

Check interval . . . . . 300            30-3600 seconds

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line
More...

```

Rule group

The name of the TCP/IP Group to which this rule belongs.

Description

Description of the TCP/IP Group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this TCP/IP rule group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule class

This parameter is used to check that the Halcyon monitors are active on another *I5 Remote Location.

*PING	A *PING rule monitors devices using the PING utility to determine the device status
*PORT	A *PORT rule checks ports on remote systems to see if they are open or not. See Changing TCP/IP rule criteria for *PORT rules
*SYSMON	A *SYSMON rule checks the status of the product monitor jobs on a specified location. See Changing TCP/IP rule criteria for *SYSMON rules

IMPORTANT: The *SYSMON rule class is dependent on the Halcyon Network Monitors being active. If they are not active, all *SYSMON checks fail and alerts raised accordingly.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
----------	---

I	Inverse. The rule is active on the dates and times that are not enabled on the calendar
---	--

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the TCP/IP
------	--

Primary rule

A primary rule can optionally be defined per rule group. The primary rule is checked by the TCPIP monitor first and if it alerts, ALL rules within that group are no longer checked until the primary rule is not suspended and is no longer alerting.

Y	This is the designated primary rule for this group
N	This is not the primary rule for this group

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule. The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met an SLA pass is signaled. The rules which are defined as SLA statistics together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer reporting (if installed)
*NO	The rule is not used as an SLA statistic

NOTE: This parameter only applies if you have a license for Performance Analyzer. A history is compiled of each check made and this information is used within Performance Analyzer performance reporting. However, it can be viewed within the Performance Analyzer Display Statistics and shows as a simple 0 or 1 flag to indicate whether any rules with 'SLA statistic' set to *YES were triggered.

As the 'SLA statistic' is checked on every cycle of the TC/IP monitor, this can have an impact on performance. Additionally, even if it is checked as part of SLA and triggers, this has no effect on the actual triggering/alerting of the rule and only affects the recording of the SLA History.

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. An alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 minutes	The rules is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Check interval

Enter the interval, between 30 and 3600 seconds, between each check of the rules defined within this rule group.

Press **Page Down** to view the second page of TCP/IP rule criteria.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

```

HMM_MNNTCP          Halcyon Message Manager          HAL720P2
MANL                Add TCP/IP Rule                28/01/16 13:48:15
Rule group . . . . . EXAMPLE                      (2 of 3)

Description . . . . . Example TCP/IP rules

Alert when status . . . . *NOTAVL_____ *NOTAVL, *CHANGE, *AVAIL
Open alert action . . . . *DFT_____ *DFT, *NONE, *ACK, *CLOSE

Console comment . . . . . *NO_____ *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel          More...

```

Alert when status

Specifies if an alert is raised if a change in status has occurred since the last time the rule was run. When all rule conditions are satisfied, the device response is determined as either Available or Not Available.

*NOTAVL	The default setting of *NOTAVL causes an alert to be generated every time the monitor determines that the response is Not Available
*CHANGE	The *CHANGE setting causes an alert to be generated only if the monitor determined response is different from the last response for this rule (IP Address). Use this setting to raise a single alert when a device changes from Not Available to Available status. The rule will not alert again until the response changes. This option causes the 'Open alert action' parameter to be set to *NONE
*AVAIL	The *AVAIL setting causes an alert to be generated every time the monitor determines that the response is Available

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged. This is the only option if the 'Alert when status' parameter is set to *CHANGE
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed using the Display Message Log functionality
NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the third page and display the new rule with default criteria applied.

NOTE: See [Changing TCP/IP rule criteria for *PING rule class](#), [Changing TCP/IP rule criteria for *PORT rule class](#) and [Changing TCP/IP rule criteria for *SYSMON rule class](#) for more information on changing the default criteria.

```

HMM_MNNTCP          Halcyon Message Manager          HAL720P2
MANL                Add TCP/IP Rule                  20/08/19 08:52:00
Rule group . . . . . EXAMPLE                          (3 of 3)

Description . . . . . Example TCP/IP rules
Type options, press enter.
2=Change 3=Copy 4=Delete 9=Move down
Opt Internet Address Remote System % Occur Time Range
-          *INTERNETADR              100    1    1440

----- Actions -----
Action                                           Delay

F3=Exit F5=Refresh F6=Add F12=Cancel
Bottom

```

Actions

At this point, there are no actions applied to the TCP/IP rule, so any alerts raised by the TCP/IP rule criteria are not recognized. To add an action, position the cursor into the 'Actions' area of the current display and press **F6**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add TCP/IP Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change the existing rule criteria or action.

NOTE: Please see [Changing TCP/IP rule criteria for *PING rule class](#), [Changing TCP/IP rule criteria for *PORT rule class](#) and [Changing TCP/IP rule criteria for *SYSMON rule class](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move Down

Use option **9=Move Down** to be able to scroll through a list of actions that are greater than the visible display area of the current page.

Additional Functions on the Add TCP/IP Rule Display

F6=Add

Use **F6=Add** to add a new action to the current rule.

F10=Verify IP Connection

Use **F10=Verify IP Connection** to execute an immediate PING to the specified IP Address.

NOTE: This function is only visible when changing the TCP/IP rule criteria.

Changing TCP/IP rule criteria for *PING rule class

Getting there

Select option **2=Change** against the TCP/IP Group rule criteria for a *PING rule class as specified on the Add TCP/IP Rule display.

```

HMM_MNNTCP          Halcyon Message Manager          HAL720P2
MARNL              Add TCP/IP Rule                  20/02/20 09:10:30
Rule group . . . . . EXAMPLE

Description . . . . . Example TCP/IP rules
Rule class . . . . . *PING
Remote system . . . . . INTNETADR

-----
Remote internet address .
Hostname resolution . . . *CALC          *CALC, *IP4, *IP6
Description . . . . .
Success percentage . . . 100             1% - 100%
Failure occurrence . . . 1               1 - 999 (0=Successful)
Count time range . . . 1440             1 - 1440 minutes
Message mode . . . . . *VERBOSE        *VERBOSE, *QUIET
Packet length . . . . . 32             8-512 bytes
Number of packets . . . 1               1-999
Wait time . . . . . 10                 1-120 seconds
Local internet address . *ANY
Type of service . . . . *NORMAL        *NORMAL, *MINDELAY, *MAXTHRPUT...
IP Hop Limit . . . . . *DFT            *DFT, 1-256
F3=Exit  F5=Refresh  F10=Verify TCP/IP connection  F12=Cancel
F21=Command line

```

Parameters on the Change TCP/IP Rule *PING rule class display

The following parameters are available on this display.

Remote system

Specify the Remote System name of the host whose connectivity you want to monitor. The entry in this parameter can be a name defined on the Work with TCP/IP Host Entries display, or it can be a name defined on a remote name server.

NOTE: If `INTNETADR` is specified, then the Remote System is identified as an IP Address in the 'Remote internet address' parameter.

Remote internet address

If the Remote System contains `INTNETADR`, specify the IP Address of the remote host using the dotted decimal notation standard.

Hostname resolution

Specify the type of IP Address resolution to be used to resolve to an IP address from the hostname.

*CALC	The host name resolution method is determined by the host name entered in the 'Remote system' parameter. IP Version 6 host name resolution is performed if the system has at least one IP Version 6 address configured. If an IP Version 6 address is not found, IP Version 4 host name resolution is performed if the system has at least IP Version 4 address configured. The loop-back address is not considered in this case as a configured address
*IP4	Uses *IP4 address resolution only
*IP6	Uses *IP6 address resolution only

Description

Enter a textual description of the remote system being monitored.

Success percentage

Indicates how successful the test connection must be, in terms of how many of the packets generated (see [Number of packets](#)) are acknowledged by the remote system. If the success percentage is not reached, it is classed as a failure occurrence.

Failure occurrence

Determines the number of failure occurrences that must occur within the specified time range in order for an alert to be raised.

TIP: By setting this value to >1 you can avoid being alerted to temporary problems of short duration.

When a connection to a TCP/IP device is verified, it is possible that it may occasionally but be automatically recovered soon after. If an alert is generated too quickly, the investigator may discover that the problem no longer exists.

Occurrence time range

Determines the length of time during which the failure occurrence value must be reached before an alert is raised.

TIP: Although it might be appropriate to define a tolerance factor, it is not advisable to set the failure occurrence and time range too high as this could result in a delay solving the problem.

Message mode

Specifies the amount of information logged when the IP Address is checked by the TCP/IP monitor:

VERBOSE	Logs all information
QUIET	Logs summary information. Quiet alerts are prefixed with 'TCP/IP'

Packet length

Specifies the length (in bytes) of the packets that are sent to the remote system. Valid values range from 8 through 512 bytes.

Number of packets

Specifies the number of packets that are sent to the remote system.

Wait time

Specifies the time in seconds to wait for the return (echo) packet before declaring this packet transfer a failure. Valid values range from 1 through 120 seconds.

Local internet address

Specifies the local internet address of the interface used by the outbound packets.

Type of service

Specifies the type of service to be used. The type of service defines how the internet hosts and routers make trade-offs between throughput, delay, reliability and cost.

*NORMAL	Normal service is used for service delivery
*MINDELAY	Minimize delay means that prompt delivery is important for data on this connection
*MAXTHRPUT	Maximize throughput means that a high data rate is important for data on this connection

*MAXRLB	Maximize reliability means that a higher level of effort to ensure delivery is important for data on this connection
*MINCOST	Minimize monetary cost means that lower cost is important for data on this connection

Hop limit

Specifies the IP datagram (packet) time-to-live value. The datagram is valid only for the number of router hops specified by this parameter. The time-to-live value acts as a 'hop counter'. The counter is decremented each time the datagram passes through a router or gateway. Limiting the validity of the datagram by the number of hops helps to prevent internet routing loops.

*DFT	Use the default time-to-live value. For multicast addresses the default value is 1. The default 'time to live' value for all other addresses is specified by the IPTTL parameter of the Change TCP/IP Attributes (CHGTCPA) command
1-256	Specify an IP datagram (packet) 'time-to-live' value

Press **Enter** to change the existing criteria and return to the Add/Change TCP/IP Group Rule display.

Functions on the Add/Change TCP/IP Group Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

Changing TCP/IP rule criteria for *PORT rule class

Getting there

Select option **2=Change** against the TCP/IP Group rule criteria for a *PORT rule class rule as displayed on the Add TCP/IP Rule display.

Parameters on the TCP/IP rule criteria for *PORT rule class

The following parameters are available on this display.

```

HMM_MNNTCP          Halcyon Message Manager          HAL720P2
MANL                Add TCP/IP Rule                20/02/20 09:21:48
Rule group . . . . . EXAMPLE
Description . . . . . Example TCP/IP rules
Rule class . . . . . *PORT
Local or remote . . . . *LCL          *LCL, *RMT
Port number . . . . . *ANY          *ANY, Port number 1 - 65534, F4=Prompt
Check type . . . . . *LCLLIST     *LCLLIST, *CONNECT
Remote system . . . . . *INTNETADR
-----
Remote internet address .
Hostname resolution . . *CALC          *CALC, *IP4, *IP6
Description . . . . .
-----
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line
    
```

Local or remote

Specifies whether the ports to be checked for this rule are local or remote.

*LCL	This applies to local ports
*RMT	This rule applies to remote ports

Check type

Specifies the type of check to be undertaken by this rule.

*LCLLIST	The rule lists the local TCP ports and attempts to find matching entries
*CONNECT	The rule attempts to connect to the specified port. this check type is only valid for remote ports

Remote system

If this rule is for a remote system, specify the remote system name of the host; the connectivity of which you want to monitor. The remote system name can be a name defined on the Work with TCP/IP Host Table entries display or it can be a name defined on a remote name server.

If *INTNETADR is specified, the remote system is specified as a dotted decimal IP address in the 'Remote internet address' parameter.

Remote internet address

If the 'Remote system' parameter is set to INTNETADR, enter the IP address of the remote host using a dotted decimal notation.

Hostname resolution

Specify the type of hostname resolution to be used when determining the IP address from the hostname.

*CALC	First attempts to use *IP6 address resolution, then *IP4
*IP6	Use *IP6 address resolution only

Description

Enter a textual description of the remote host or device being monitored.

Press **Enter** to change the existing criteria and return to the Add/Change TCP/IP Group Rule display.

Functions on the Add/Change TCP/IP Group Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

Changing TCP/IP rule criteria for *SYSMON rule class

Getting there

Select option **2=Change** against the TCP/IP Group rule criteria for a *SYSMON rule class rule as displayed on the Add TCP/IP Rule display.

```

HMM_MNNTCP          Halcyon Message Manager          HAL720P2
MANL                Add TCP/IP Rule                  20/02/20 09:29:45
Rule group . . . . . EXAMPLE

Description . . . . . Example TCP/IP rules
Rule class . . . . . *SYSMON
Remote location . . . . . *LOCAL *LOCAL, remote location, F4=Prompt

Monitors . . . . . *ALL *ALL Monitor code. *ALL/*ALL, F4=Prompt
_____
_____
_____
_____
_____
_____
_____

Alert status . . . . . *INACTIVE *ACTIVE, *INACTIVE, *NOTHELD

F3=Exit F5=Refresh F12=Cancel F21=Command line

```

Parameters on the TCP/IP rule criteria for *SYSMON rule class

The following parameters are available on this display.

Rule group

Displays the name of the rule group containing this rule.

Description

Displays the pre-defined textual description of the rule group to which this rule belongs.

Remote location

Specifies the remote location of where the monitor jobs are checked.

*LOCAL	The local device is checked
name	Enter the name of a remote location as it is defined on the Work with Remote Locations display. Use F4=Prompt to display a window of valid alternatives from which a selection can be made

Monitors

Specifies the product and monitor codes for the monitor jobs to be checked. For example HMM MSG for Message monitor, HAL ACT for Action monitor, and so on. Use **F4=Prompt** for a full list of valid product and monitor codes from which a selection can be made.

*ALL-*ALL	Check all monitors at the specified location
Product - *ALL	Check all monitors for the specified product at the selected location
Product - Monitor	Enter the specific product and monitor codes that you want to check at the selected location

NOTE: A *SYSMON rule does not raise any alert for any monitors that are in a status of 'Held'.

Alert status

Specifies the status of monitor jobs which cause an alert to be raised.

*INACTIVE	Alert when the monitor job is inactive
*ACTIVE	Alert when the monitor job is active

Failure Occurrence

This value determines the number of consecutive failure occurrences that must occur in order to cause an alert to be raised. By setting this value greater than 1 you can avoid being alerted to temporary problems of a short duration and/or scheduled monitor downtime.

NOTE: When a connection to a TCP/IP device is being verified, it is feasible that it may occasionally fail but be automatically recovered soon after. If an alert is generated too soon, the investigator may discover that the problem no longer exists.

Press **Enter** to change the existing criteria and return to the Add/Change TCP/IP Group Rule display.

Functions on the Add/Change TCP/IP Group Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

Job Log Groups and Rules

Job Log rule groups and rules are used to monitor, alert and perform actions against job logs that contain information related to requests entered for a job.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

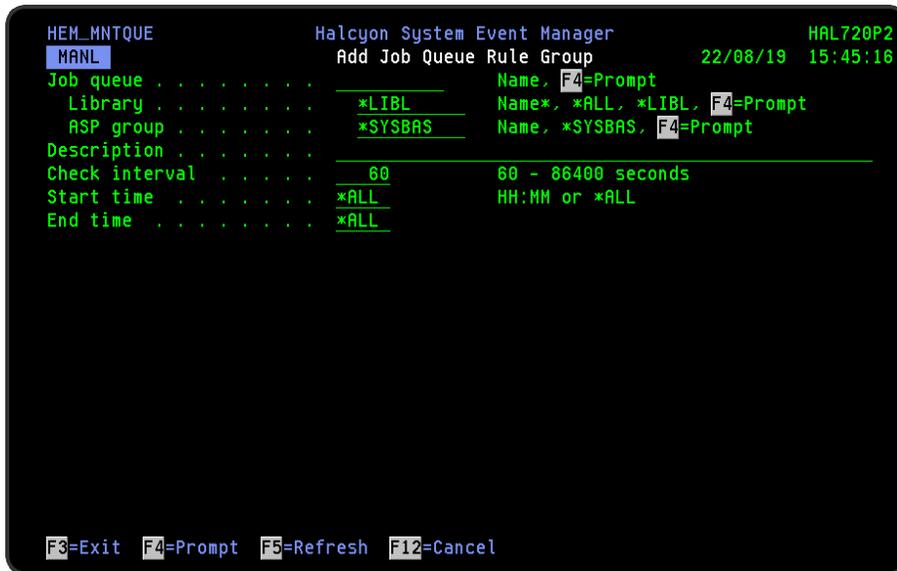
```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               20/08/19 13:59:44
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
---
  --- Message Queue                               Stopped
  --- TCP/IP                                       Stopped
  | Job Log                                         Stopped
  --- Output Queue                               Stopped
  --- Device                                       Stopped
  --- Job Queue                                   Stopped
  --- Performance                               Stopped
  --- User                                       Stopped
  --- Distribution Queue                         Stopped
  --- Inactivity                               Stopped
  --- Object                                       Stopped
  --- Custom                                       Stopped
  --- Alert Intelligence                         Stopped
  --- Log File                                   Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F17=Subset F21=Command line F22=Print F23=More options

```

Adding A Job Log Rule Group

This option is used to add a job log rule group to the existing job log rule groups. This action is taken with the cursor positioned against the Job Log monitor on the Work with Rules main display.



Parameters on the Add Job Log Rule Group display

The following parameters are available on this display.

Group name

Enter the name by which this job log rule group is identified.

Description

Enter a description for this job log rule group. The entry made here is displayed on the Work with Rules main display.

Functions on the Add Job Log Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Job Log Rule

To add a job log rule, select either option **1=Insert** or **F6=Add** against an existing job log rule group entry to open the Add Job Log Rule display.

Parameters on the Add Job Log Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HMM_MNTJLR          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Rule                20/02/20  11:50:49
Rule group . . . . . EXAMPLE                        (1 of 2)

Description . . . . . Example Job Log rules

Rule number . . . . . 0005
Rule description . . . . . |

Receive status . . . . . R          R=Received, N=Not received
Monitor by calendar . . . . . *NONE      Name, F4=Prompt
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . . *DFT          *DFT, *NONE, 1-1440
Console comment . . . . . *NO           *YES, *NO
On-close action . . . . . *NONE         Name, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command line
Description is required.

```

Rule group

Displays the name of the rule group to which this rule belongs.

Description

Displays the description of the job log rule group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration.

The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Receive status

Specifies whether to monitor for an event happening or not happening.

R	An alert is raised (subject to other parameter settings) if a message is received
N	An alert is raised (subject to other parameter settings) at the end of a specified time period if a message is not received as expected during the time period. When this option is specified, a time period option becomes available after the 'Time range' parameter

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

This parameter defines the time range over which monitoring is active.

HHMM The 24 hour time range for checking the job log

Period (If 'N' specified in 'Receive status')

When the 'Receive status' has been set to 'N', this parameter specifies the time period in which the expected message should be received. This is based on fixed points in time calculated as intervals from the nearest hour. For example, an entry of *4HRS results in the rule being active from 00:00 to 04:00 and then from 04:00 to 08:00 and so on. At the end of each period, the rule is reset and begins monitoring again.

*NONE	The entry specified in the 'Time range' parameter is the only time monitoring restriction
*5MINS	The rule is reset every 5 minutes
*10MINS	The rule is reset every 10 minutes
*15MINS	The rule is reset every 15 minutes
*30MINS	The rule is reset every 30 minutes
*1HOUR	The rule is reset every hour
*2HOURS	The rule is reset every two hours
*4HOURS	The rule is reset every 4 hours

*6HOURS	The rule is reset every 6 hours
*12HOURS	The rule is reset every 12 hours
*1DAY	The rule is reset every day

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspended time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log option
*NONE	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page and display the new rule with default criteria applied. See [Changing Job Log Rule Criteria](#) for more information on how to amend these fields.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HMM_MNTJLR                               Halcyon Message Manager           HAL720P2
MANL                                       Add Job Log Rule                 20/08/19  14:59:58
Rule group . . . . . @QA                                     (2 of 2)

Description . . . . . QA Jobs
Type options, press enter.
2=Change 3=Copy 4=Delete 9=Move down
Opt  Job 1      Job 2      User      Subsystem  Job type  Msg 1  Msg 2
  S *ALL                                     *ALL      *BATCH  *ALL

----- Actions -----
Action                                                    Delay

F3=Exit  F5=Refresh  F6=Add action  F12=Cancel
Bottom

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the job log rule, so any alerts raised by the this rule criteria are not recognized. To add an action to this rule use **F6=Add Action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Job Log Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria. Fields used are the same as when adding job log rule criteria.

NOTE: See [Changing Job Log Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Job Log Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Job Log Action display from where a new action can be added to this rule.

Changing Job Log Rule Criteria

Getting there

Select option **2=Change** against the job log rule criteria displayed on the Add/Change Job Log Rule display. This opens the Change Selection Criteria display.

Parameters on the Change Job Log Rule Criteria display

The following parameters are available on this display.

WARNING: If you leave any of the Job name, User name, Message ID parameters as the default of *ALL and/or set Message File criteria to *ALL, a message is displayed warning that generic selections may cause unpredictable results.

Page 1

```

HMM0010R          Halcyon Message Manager          HAL720P2
MANL              Change Selection Criteria          3/04/17  08:42:56
                                                         (1 of 2)

Rule group . . . . . EXAMPLE
Rule number . . . . . 10          SQL errors in batch jobs
Job name . . . . . S *ALL

User name . . . . . *ALL          Name, *ALL, *List, F4=Prompt
Subsystem . . . . . *ALL          Name, *ALL
Job type . . . . . *BATCH         *ALL, *BATCH, *INTER
Message IDs . . . . . *ALL

Message file . . . . . QSQLMSG     Name, *ALL, F4=Prompt
Library . . . . . QSYS            Name, *LIBL
ASP group . . . . . *SYSBAS       Name, *SYSBAS, F4=Prompt
Message type . . . . . *ALL       *ALL, COMP, COPY, DIAG..., F4=Prompt
Message severity . . . . . 30     1-99, *ALL
To program . . . . . *ALL         Name, *ALL
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Rule group

Displays the name of the rule group that contains this rule.

Rule number

Displays the sequence number of the rule.

Job name

Specifies the names of the jobs to select. Type up to 16 selection codes and job selections. To be selected, a job must be selected by at least one selection criteria and not be omitted by any omit criteria.

Selection codes

S	Select jobs
O	Omits jobs

Job selections

*ALL	All job names
------	---------------

generic*	To specify a generic job name, type starting characters followed by an asterisk
name	Select a specific job name

User name

Specify the user of the jobs to select.

*ALL	Selects all users
List	All user profiles included in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
name	Select a specific job user

Subsystem

Specifies the subsystem in which the jobs are running.

*ALL	Selects all subsystems
name	Select a specific subsystem

Job type

Specify the type of jobs to select.

*ALL	Selects all interactive and batch jobs
*INTER	Selects interactive jobs only
*BATCH	Selects batch jobs only. This provides the ability to monitor the following job types: Autostart job Subsystem monitor job Spooled reader job System job Spooled writer job The SCPF system job

Message IDs

Specifies the message IDs of the job log messages that raise an alert.

*ALL	Selects all messages
msgid	Specify up to 16 specific message IDs

Message file

Enter the name of the message file that contains the message ID, *NONE if the message ID is blank, or *ALL if the message ID can come from any message file. Special value *ADMIN can be used to represent any Halcyon product message file.

Message file name	Message file containing the message ID
*None	Generic message file with no message ID
*ALL	Any message file

Message file library

Enter the message file library name that contains the message file or leave blank if the message ID is blank or the message file name is *ALL.

Message file library name	Name of the library containing the message file
*Blank	When not using message ID, or message file is *ALL
*ALL	All libraries are included

ASP group

The entry in this parameter is used when attempting to retrieve the message data fields for the message from the message file. The default entry is *SYSBAS. Use **F4=Prompt** to display a list of available ASP groups from which a selection can be made.

When the Job Log monitor encounters a message and the matching rule includes comparison data, it uses the specified ASP group to attempt to retrieve the required data from the message file. If the message is found in the message file

using the specified ASP group then the message comparison is performed. If the message is not found in the message file using the specified ASP group, no comparison is performed and it is treated as 'no match' to the rule.

Message type

Specifies the type of job log messages that raise the alert.

*ALL	All types of message are selected
COMP	Only completion messages are selected
COPY	Only copy messages are selected
DIAG	Only diagnostic messages are selected
ESC	Only escape messages are selected
INFO	Only information messages are selected
INQ	Only inquiry messages are selected
NOTIFY	Only notification messages are selected

Message severity

Specifies the severity of the job log messages that raise the alert.

*ALL	Selects all message severities
1-99	Selects messages with the specified severity or greater

To program

Specifies the receiving program of the job log messages that raise an alert.

*ALL	Selects all programs
name	Only messages sent to the specified program can raise an alert

Press **Page Down** to view the second page of selection criteria.

*CV(COMPVAR)	<p>Compare two variable values from the message. This is a simple expression involving two of the message replacement variable values. the expression used must be in the format &1 <= &2 with a space between each element.</p> <p>Only '<', '>' and '=' can be used, although they can be paired using the formats, '>=', '<=' and '<>'. Only variables of the same data type can be compared, although you can compare binary and decimal types</p>
---------------------	---

Comparison variable type

This is the data type used in conjunction with the comparison variable. The data type is assigned by the system and is one of the following:

*CHAR	Character. This type is always assigned when no message details are retrievable because a specific ID, message file or message file library has not been entered
*CONTAINS	Contains. A string of text which occurs anywhere in the message replacement data
*CONTALL	Contains. A string of text which occurs anywhere in the message replacement data or first level message text
*CONTTEXT	Contains. A string of text which occurs anywhere in the unresolved first level message text
*COMPVAR	Compare two variables from the message
*POSITION	A character position. The first character position of a string of text which occurs anywhere in the message replacement data
*DEC	Numeric digits
*HEX	Hexadecimal string. The comparison value must be entered in the format X 'nn'
*BIN	Binary character. The comparison value must be entered as numeric digits
*UBIN	Unsigned binary character. The comparison value must be entered as numeric digits
*DTS	System Date/Time stamp Format is: YYYYMMDDhhmmssxxxxxx

*UTC	System Date/Time stamp (IBMi v6.1 onwards) Format is: YYYYMMDDhhmmssxxxxxx
*UTCD	System Date stamp (IBMi v6.1 onwards) Format is: YYYYMMDD
*UTCT	System Time stamp (IBMi v6.1 onwards) Format is: hhmmss

Comparison value

Enter the value to be compared.

For a variable number comparison (&nn): The entered value must match the type of variable entered.

*CHAR	Character A-Z, a-z, 0-9 or optionally a hexadecimal string in the format X 'nn'. The special value *BLANK may be used to indicate that the entire variable is spaces
*DEC	Numeric 0-9
*BIN	Numeric 0-9
*UBIN	Numeric 0-9
*HEX	Enter in the format X 'nn'
*DTS	Enter a system date/time stamp (YYYYMMDDhhmmssxxxxxx) or *CURRENT
*UTC/*UTCD/*UTCT	Currently displayed for clarity but not configurable

For a stat position comparison (nn): The entered value must be a text of hexadecimal string. The special value *BLANK may be used to indicate that a single position character is a space

For a *CT comparison	The entered value must be a text string. The special value *BLANK may be used to represent a single space
For a *CA comparison	The entered value must be a text string. The special value *BLANK may be used to represent a single space
For a *CX comparison	The entered value must be a text string. The special value *BLANK may be used to represent a single space

For a *CV comparison	A simple expression involving two of the message replacement variable values. The expression used must be in the format &1 < &2 with a space between each element. Only '<' , '>' and '=' can be used, although they can be paired using the formats '>=' , '<=' and '<>'. Only variables of the same data type can be compared, although you can compare binary and decimal types. Can be used with *DTS (Date/Time Stamp) variables
-----------------------------	---

NOTE: See [Using Comparison Variables against entered values](#) for more information.

Press **Enter** to change the existing criteria and return to the Add/Change Job Log Rule display.

Now either [add an action](#) to the rule or press **Enter** to add the rule to the Job Log Rule Group.

Output Queues and Rules

Output queues are objects, defined to the system, that provide a place for spooled files to wait until they are printed. Output queues are created by a user or by the system.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               21/08/19  10:40:33
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt  Item      Description                               Status
---  ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  1 Output Queue                               Stopped
---  Device                                           Stopped
---  Job Queue                                         Stopped
---  Performance                                       Stopped
---  User                                             Stopped
---  Distribution Queue                             Stopped
---  Inactivity                                       Stopped
---  Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                             Stopped
---  Log File                                         Stopped
More...
F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

Output Queue Processing Logic

The Output Queue monitor processes Output Queue rule groups in the following order (examples in brackets):

1. Whole output queue name and whole library name (QBATCH QUSRSYS)
2. Output queue list (*LIST *IBMOUQOS)
3. Whole output queue name and generic library name (QBATCH Q*)
4. Generic output queue name and specific library name (Q* QUSRSYS)
5. Generic output queue name and generic library name (Q* Q*)
6. Generic output queue name and *ALL library name (Q* *ALL)
7. *ALL output queue name and whole library name (*ALL *QUSRSYS)

8. *ALL output queue name and generic library name (*ALL Q*)
9. *ALL output queue name and *ALL library name (*ALL *ALL)

Output Queue Rule Group Run Time Monitoring

It is possible to check the last time that an Output Queue rule group was started, ended and the time that elapsed between the start and end points.

Getting there

From the main Work with Rules display and with Output Queue Rule Groups visible, select option **5=Display** against the Output Queue rule group for which you want to check the run time. The Display Output Queue Rule Group display opens.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL720P2
MANL                Display Output Queue Rule Group      22/08/19 10:48:50
Output queue . . . . . AFPDS
  Library . . . . . QGPL
  ASP group . . . . . *SYSBAS
Description . . . . . *IGNORE* this OutQ
Check interval . . . . . 60
Start time . . . . . *ALL
End time . . . . . *ALL

Processing times:
Last started . . . . .
Last ended . . . . .
Elapsed time . . . . .

F3=Exit  F5=Refresh  F12=Cancel

```

At the bottom of this display is a section headed **Processing Times**. This shows:

- **Last started** - The time at which this Output Queue rule group was run
- **Last ended** - The time at which this Output Queue rule group finished
- **Elapsed time** - The time period between the starting and ending of this Output Queue rule group

NOTE: This facility is only available for Output Queue Rule Groups.

Adding an Output Queue Rule Group

This option is used to add an output queue rule group to the existing output queue rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Output Queue monitor on the Work with Rules main display to open the Add Output Queue Rule Group display.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Rule Group          15/02/17 14:39:57
Output queue . . . . . Name*, *ALL, *LIST, F4=Prompt
Library . . . . . *LIBL      Name*, *List, *ALL, *LIBL, F4=Prompt
ASP group . . . . . *SYSBAS   Name, *SYSBAS, F4=Prompt
Description . . . . .
Check interval . . . . . 60      60 - 86400 seconds
Start time . . . . . *ALL      HH:MM or *ALL
End time . . . . . *ALL
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Add Output Rule Group display

The following parameters are available on this display.

Output queue

Enter the qualified name of a queue of the appropriate type, or press **F4=Prompt** to display a list of the queues that exist in the specified library.

When using F4, set the required ASP group first, or use **F4=Prompt** to display a list of the ASP groups that exist. You can type the name of a queue that does not exist, however any rules created will not function until the queue is created.

If the library qualifier is omitted or is set to *LIBL, the library list is searched and the library qualifier is set to the library in which the queue was found. If not found, the library qualifier must be manually keyed.

If a library is specified and ASP group is *SYSBAS and the library does not exist in *SYSBAS, the available ASP groups are searched and the ASP group is set to the ASP group in which the library was found. If not found, the ASP group must be manually keyed.

*ALL	All output queues are monitored
*LIST	Specifies that an output queue list is used to define the output queue to be monitored. Type the name of the output queue list in the 'Library' parameter, or press F4=Prompt in the 'Library' parameter to display the defined output queue lists from which a selection can be made. See Work with Output Queue Lists for more information
name	Specify a named output queue
generic*	To specify a generic output queue name, type starting character followed by an asterisk (*)

Output queue library

Enter the name of the library on which the output queue resides.

Name	Specify an output queue library name
generic*	To specify a generic output queue library name, type starting characters followed by an asterisk (*)
*List	Specifies the name of an output queue list, when *LIST has been selected in the 'Output queue' parameter. Use F4=Prompt to select from a list of valid alternatives
*LIBL	Specifies the library list for the current user
*ALL	All output queue libraries are selected. If *ALL is also selected in the 'Output queue' parameter, output queues in the HEM product library are ignored

ASP group

Specifies the ASP Group on which the output queue rule group is created. Use **F4=Prompt** to display a list of available ASP groups from which a selection can be made. The default entry is this parameter is *SYSBAS.

Description

Enter a description for the output queue rule group. The entry made here is displayed on the Work with Rules main display.

NOTE: If you used **F4=Prompt** to select an output queue/library or if this parameter is left blank the entry is automatically defaulted to the actual output queue description.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this output queue. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this output queue.

*ALL	Always monitor this output queue
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this output queue.

*ALL	Always monitor this output queue
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is **AT LEAST** the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this output queue rule group to the Output Queue monitor.

TIP: It is possible to create a Global Exclusion Output Queue rule group. If you create a specifically named output queue that has no rules defined within, then this output queue is excluded from the generic group rules.

Adding an Output Queue Rule

To add an output queue rule, select either option **1=Insert** or **F6=Add** against an existing output queue entry to open the Add Output Queue Rule display.

Parameters on the Add Output Queue Rule display

The following parameters are available on this display.

WARNING: If Enter is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL               Add Output Queue Rule                20/02/20  10:11:57
Output queue . . . . . EXAMPLE                          (1 of 2)
Library . . . . . QGPL
Description . . . . . Example Output Queue rules

Rule number . . . . . 0450
Rule description . . . . .

Monitor by calendar . . . *NONE      Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . *DFT      *DFT, *NONE, 1-1440 minutes

Console comment . . . . . *NO       *YES, *NO
On-close action . . . . . *NONE     Name, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line
Description is required.
  
```

Output queue/Library

Displays the name of the output queue and library to which this rule belongs.

Description

Displays the description of the output queue to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rules is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 time range for checking the output queue
-------------	---

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry Alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page and display the new rule with default criteria applied. See [Changing Output Queue Rule Criteria](#) for more information on how to amend these parameters.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Rule                21/08/19  15:12:53
Output queue . . . . . EXAMPLE                          (2 of 2)
Library . . . . . QGPL
Description . . . . . Example Output Queue rules
Type options, press Enter.
2=Change 3=Copy 4=Delete 9=Move down
Opt Rule type Dev Type File User User data Form type Job
| *SPLF *ALL *ALL *ALL *ALL *ALL *ALL
Action _____ Actions _____ Delay

```

Bottom

F3=Exit F5=Refresh F6=Add action F12=Cancel

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the output queue rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add Action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Output Queue Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria. Fields used are the same as when adding job log rule criteria.

NOTE: See [Changing Output Queue Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Output Queue Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Output Queue Action display from where a new action can be added to this rule.

Changing Output Queue Rule Criteria

Getting there

Select option **2=Change** against the output queue rule criteria displayed on the Add/Change Output Queue Rule display. This opens the Change Output Queue Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Output Queue Criteria          20/02/20  10:32:16

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450          Test

Rule type . . . . . *STS          *SPLF, *STS, F4=Prompt

Comparison . . . . . *NE          *EQ, *NE
Output queue status . . . . . RLS/WTR *ALL, HLD, RLS, MSGW..., F4=Prompt

Comparison . . . . . *GE          *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Number of files . . . . . 0          0-9999999

Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the Change Output Queue Criteria display

The following parameters are available on this display.

Output queue

Displays the name of the output queue to which this rule belongs.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Defines the type of the rule. Each monitor supports one or more rule types.

TIP: Use **F4=Prompt** to display a pop-up window from which a selection can be made.

*SPLF	Checks files on an output queue
*STS	Checks the output queue status

NOTE: Subsequent parameters on this display are dependent on the choice made in this parameter.

For *SPLF Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Output Queue Criteria          20/02/20  10:36:46
                                                         (1 of 2)

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450          Test

Rule type . . . . . *SPLF          *SPLF, *STS, F4=Prompt
Spooled file . . . . . *ALL          Name*, *ALL
Printer device type . . . . . *ALL  *ALL, *SCS, *AFPDS, F4=Prompt
Job name . . . . . *ALL             Name*, *ALL
Job user . . . . . *ALL             Name*, *ALL, *List, F4=Prompt
Program name . . . . . *ALL         Name*, *ALL
User data . . . . . *ALL            Data, *Text*, *ALL
Form type . . . . . *ALL            Name*, *STD, *ALL
Number of pages . . . . . * *ALL     *EQ, *GT, *LT ... / 1-9999999, *ALL
Age exceeds . . . . . *ALL D        0-999 (D)days/(H)Hours/(M)Mins, *ALL
Comparison . . . . . *EQ            *EQ, *NE
Spooled file status . . . . . *ALL

Alert status . . . . . *NEW          *ALL, *NEW, *STR

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
More...

```

Spooled File

Specifies the spooled file names to select.

*ALL	All spooled file names are selected
generic*	To specify a generic spooled file name, typing starting characters followed by an asterisk
name	Type a specific spooled file name

Printer device type

Specifies the printer device to be selected.

*ALL	All printer device types are selected
*SCS	Only *SCS type spooled files are selected
*AFPDS	Only *AFPDS type spooled files are selected
*IPDS	Only *IPDS type spooled files are selected
*LINE	Only *LINE type spooled files are selected

*AFPDSL	Only *AFPDSL type spooled files are selected
*IPDSL	Only *IPDSL type spooled files are selected
*USERASCII	Only *USERASCII type spooled file are selected
*ASCII	Only *ASCII type spooled files are selected

Job name

Specifies the job names to select.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk
name	Type a specific job name

Job user

Specifies the user names to select.

*ALL	All user names are selected
List	All user profiles included in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to shown the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
generic*	To specify a generic user name, type starting characters followed by an asterisk
name	Type a specific user name

User data

Specifies the user data to select. A wildcard can be used in this parameter. The wildcard value is case sensitive. If you want to search for a value that actually contains an '*' you must enclose the user data vale in single quotes. For example, 'ABC*', if found, would return a value of ABC*.

*ALL	All user data is selected
name	Type the specific user data

Form type

Specifies the form type to select.

*ALL	All form types are selected
generic*	To specify a generic form type, type starting characters followed by an asterisk
name	Type a specific form type

Number of pages

Specify the type of comparison required to quantify the number of pages in a spooled file. If this value is not '*' then the number of pages **MUST** be specified.

*	All form types are selected
*EQ	Only spooled files that have exactly the number of pages specified are selected
*NE	Only spooled files that do not have the number of pages specified are selected
*LT	Only spooled files that have less than the number of pages specified are selected
*LE	Only spooled files that have less than or equal to the number of pages specified are selected
*GT	Only spooled files that have more than the number of pages specified are selected
*GE	Only spooled files that have more than or equal to the number of pages specified are selected

Age exceeds

Specifies the age, in days, or hours, of the spooled file. Use 'D' after the initial parameter to specify days, 'H' to specify hours or 'M' to specify minutes.

*ALL	All spooled files are selected
0-999	Only spooled files that exceed this age, in days, or hours are selected. This test is date/time based. A spooled file created today is considered to be 0 days old, one created yesterday is 1 day old and so on. The same ruling applies to time, when hours or minutes are selected

Comparison

Specifies the type of comparison to be used. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not Equal

Spoiled file status

Specify the spooled file status. Up to twelve statuses may be specified.

IMPORTANT: Special handling of Open files

An open file is a file that is still being created. In most cases you do not want to run actions on a spooled file until it is complete.

Therefore, in Output Queue monitor, only OPN selects a spooled file that is still open, and similarly OPN is always used to report the status of a spooled file that is open.

This is different to the Work with Spooled Files (**WRKSPLF**) and Work with Output Queue (**WRKOUTQ**) commands which report open spooled files as OPN (if not held and not being written), HLD (if held while open) or WTR (if being written while open).

*ALL	Selects all spooled files that are not open. To select all files including open, specify all 12 status codes
------	--

OPN	Open. This selects all spooled files that are open, including those that are held while open (shown as HLD on the Work with Spooled Files display) and those that are being written while open (shown as WTR on the Work with Spooled Files display)
CLO	Closed but waiting for end of job
DFR	Printing deferred
FIN	Printed and not saved
HLD	Held and closed. Unlike the Work with Spooled Files display, this does not select spooled files that are held while open
MSGW	Waiting for message reply
PND	Waiting to be printed
PRT	Sent to printer, waiting for status
RDY	Ready to be printed
SAV	Printed and saved
SND	Being sent to a remote system
WTR	Being sent to an output device while closed. Unlike the Work with Spooled Files display, this does not select spooled files that are being sent to an output device while open

Alert status

Specify the alert status.

*ALL	An alert is raised for each spooled file that meets the selection criteria but excludes spooled files with a creation time earlier than the time specified in system default HEM/SPLSTRTIME . Use this option to raise multiple alerts for the same spooled file
*NEW	The default setting. An alert is raised for each spooled file that meets the selection criteria, provided an alert has not previously been raised for that spooled file, but excluding spooled files with a creation time earlier than the time specified in system default HEM/SPLSTRTIME . Use this option if you want to process the backlog of spooled files created when the Spooled File monitor was inactive but do not want to raise multiple alerts for the same spooled file

*STR	An alert is raised for each spooled file that meets the selection criteria, provided an alert has not been previously raised for that spooled file and that spooled file was created after the Spooled File monitor was last started. Use this option if you do not want to process the backlog of spooled files created when the Spooled File monitor was inactive and do not want to raise multiple alerts for the same spooled file
-------------	--

Press **Page Down** for the second page of Output Queue (*SPLF) criteria.

```

HEM0010R                               Halcyon System Event Manager                               HAL525P3
QA                                       Change Output Queue Criteria                               3/08/12  11:27:39
                                                    (2 of 2)

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 920           Spooled files >=2000 pages

Contains text . . . . . ALL
Page . . . . . 1 1-99
Line . . . . . 1 1-99
Starting column . . . . . *ALL 1-256, *ALL
Ending column . . . . . _____ 1-256, *CALC
Contains text . . . . . *ALL
Page . . . . . 1 1-99
Line . . . . . 1 1-99
Starting column . . . . . *ALL 1-256, *ALL
Ending column . . . . . _____ 1-256, *CALC
Contains text . . . . . *ALL
Page . . . . . 1 1-99
Line . . . . . 1 1-99
Starting column . . . . . *ALL 1-256, *ALL
Ending column . . . . . _____ 1-256, *CALC
Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the second page of the Change Output Queue Criteria display allow you to set up to 3 searches for text known to be in a fixed position on any page, line and/or column of the spooled file.

Contains text

The 'Contains text' parameters allow selection of a spooled file by text contained within. Up to three pieces of text may be specified. If more than one is specified, all must be found for the spooled file to be selected.

*ALL	Text selection is not used
text	Enter the text that needs to be found by the rule in order for the spooled file to be selected. The comparison is case sensitive. Quoted strings, allowing the insertion of blank spaces, can be included in this parameter, so that the text comprises, or that ends in blanks can be entered

Page

Specifies the page number (between 1 and 99) that contains the text.

Line

Specifies the line (between 1 and 99) on the page that contains the text.

Starting column

Specifies the start position of the text.

*ALL	The text may be in any position on the specified line
1-256	The text starts at the specified column number

Ending column

Specifies the end column of the range of columns that contain the required text. This parameter is only used if a specific start position is entered in the 'Starting column' parameter.

*CALC	The ending column is calculated from the starting column and the length of the text. The range of columns equals the length of the text
1-256	Specifies the ending column of the range of columns that contain the required text. The range of columns cannot be shorter than the length of the text

For *STS Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Output Queue Criteria          20/02/20  10:32:16

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450          Test

Rule type . . . . . *STS          *SPLF, *STS, F4=Prompt

Comparison . . . . . *NE          *EQ, *NE
Output queue status . . . . . RLS/WTR *ALL, HLD, RLS, MSGW..., F4=Prompt

Comparison . . . . . *GE          *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Number of files . . . . . 0          0-9999999

Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Comparison

Specifies the type of comparison used with the 'Output queue status' parameter.

*EQ	Equal. An alert is raised if the status found matches any of the statuses specified in the 'Status' parameter
*NE	Not equal. An alert is raised if the status found does not match any of the statuses specified in the 'Status' parameters

Output queue status

Specify the output queue status. Up to three separate entries may be specified.

HLD	The output queue is held
HLD/WTR	The output queue is held and is attached to a writer
MSGW	Writer job waiting for a message
RLS	The output queue is released
RLS/WTR	The output queue is released and attached to a writer

Comparison

Specifies the type of comparison. When multiple values permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

For *IN comparisons, the two values must be specified and the comparison succeeds when the actual value is greater or equal to the first value and less than or equal to the second value.

*EQ	Equal to
*NE	Not equal to
*LE	Less than equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than
*IN	In the range of

Number of files

Specify the number of spooled files, between 0 and 9999999, on the output queue. If Comparison *IN is specified, a range of values must be specified.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry is system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Output Queue Rule display.

Device Groups and Rules

The Device monitor is used to monitor the status and attributes of the network devices on your system.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               22/08/19 11:18:26
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt  Item      Description                               Status
---  ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  Output Queue                               Stopped
1   Device                                           Stopped
---  Job Queue                                           Stopped
---  Performance                               Stopped
---  User                                           Stopped
---  Distribution Queue                               Stopped
---  Inactivity                               Stopped
---  Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                               Stopped
---  Log File                                           Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F17=Subset F21=Command line F22=Print F23=More options

```

Adding a Device Rule Group

This option is used to add a device group to the existing device rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Device monitor on the Work with Rules main display to open the Add Device Rule Group display.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL525P3
                   Add Device Rule Group                17/02/11 09:53:43
Device group . . . . . _____ Name
Description . . . . . _____
Check interval . . . . . 60          60 - 86400 seconds
Start time . . . . . *ALL          HH:MM or *ALL
End Time . . . . . *ALL           HH:MM or *ALL

F3=Exit F5=Refresh F12=Cancel

```

Parameters on the Add Device Rule Group display

The following parameters are available on this display.

Group name

Enter the name by which this device group is identified.

Description

Enter a description for this device group. The entry made here is displayed on the Work with Rules main display.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this device group. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this Device group.

*ALL	Always monitoring this Device group
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this Device group.

*ALL	Always monitor this Device group
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is **AT LEAST** the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this device rule group to the Device monitor.

Adding a Device Rule

To add a device rule, select either option **1=Insert** or **F6=Add** against an existing Device rule entry to open the Add Device Rule display.

Parameters on the Add Device Rule display

The following parameters are available on this display.

WARNING: If Enter is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL               Add Device Rule                      20/02/20  11:19:32
Device group . . . . . EXAMPLE                          (1 of 2)

Description . . . . . Example Device rules

Rule number . . . . . 0450
Rule description . . . . . Test
-----
Monitor by calendar . . . *NONE      Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y  Y  Y  Y  Y  Y  Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . *DFT      *DFT, *NONE, 1-1440 minutes

Console comment . . . . . *NO       *YES, *NO
On-close action . . . . . *NONE     Name, F4=Prompt

More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
Description is required.

```

Device group

Displays the name of the Device Group to which this rule belongs.

Description

Displays the description of the Device Group to which this rule belongs.

Rule number

When adding a Device Group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rules is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the Device group
-------------	--

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for the rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
SOS                Add Device Rule                      30/11/09 09:56:18
Device group . . . . . EXAMPLE                          (2 of 2)

Description . . . . . Example Device rules
Type options, press enter.
2=Change 4=Delete 9=Move down

Opt Rule type Object Type Cmp Status 1          Status 2
= *CFGSTS *ALL *DEVD *NE ACTIVE

Action          Actions          Delay

F3=Exit F5=Refresh F6=Add action F12=Cancel          BOTTOM

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the device group rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add Action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Device Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria. Parameters used are the same as when adding device rule criteria.

NOTE: See [Changing Device Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Device Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Device Action display from where a new action can be added to this rule.

Changing Device Rule Criteria

Getting there

Select option **2=Change** against the Device Group rule criteria displayed on the Add/Change Device Rule display. This opens the Change Device Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Device Criteria                30/08/17  11:22:18

Rule group . . . . . QA
Rule number . . . . . 30      ere

Rule type . . . . . *CFGSTS
Object type . . . . . IMGCLG      *LIND, *CTLD, *DEVD..., F4=Prompt
Object name or subtype . . . *ALL      Name*, *ALL, *APPC..., F4=Prompt
Device name . . . . . *ALL      Name, *ALL, F4=Prompt
Comparison . . . . . *NE      *EQ, *NE
Status . . . . . Unknown

Open alert action . . . . . *DFT      *DFT, *NONE, *ACK, *CLOSE
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

NOTE: System Default [HEM/DEVMONTEMPLIB](#) defines within which library the Device Monitor stores *USRSPC objects. This defaults to QTEMP but you will need to change this if you monitor Cluster Nodes and/or Cluster Resource Groups.

Parameters on the Change Device Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the Device Group to which this rule belongs.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*CFGSTS	Configuration Status
*ADMDMN	PowerHA Cluster Admin Domain Monitoring

Object type

Specifies the basic configuration object type to select.

*ALL	All object types are selected
*CLN	Cluster node
*CRG	Cluster resource group
*CTLD	Controller description
*DEVD	Device description
*IMGCLG	Image catalog
*IPXD	Internetwork Packet Exchange (IPX)
*LIND	Line description
*NTBD	NetBIOS description
*NWID	Network interface description
*NWSD	Network server description. This function is no longer supported in IBM O/S 7.4 and above

Object name or subtype

Specifies the object name or subtype to select.

*ALL	All object names are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
subtype	Values beginning with an asterisk (*) are assumed to be subtypes. The valid subtypes for this parameter are dependent on the entry in the 'Object type' parameter. Object types *CLN and *CRG do not support subtypes so specify *ALL or use a specific object name for these object types
name	Enter a specific object name

TIP: Use **F4=Prompt** to see a list of values for the specified object type. If the Object name or subtype field entry begins with an '*', other than *ALL, a list of subtypes is displayed. Otherwise, a list of Object names is shown.

Device name (For object type of *IMGCLG only)

Specifies the name of the virtual device associated with the image catalog.

*ALL	All device names are selected
name	Enter a specific device name

Comparison

Specifies the type of comparison used with the 'Status' parameter.

*EQ	Equal. An alert is raised if the status found matches any of the statuses specified in the 'Status' parameter
*NE	Not equal. An alert is raised if the status found does not match any of the statuses specified in the 'Status' parameter

Status

Specify the configuration status. The available statuses depend on the entry in the Object type field. Up to twenty separate statuses may be entered.

- Active
- Active/reader
- Active/writer
- Available
- AS/36 disabled
- AS/36 enabled
- Connect pending
- Damaged
- Degraded
- Diagnostic mode
- Failed
- Failed/reader
- Failed/writer
- Held
- Locked
- Not ready
- Powered off
- Rcycl
- Rcyclpd
- Ready-Varied Off

- Ready-Varied On
- Ready-Active
- Rebuild
- Shutdown
- Signon display
- Sysreq
- Unknown
- Varied off
- Varied on
- Vary off pending
- Vary on pending

NOTE: To view a list of valid configuration statuses, move the cursor to an empty 'Status' parameter and press **F4=Prompt**.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry is system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

IMPORTANT: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Device Group Rule display.

Job Queues and Rules

Job queues are work entry points for batch jobs to enter the system. The Job Queue monitor can be used to check these queues for any issues or problems.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANU                                     Work with Rules                               22/08/19 15:35:20
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
--- Message Queue                               Stopped
--- TCP/IP                                         Stopped
--- Job Log                                         Stopped
--- Output Queue                               Stopped
--- Device                                         Stopped
 1 Job Queue                                       Stopped
--- Performance                               Stopped
--- User                                           Stopped
--- Distribution Queue                               Stopped
--- Inactivity                                   Stopped
--- Object                                         Stopped
--- Custom                                         Stopped
--- Alert Intelligence                               Stopped
--- Log File                                       Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F17=Subset F21=Command line F22=Print F23=More options

```

Job Queue Rule Processing Logic

When checking rules, the logic uses the following priority for selection:

1. Specific job queue and library name
2. Specific job queue name and generic library name
3. Generic job queue name and specific library name
4. Generic job queue name and generic library name
5. Generic job queue name and *ALL library name
6. *ALL job queue and specific library name
7. *ALL job queue name generic library name

Adding a Job Queue Rule Group

This option is used to add a job queue rule group to the existing job queues.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Job Queue monitor opens the Add Job Queue Rule Group display.

```

HEM_MNTQUE                               Halcyon System Event Manager           HAL720P2
MANL                                       Add Job Queue Rule Group              22/08/19 15:45:16
Job queue . . . . .                       Name, F4=Prompt
Library . . . . . *LIBL                               Name*, *ALL, *LIBL, F4=Prompt
ASP group . . . . . *SYSBAS                            Name, *SYSBAS, F4=Prompt
Description . . . . .
Check interval . . . . . 60                60 - 86400 seconds
Start time . . . . . *ALL                    HH:MM or *ALL
End time . . . . . *ALL
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Add Job Queue Rule Group display

The following parameters are available on this display.

Job queue/Library/ASP group

Enter the qualified name of an existing job queue of the appropriate type, or press **F4=Prompt** to display a list of the job queues that exist in the library specified in the library qualifier field.

When using the **F4=Prompt** option, set the required ASP group first, or use **F4=Prompt** to display a list of defined ASP groups.

You may type the name of a queue that does not exist, however any rules created will not operate until the queue is created.

If the library qualifier is omitted or is set to *LIBL, the library list is searched and the library qualifier is set to the library in which the queue was found. If not found, the library qualifier must be keyed.

If a library is specified and ASP group is *SYSBAS and the library does not exist in *SYSBAS, the available ASP groups are searched and the ASP group is set to the ASP group in which the library was found. If not found, the ASP group must be manually entered.

ALL, name	A generic name or the special value *ALL may be specified for queue and/or library name. If *ALL is specified for both, job queues in the HEM product library are omitted.
------------------------	--

Description

Enter a description for the job queue. The entry made here is displayed on the Work with Rules main display.

NOTE: If you used **F4=Prompt** to select a job queue/library or if this parameter is left blank, the entry is automatically defaulted to the actual job queue description.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this job queue. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this job queue.

*ALL	Always monitor this job queue
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this job queue.

*ALL	Always monitor this job queue
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is AT LEAST the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this job queue rule to the Job Queue monitor.

Functions on the Add Job Queue Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Job Queue Rule

To add a job queue rule, select either option **1=Insert** or **F6=Add** against an existing job queue entry to open the Add Job Queue Rule display.

Parameters on the Add Job Queue Rule display

The following parameters are available on this display.

WARNING: If Enter is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add Job Queue Rule                    20/02/20  11:39:16
Job queue . . . . . EXAMPLE                               (1 of 2)
Library . . . . . QGPL
Description . . . . . Example Job Queue rules

Rule number . . . . . 0450
Rule description . . . . .

Monitor by calendar . . . *NONE      Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y  Y  Y  Y  Y  Y  Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . *DFT      *DFT, *NONE, 1-1440 minutes

Console comment . . . . . *NO       *YES, *NO
On-close action . . . . . *NONE     Name, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
Description is required.
More...

```

Job queue/Library

Displays the name of the job queue and library to which this rule belongs.

Description

Displays the description of the job queue to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the job queue
-------------	---

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. no further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
MMS                 Add Job Queue Rule                   1/12/09  10:46:04
Job queue . . . . . EXAMPLE                               (2 of 2)
Library . . . . . QGPL
Description . . . . . Example Job Queue rules
Type options, press enter.
2=Change 4=Delete 9=Move down
Opt Rule type  Cmp  Status
= *STS          *NE  RLS

Action _____ Actions _____ Delay _____

BOTTOM

F3=Exit  F5=Refresh  F6=Add action  F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the job queue rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Job Queue Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria.

NOTE: See [Changing Job Queue Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Job Queue Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Job Queue Action display from where a new action can be added to this rule.

Changing Job Queue Rule Criteria

Getting there

This option is invoked by taking option **2=Change** against the job queue rule criteria displayed on the Add/Change Job Queue Rule display. This opens the Change Job Queue Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Job Queue Criteria             20/11/15 16:15:02

Job queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 910          Backlog of jobs >=10

Rule type . . . . . *STS          *JOB, *STS, F4=Prompt

Comparison . . . . . *NE          *EQ, *NE, *CHG
Job queue status . . . . . *ALL    *ALL, HLD, RLS, F4=Prompt

Job status . . . . . *ALL        *ALL, HLD, RLS, SCD
Comparison . . . . . *GE          *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Number of jobs . . . . . 10      0-9999999

Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line
Job Queue Status *ALL only allowed with Comparison *EQ.

```

Parameters on the Change Job Queue Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the job queue to which this rule belongs.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

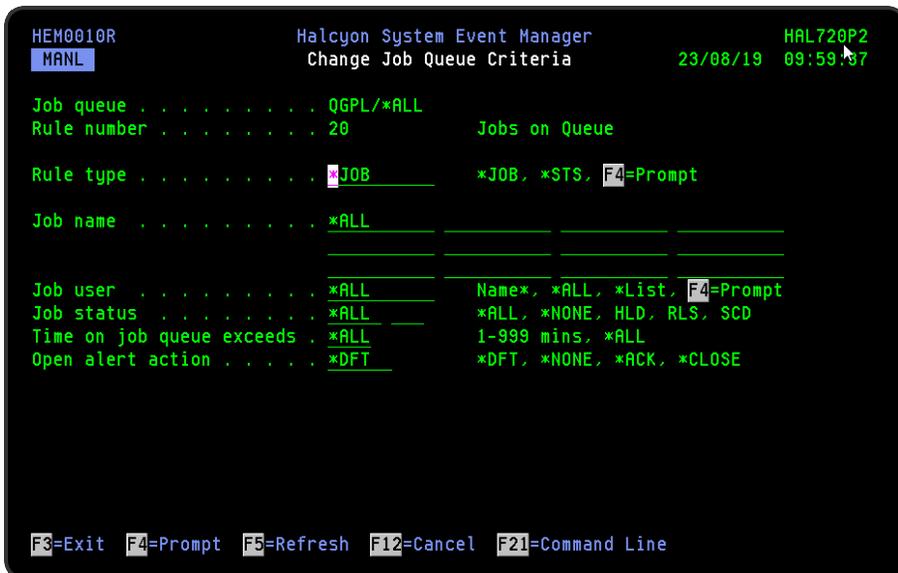
Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*JOB	Checks the jobs on the job queue
*STS	Checks the job queue status

NOTE: Subsequent parameters on this display are dependent on the choice made in this field.

For *JOB Rule Types



Job name

Specifies the job names to select. Up to 12 separate job names can be specified. To detect a job not being on a job queue, specify status *NONE. If status *NONE is entered, all job names must be simple names. The 'Time on queue' parameter does not apply if *NONE is specified.

*ALL	All job names are selected
*FIRST	The job that has been waiting the longest from those jobs that meet the other selection criteria is selected. However, only one alert is generated. For example, if the rule checks for jobs where 'Time on job queue exceeds' 15 minutes and has 'Job name' set to *FIRST, then multiple jobs matching this criteria would only generate a single alert
*SECOND	Ignores the first job. The job that has then been waiting the longest from those jobs that meet the other selection criteria is selected
job-list	A single job-list name can be specified. This must be prefixed with an asterisk ()
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)

name	Type a specific job name
-------------	--------------------------

Job user

Specifies the job user names to select.

*ALL	All job user names are selected
List	All user profiles included in the named user list are selected. Type '' in this field and press F4. A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
generic*	To specify a generic job user name, type starting characters followed by an asterisk (*)
name	Type a specific job user name

Job status

Specifies the status of the jobs on the job queue. You can use *ALL or alternatively you can specify up to 2 separate status codes.

*ALL	All jobs are selected
HLD	All jobs in HLD (Held) status are selected
RLS	All jobs in RLS (Released) status are selected
SCD	All jobs in SCD (Scheduled) status are selected

Time on job queue exceeds

Specifies the time a job has been waiting on the queue.

*ALL	All jobs are selected
1-999	Only jobs that have been waiting on the job queue for longer than this number of minutes are selected

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts raised b this rule, are acknowledged
*CLOSE	Any open alerts raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

For *STS Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Job Queue Criteria            23/08/19 10:49:39

Job queue . . . . . QGPL/*ALL
Rule number . . . . . 20          Jobs on Queue

Rule type . . . . . *STS          *JOB, *STS, F4=Prompt

Comparison . . . . . *NE          *EQ, *NE, *CHG
Job queue status . . . . . RLS    *ALL, HLD, RLS, F4=Prompt

Job status . . . . . *ALL          *ALL, HLD, RLS, SCD
Comparison . . . . . *GT          *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Number of jobs . . . . . 0        0-9999999

Open alert action . . . . . *DFT   *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Comparison

Specifies the type of comparison used within the 'Status' parameter.

*EQ	Equal. An alert is raised if the status found matches any of the statuses specified in the 'Status' parameter
*NE	Not equal. An alert is raised if the status found does not match any of the statuses specified in the 'Status' parameter
CHG	Any change in value. An alert is raised if the status of a job queue changes

Job queue status

Specify the job queue status.

HLD	Job queues in held status
RLS	Job queues in released status

Job Status

Specifies the status of the job on the job queue. Specify *ALL or up to 2 specific status codes.

*ALL	All jobs are selected
HLD	Jobs in HLD (Held) status are selected
RLS	Jobs in RLS (Released) status are selected
SCD	Jobs in SCD (Scheduled) status are selected

Comparison

Specifies the type of comparison. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values. With *IN, two values must be specified and the comparison succeeds when the actual value is equal to or greater than the first value and less than the second value.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to

*LT	Less than
*GT	Greater than
*IN	In range

Number of jobs

Specify the number of jobs on the job queue, between 0 and 9999999. If Comparison *IN is specified, a range of values must be specified.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts raised b this rule, are acknowledged
*CLOSE	Any open alerts raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Job Queue Rule display.

Performance Groups and Rules

Performance monitoring rules enable end users, administrators and organizations to gauge and evaluate the performance of a the IBMi system. Alerts are generated when pre-defined thresholds are exceeded. Additionally, rules can be created against Service Level Agreements (SLA's) to ensure agreed performance targets are met.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               23/08/19  11:39:38
Type options, press enter
 1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
 9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
---
  Message Queue                               Stopped
  TCP/IP                                         Stopped
  Job Log                                        Stopped
  Output Queue                                  Stopped
  Device                                         Stopped
  Job Queue                                     Stopped
 1 Performance                                  Stopped
  User                                           Stopped
  Distribution Queue                            Stopped
  Inactivity                                    Stopped
  Object                                         Stopped
  Custom                                         Stopped
  Alert Intelligence                            Stopped
  Log File                                       Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F15=Sort description F16=Position to F24=More keys

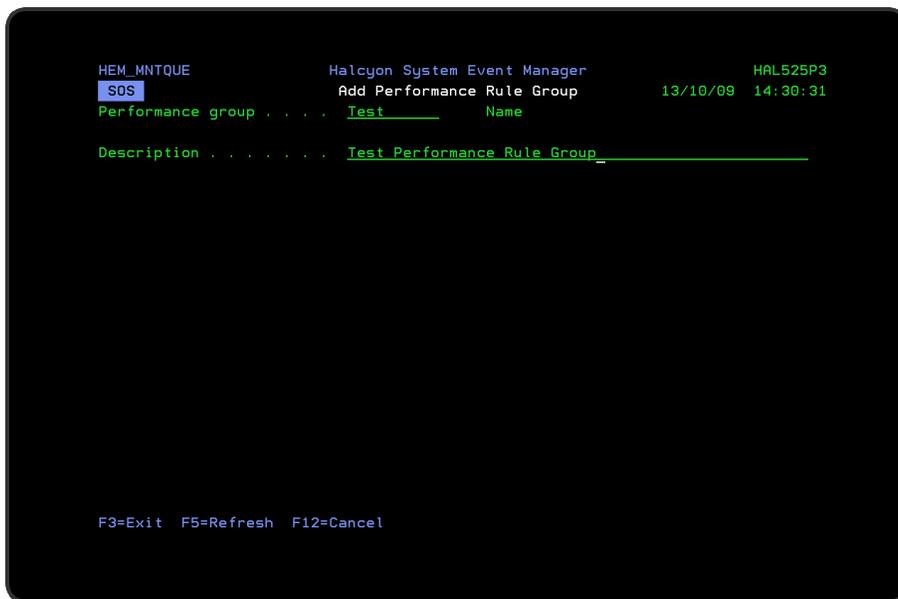
```

Adding a Performance Rule Group

This option is used to add a performance rule group to the existing performance groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Performance monitor on the Work with Rules main display to open the Add Performance Rule Group display.



Parameters on the Add Performance Rule Group display

The following parameters are available on this display.

Group name

Enter the name by which this Performance rule group is identified.

Description

Enter a description for this Performance rule group. The entry made here is displayed on the Work with Rules main display.

Press **Enter** to add this Performance rule group to the Performance Monitor.

TIP: The frequency with which Performance rules are checked are determined by the setting in the [HEM/PFMBASEINTV](#) system default.

Functions on the Add Performance Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Performance Rule

To add a performance rule, select either option **1=Insert** or **F6=Add** against an existing performance rule group entry to open the Add Performance Rule display.

Parameters on the Add Performance Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL               Add Performance Rule                  26/01/16    13:56:39
Performance group . . . . . EXAMPLE                      (1 of 2)

Description . . . . . Example Performance rules

Rule number . . . . . 0915
Rule description . . . . .

Monitor by calendar . . . *NONE_____ Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . *DFT_          *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_           *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt

Alert occurrence . . . . . 1              1 - 999
Occurrence time range . . 1440           2 - 1440 minutes

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line
Description is required.
More...

```

Performance group

Displays the name of the Performance rule group to which this rule belongs.

Description

Displays the description of the Performance rule group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules).

This sequence number can be overridden but must remain unique within this group configuration.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking this Performance rule group
-------------	---

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Alert occurrence

Specify how many times this rule must be met over the specified occurrence time range before an alert is actually raised. An Alert occurrence of 1 will raise an alert on every occurrence of this rule.

An Alert occurrence of more than 1 will raise an alert on every occurrence of this rule. An alert occurrence over 1 will require that number of occurrences of this rule to be generated within the Occurrence time range for an alert to be raised.

1-999	Enter the number of occurrences
-------	---------------------------------

Occurrence time range

Specifies the number of minutes in which the alert occurrences must be generated in order to raise an alert.

2-1440	Enter the number of minutes
--------	-----------------------------

Alerts are raised based on a rolling "number of minutes" time range, the condition causing the alert must exist "number of occurrences" times within the window for an alert to be raised. Once the condition's age is outside the "number of minutes" time range it is discarded. Any suspend on alert time stops the rule running for the specified number of minutes and therefore reduces the possible number of occurrences within the time range.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
SOS                 Add Performance Rule          30/11/09  10:13:46
Performance group . . . . . EXAMPLE                (2 of 2)

Description . . . . . Example Performance rules
Type options, press enter.
2=Change 4=Delete 9=Move down
Opt Rule Type      Rule
= *SYSTEM          CPUPCT *EQ 99.9

  Action          Actions          Delay

BOTTOM

F3=Exit F5=Refresh F6=Add action F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the Performance rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Performance Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Performance Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Performance Rule display 2nd page

F6=Add action

Use **F6=Add Action** to open the Add Performance Action display from where a new action can be added to this rule.

Changing Performance Rule Criteria

Getting there

Select option **2=Change** against the Performance Rule criteria displayed on the Add/Change Performance Rule display. This opens the Change Performance Criteria display.

```

HEM0010R                               Halcyon System Event Manager                               HAL720P2
MANL                                     Change Performance Criteria                               21/01/16 09:45:58

Rule number . . . . . 910                *JOB Jobs using 50% of CPU or highe
Rule type . . . . . *JOB                 *ASP, *JOB, *POOL..., F4=Prompt
Job name . . . . . S *ALL

-----
Function type . . . . . *ALL             *, CMD, DLY, GRP, I/O..., F4=Prompt
Function name . . . . . *ALL            Name, generic*, *ALL
Job user . . . . . *ALL                 Name, generic*, *ALL..., F4=Prompt
Current user . . . . . *ALL             Name, generic*, *ALL..., F4=Prompt
Subsystem . . . . . *ALL                Name, generic*, *ALL
Status . . . . . *ALL                   *ACTIVE, *ALL
Job type . . . . . *ALL                 Name, *ALL, *NONSBS, F4=Prompt
SLA statistic . . . . . *NO             *YES, *NO
Open alert action . . . . . *DFT        *DFT, *NONE, *ACK, *CLOSE
Statistic . . . . . CPUPCT              CPUPCT, CPUTIME..., F4=Prompt

Comparison . . . . . *GT                *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 50                       0-9999.999

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=More jobs F24=More keys

```

Parameters on the Change Performance Criteria display

The following parameters are available on this display.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*ASP	All *ASPs (including the system ASP and IASPs) test the specified statistic for a breach of the specified value
------	---

*DISK	Generates an alert when the selected disk breaches a pre-defined activity threshold
*JOB	Generates an alert where any job, jobs with the same name, jobs for a specific user or a named job for a specific user contains a performance statistic that breaches the specified rule
*POOL	Generates an alert when *ALL or a specified memory pool performance value breaches the specified rule
*SUBSYSTEM	Generates an alert when a subsystem is not in the required state. Where a subsystem has a value of *ACTIVE, an alert is raised if that subsystem is inactive and vice versa
*SYSTEM	Generates an alert when a system performance statistic breaches the specified rule

NOTE: Subsequent parameters on this display are dependent on the choice made in this field.

For *ASP Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Performance Criteria          23/08/19 15:12:15

Rule number . . . . . 5
Rule type . . . . . *ASP          *ASP, *JOB, *POOL... F4=Prompt
ASP number . . . . . *ALL        Number, *ALL, F4=Prompt
Statistic . . . . . USEDPCCT     USEDPCCT, SYSPCT... F4=Prompt
Comparison . . . . . *GT         *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 90              0.001-99.999

SLA statistic . . . . . *NO       *YES, *NO
Open alert action . . . . . *DFT  *DFT, *NONE, *ACK, *CLOSE

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line

```

ASP number

Specifies the ASP used in the rule.

*ALL	All *ASPs (including the system ASP and iASPs) test the specified statistic for a breach of the specified value
-------------	---

Number	Specify a unique ASP number if the rule is only to be applied to that ASP
---------------	---

ASP Statistic

Specifies the ASP Statistic to be used in the rule.

OVERFLOW	Overflowed size in MB. The number of megabytes that the non *SYSTEM ASP has overflowed into the *SYSTEM ASP
OVERPCT	Overflow percentage of ASP. The percentage of the non *SYSTEM ASP which has overflowed into the *SYSTEM ASP
SYSPCT	System usage percentage. The percentage of the ASP which is occupied by system files and reserved storage space
USEDMB	The total used space in megabytes of the ASP
USEDMBCHG	The change in total used space in megabytes of the ASP during the specified time period. The current value is compared to the first value recorded during the specified time period
USEDPCT	Used percentage. The total used space of the ASP expressed as a percentage to the total ASP size
USEDPCTCHG	The change in the total used space percentage of the ASP during the specified time period. The current value is compared to the lowest value recorded during the time period

Comparison

Use the listed comparator options in conjunction with the 'Statistic' and 'Value' parameters to create the performance rule.

*EQ	Equals. An alert is raised if the statistic value matches the value specified in the 'Value' parameter
*NE	Not Equal. An alert is raised if the statistic value does not match the value specified in the 'Value' parameter
*LE	Less than or Equal to. An alert is raised if the statistic value is less than or equal to the value specified in the 'Value' parameter
*GE	Greater than or Equal to. An alert is raised if the statistic value is greater than or equal to the value specified in the 'Value' parameter

*LT	Less than. An alert is raised if the statistic value is less than the value specified in the 'Value' parameter
*GT	Greater than. An alert is raised if the statistic value is more than the value specified in the 'Value' parameter
*IN	In range. An alert is raised if the statistic value is within the lower and upper limit range as specified in the two 'Value' parameters

NOTE: Not all comparators apply to all performance statistic parameters.

Value

The value entered is used in conjunction with the 'Statistic' and 'Comparison' parameter values to complete the rule definition. The value entry varies dependent on the statistic used to create the rule.

For *IN comparison types you can enter a second value to define a lower and upper limit within which a value can fall. The upper value for an *IN comparison is treated as a *LT test rather than a *LE test.

Using *IN comparison types allows you to define multiple rules that trigger different actions based upon the returned *ASP values. For example:

Rule 10 - *IN 80	Triggered when ASP value is greater than 80 and less than 90%
Rule 20 - *GE 90	Triggered when *ASP value is greater than or equal to 90%

NOTE: For assistance in specifying the value to be entered use **F4=Prompt** in the 'Statistic' parameter.

Within time period (For USEDMBCHG and USEDPTCHG statistics only)

Specify the numeric time window and unit of time for this rule. The comparisons are made between a previously recorded value starting at the beginning of the time period. The number is restricted according to the chosen unit of time.

M	Minutes. Restricted to the maximum number of one minute records stored by the Performance monitor
H	Hours. Restricted to the maximum number of one hour records stored by the Performance monitor

D	Days. Restricted to the maximum one day records stored by the Performance monitor
W	Weeks. Restricted to the maximum number of one week records stored by the Performance monitor
C	Months. Restricted to the maximum number of one month records stored by the Performance monitor

Detect spikes

Specifies whether this rule should detect spikes during the time period specified in the 'Within time period' parameter.

*YES	This rule detects spikes within the specified time period
*NO	This rule does not detect spikes within the specified time period

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule. The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

For *DISK Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Performance Criteria           27/08/19 09:47:06

Rule number . . . . . 15          test
Rule type . . . . . *DISK        *ASP, *JOB, *POOL..., F4=Prompt
ASP number . . . . . *ALL        Number, *ALL, F4=Prompt
Disk serial no . . . . . *ALL    Disk serial number, *ALL, F4=Prompt
Statistic . . . . . BUSY         BUSY
Comparison . . . . . *GT        *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 90              0-99,999

SLA statistic . . . . . *NO      *YES, *NO
Open alert action . . . . . *DFT *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

ASP Number

Specifies the ASPs to select.

*ALL	Select all ASPs
*asp	Enter a specific asp number

Disk Serial Number

Specifies the Disk serial number to select.

*ALL	Select all ASPs
Disk serial number	Enter a specific asp number

Statistic

Specifies the performance statistic to check.

BUSY	Disk busy indicator. Indicates how busy the disk has been running during the previous minute. Zero represents inactive, 100 represents maximum. This indicator value is not the same as actual disk usage percentage as this cannot be accurately calculated without the characteristics of this type of disk unit
-------------	--

Comparison

Specifies the type of comparison to be used when determining disk busy threshold value.

*EQ	Equals. An alert is raised if the statistic value matches the value specified in the 'Value' parameter
*NE	Not Equal. An alert is raised if the statistic value does not match the value specified in the 'Value' parameter
*LE	Less than or Equal to. An alert is raised if the statistic value is less than or equal to the value specified in the 'Value' parameter
*GE	Greater than or Equal to. An alert is raised if the statistic value is greater than or equal to the value specified in the 'Value' parameter
*LT	Less than. An alert is raised if the statistic value is less than the value specified in the 'Value' parameter
*GT	Greater than. An alert is raised if the statistic value is more than the value specified in the 'Value' parameter

Value

The value entered is used in conjunction with the Statistic and Comparison field values to complete the rule definition. The value entry varies dependent on the statistic used to create the rule.

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

For *JOB Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Performance Criteria           27/08/19  10:09:03

Rule number . . . . . 15          test
Rule type . . . . . *JOB          *ASP, *JOB, *POOL..., F4=Prompt
Job name . . . . . S *ALL

Function type . . . . . *ALL      *, CHD, DLY, GRP, I/O..., F4=Prompt
Function name . . . . . *ALL      Name, generic*, *ALL
Job user . . . . . *ALL          Name, generic*, *ALL..., F4=Prompt
Current user . . . . . *ALL      Name, generic*, *ALL..., F4=Prompt
Subsystem . . . . . *ALL        Name, generic*, *ALL
Status . . . . . *ALL          *ACTIVE, *ALL
Job type . . . . . *NONSBS      Name, *ALL, *NONSBS, F4=Prompt
SLA statistic . . . . . *NO      *YES, *NO
Open alert action . . . . . *DFT  *DFT, *NONE, *ACK, *CLOSE
Statistic . . . . . CPUPCT      CPUPCT, CPUTIME..., F4=Prompt

Comparison . . . . . *GT        *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 99.9           0-9999.999

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=More jobs  F24=More keys

```

Job name

Specifies the job names to select. You can also specify whether to select or omit all, generic or specific jobs. Up to 60 job names can be entered per rule. There is space to enter 11 job names on the main page. If more are required, use **F16=More Jobs** to add the additional job names. In order to be selected, a job must be covered by at least one selection criteria and not subject to any omit criteria.

Job lists can be used to specify up to 200 individual Job name select/omit criteria. Only one job list per rule is allowed and this must be the first entry in this parameter.

S	Select the following job criteria
O	Omit the following job criteria

L	Specifies a job list. Selects are based on the contents of the list. The job list must be prefixed by an asterisk '*'. If you use F4=Prompt , only job lists to which you are authorized are displayed
*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Type a specific job name

Function type

Specifies the current function or program name of the jobs to select for this rule.

*ALL	Jobs with any function type are selected
*	Special operation
CMD	Command
DLY	Delay job
GRP	Suspended group job
I/O	Subsystem input/output
IDX	Index rebuild
JVM	Java virtual machine
LOG	History logging
MNU	Menu
MRT	Multiple requestor terminal
PGM	Program
PRC	Procedure

Function name

Specifies the current function name of the jobs to select for this rule.

NOTE: The function name is case insensitive and the use of dot/periods (.) is allowed.

*ALL	Jobs with any function name are selected
name	Only jobs with this specific function name are selected
generic*	To specify a generic function name, type starting characters followed by an asterisk (*)

NOTE: The Function Type and Function Name are not always immediately updated by the IBMi. For example, if you are on a menu and call a program it shows the program call but does not update back to the menu when the program ends. It only updates when you provide a new command or go to another menu. Therefore, it is possible Alerts will be raised for Function Types and Names that are no longer active. It is therefore advisable to utilize other criteria to reduce this, such as checking CPU usage plus suspending the Rule for a period of time.

Job user

Specifies the job user name to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	All job user names are selected
List	All user profiles included in the named user list are selected. Type '' in this parameter and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new list for this rule
generic*	To specify a generic job user name, type starting characters followed by an asterisk
name	Type a specific job user name

Current user

Specifies the user profile currently assigned to the job. This is usually the same as the Job User, but may be different if a profile swap has occurred. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	All current users are selected
List	All user profiles included in the named user list are selected. Type '' in this parameter and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new list for this rule

*SAME	Only jobs where the job user and the current user are the same are selected
*DIFF	Only jobs where the job user and current user are different are selected
generic*	To specify a generic current user name, type starting characters followed by an asterisk (*)
name	Type a specific current user name

Subsystem

Specifies the name of the subsystem to which this rule applies.

*ALL	This rule applies to all subsystems
Name	This rule only applies to the named subsystem
generic	To specify a generic subsystem name, type starting characters followed by an asterisk (*). This rule is applied to all subsystems matching the generic name

NOTE: See [Allow alerts when subsystem not active](#).

Subsystem Status

Specifies the status of the subsystem in which the job is running.

*ALL	Alerts can be raised with any subsystems status
*ACTIVE	Alerts can only be raised if the specified subsystem is in active status. This value is only valid if a subsystem has been specified. It is not allowed with *ALL or generic subsystem names

Job type

Specifies the type of job that is investigated by this rule.

*ALL	All job types
*NONINTER	Exclude interactive jobs
*NONSBS	Exclude subsystem monitor jobs

AUTO	Auto start jobs. Jobs that start automatically when a subsystem is started
BATCH	Batch job that includes the following; Batch, Batch immediate, Remote Procedures Advanced 36 Server, Multi-Requester Terminal and Pre-start jobs
BCH	Batch - Regular
BCI	Batch - Immediate
EVK	Batch - Procedure start request
INTER	Interactive jobs
MRT	Batch - Multiple requester terminal
M36	Batch - Advanced 36 server
PDJ	Batch - Print driver
PJ	Batch - Prestart
RDR	Reader job
SBS	Subsystem monitor job
SYS	System job
WTR	Writer jobs

TIP: Use **F4=Prompt** to obtain the list of job types.

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Statistic

Specifies the Job statistic to be used in the rule.

CPUPCT	CPU%. The percentage of the LPAR processing capacity used by the job over a 60 second interval. This figure can exceed 100%
CPUTIME	Database I/O Count. The total number of seconds the job had taken between coming active and the monitor retrieving the job's current information
DBIOCOUNT	Database I/O Count. The total number of Input/Output operations performed by the job between it coming active and the monitor retrieving the job's current information
DBIOCPT	Database I/O %. The percentage of the LPAR processing capacity consumed by the job over a 60 second interval dedicated to Input/Output operations
EXISTS	Active job exists. Check whether the specified jobs are active
JOBCOUNT	Active job count. The number of jobs that the Performance Monitor counted which matched the 'Name', 'User', 'Subsystem' and 'type'. When used with 'generics' in those parameters, this allows for easy monitoring of activity for a group of jobs. For example, the job <code>PICK* JOBCOUNT LT 5</code> would raise an alert if the number of picking jobs (starting *PICK) dropped below 5. Up to 9999 active jobs can be counted. The JOBCOUNT includes the subsystem as a job within itself so the actual active job count is always +1
PEAKSTG	Peak temporary storage (MB). The peak temporary storage used in MB. (This option is only available in IBMi v7.2 and above)
QTEMPSIZE	Size of the QTEMP library. (This option is only available in IBMi v7.2 and above)
RESPONSE	Response (Seconds). the average response time in multiples of 0.1 seconds for interactive transaction within a 60 second period. For example, job <code>ORDENT* response GT 2</code> would raise an alert if any order entry job (starting ORDENT*) was giving an interactive response of over 2 seconds
RUNPTY	Run priority. The run priority of a job
RUNTIME	Run time (minutes). The number of minutes between the job becoming active and the monitor retrieving the job's current information. This can be especially useful on overrunning jobs

STATCPUPCT	Status and CPUPCT statistics. Allows you to specify comparisons and values for both STATUS and CPUPCT statistics. Alerts are only generated if both conditions are satisfied
STATUS	Job status. A job's status must match (*EQ) one or more of the status entries in your list, or the job status must not match (*NE) any of the status entries in your list
STORAGE	Temporary Storage (MB). The number of megabytes of storage that the job is using when the statistics are retrieved
THREADS	Thread count. The number of active threads at the time the statistics are retrieved
TIMESLICE	Time slice (milliseconds). The amount of time in milliseconds that a single thread is allowed to be active before another job or thread is given an opportunity
TRANSACTS	Interactive transactions. The number of interactive transactions

NOTE: Performance Rules for all *JOB rule types (except *JOBCOUNT) create an alert for each job that breaches the rule threshold, rather than a single alert for all jobs.

Comparison

Use the listed comparator options in conjunction with the 'Statistic' and 'Value' parameters to create the performance rule.

*EQ	Equals. An alert is raised if the statistic value matches the value specified in the 'Value' parameter
*NE	Not Equal. An alert is raised if the statistic value does not match the value specified in the 'Value' parameter
*LE	Less than or Equal to. An alert is raised if the statistic value is less than or equal to the value specified in the 'Value' parameter
*GE	Greater than or Equal to. An alert is raised if the statistic value is greater than or equal to the value specified in the 'Value' parameter
*LT	Less than. An alert is raised if the statistic value is less than the value specified in the 'Value' parameter
*GT	Greater than. An alert is raised if the statistic value is more than the value specified in the 'Value' parameter

*IN	In range. An alert is raised if the statistic value is within the lower and upper limit range as specified in the two 'Value' parameters
------------	--

NOTE: Not all comparators apply to all performance statistic parameters.

Value

The value entered is used in conjunction with the 'Statistic' and 'Comparison' parameter values to complete the rule definition. The value entry varies dependent on the statistic used to create the rule.

For *IN comparison types you can enter a second value to define a lower and upper limit within which a value can fall.

The second value entered must be higher than the first value. The comparison checks for a value greater than or equal to the lower value and less than the higher value.

For example a value range of 10 to 20 would include all values greater than or equal to 10 but less than 20 (excluding 20). This allows adjacent ranges to be quickly created.:

TIP: For assistance in specifying the value to be entered use **F4=Prompt** on the 'Statistic' parameter.

Allow alerts when subsystem not active

Specifies whether alerts can be raised when the subsystem specified in the selection criteria is not active. This parameter is only available when a specific subsystem is specified. If *ALL or a generic subsystem name is specified, then *YES is assumed.

*YES	Alerts may be raised by this rule when the subsystem is inactive
*NO	Alerts are not raised by this rule when the subsystem is inactive

For *POOL Rule Types

```

HEM0010R                               Halcyon System Event Manager                               HAL720P2
MANL                                     Change Performance Criteria                               28/08/19 09:02:00

Rule number . . . . . 15                test
Rule type . . . . . *POOL                *ASP, *JOB, *POOL..., F4=Prompt
Pool number . . . . . *ALL                1-255, *ALL
Statistic . . . . . ACTTOINEL            ACTTOINEL, ACTTOWAIT..., F4=Prompt
Comparison . . . . . *EQ                  *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 99.9                      0.001-999999999

SLA statistic . . . . . *NO               *YES, *NO
Open alert action . . . . . *DFT          *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F15=System status  F21=Cmd line

```

Pool number

Specify the number of the pool to which the rule applies.

*ALL	All pools test the specified statistic for a breach of the specified value
Number	Specify a pool number if the rule is only to be applied to that pool

Pool Statistic

Specifies the pool statistic to be used in the rule.

ACTTOINEL	Active to ineligible transitions/min. The rate, in transitions per minute, of transitions of threads from an active condition to an ineligible condition
ACTTOWAIT	Active to wait transitions/min. The rate, in transitions per minute, of transitions of threads from an active condition to a waiting condition

DBFAULTS	Database faults per second. The rate of faults per second, of database page faults against pages containing either database data or access paths. A page fault is a program notification that occurs when a page that is marked as not in main storage is referred to by an inactive program An access path is the means by which the system provides logical organization to the data in the database file
DBPAGES	The rate, at pages per second, at which database pages are brought into the storage pool, A page is a 4096-byte block of information that is transferable between auxiliary storage and main storage
DBRATIO	The percentage of DBFAULTS to DBPAGES. The comparison of DBFAULTS in page faults per second against DBPAGES in pages per second. For example, 1 fault on 4 pages gives a DBRATIO of 25%
FAULTS	The rate, in page faults per second, of non-database page faults against pages other than those designated as database pages
PAGES	The rate, in pages per seconds, at which non-database pages are brought into the storage pool
PGRATIO	The ratio of FAULTS to PAGES. The comparison of FAULTS in page faults per second against DBPAGES in pages per second. For example, 1 fault in 4 pages gives a PGRATIO of 25%
SIZE	Pool size in MB. The amount of storage, in megabytes, in the pool
WAITTOINEL	Wait to ineligible transitions/min. The rate, in transitions per minute, of transitions of threads from a waiting condition to an ineligible condition

Comparison

Use the listed comparator options in conjunction with the 'Statistic' and 'Value' parameters to create the performance rule.

*EQ	Equals. An alert is raised if the statistic value matches the value specified in the 'Value' parameter
*NE	Not Equal. An alert is raised if the statistic value does not match the value specified in the 'Value' parameter

*LE	Less than or Equal to. An alert is raised if the statistic value is less than or equal to the value specified in the 'Value' parameter
*GE	Greater than or Equal to. An alert is raised if the statistic value is greater than or equal to the value specified in the 'Value' parameter
*LT	Less than. An alert is raised if the statistic value is less than the value specified in the 'Value' parameter
*GT	Greater than. An alert is raised if the statistic value is more than the value specified in the 'Value' parameter
*IN	In range. An alert is raised if the statistic value is within the lower and upper limit range as specified in the two 'Value' parameters

NOTE: Not all comparators apply to all performance statistic parameters.

Value

The value entered is used in conjunction with the 'Statistic' and 'Comparison' values to complete the rule definition. The value entry varies dependent on the statistic used to create the rule.

NOTE: For assistance in specifying the value to be entered use **F4=Prompt** on the 'Statistic' parameter.

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

For *SUBSYSTEM Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Performance Criteria           28/08/19 09:04:34

Rule number . . . . . 15                test
Rule type . . . . . *SUBSYSTEM          *ASP, *JOB, *POOL... F4=Prompt
Subsystem . . . . . |_____           Name
Value . . . . . _____             *ACTIVE, *INACTIVE
SLA statistic . . . . . *NO             *YES, *NO
Open alert action . . . . . *DFT        *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F15=Active subsystem  F21=Cmd line

```

Subsystem

This is the name of the subsystem to which this rule applies. This can be any subsystem name, active or inactive.

NOTE: Use F15=Active Subsystems to view the subsystems that are currently active.

Value

This is either *ACTIVE to raise an alert if the selected subsystem is active or *INACTIVE to raise an alert if the selected subsystem is inactive during the entered time range. Therefore, if your entered time range was 09:00 to 17:00 and subsystem QBATCH is normally active during this period you would specify *INACTIVE in this parameter to alert you if subsystem QBATCH was not found to be active between this time period.

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

For *SYSTEM Rule Types

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Performance Criteria          28/08/19  09:06:48

Rule number . . . . . 15          test
Rule type . . . . . *SYSTEM      *ASP, *JOB, *POOL..., F4=Prompt
Statistic . . . . . CPUPCT       ACTJOBS, ADRPRMPCT..., F4=Prompt
Comparison . . . . . *EQ         *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 99.9            0.001-999.999

SLA statistic . . . . . *NO       *YES, *NO
Open alert action . . . . . *DFT   *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F15=Sys statistics  F21=Cmd line

```

System Statistic

Specifies the system statistic to be used in the rule.

ACTJOBS	The number of active jobs in the system, including both system and user jobs
ADRPRMPCT	The percentage of the maximum possible addresses for permanent objects that have been used
ADRTMPPCT	The percentage of the maximum possible addresses for temporary objects that have been used
ASPPCT	The percentage of the system storage pool currently in use
BATTERYERR	Checks for cache battery error messages. Only available in IBMi v7.2 and above. See system default HEM/PFMCACHEBATINTV

BATTERYWRN	Checks for cache battery warning messages. Only available in IBMi v7.2 and above. See system default HEM/PFMCACHEBATINTV
BCHACTHLD	The number of batch jobs that had started running but are now held
BCHHLDQ	The number of batch jobs that were submitted, but were held before they could begin running
BCHJOBS	The total number of batch jobs on the system
BCHMSGW	The number of batch jobs waiting for a reply to a message before they can continue to run
BCHQ	The number of batch jobs on the system that are currently waiting to run, including those that were submitted to run at a future date and time. Jobs on the job schedule that have not been submitted are not included
BCHQHLD	The number of batch jobs on job queues that have been assigned to a subsystem, but are being held
BCHRUN	The number of batch jobs currently running on the system
BCHUNASN	The number of batch jobs on job queues that have not been assigned to a subsystem
CPUPCT	The average of the elapsed time during which the processing units were in use. For an uncapped partition, this is the percentage of the configured, uncapped, shared processing capacity for the partition that was used during the elapsed time. This percentage could be greater than 100% for an uncapped partition
DBIOCOUNT	The number of auxiliary I/O requests performed by the job across all routing steps. This includes both database and non-database paging
DBIOPCT	The percentage of processor database capability that was used during the elapsed time. Database capability is the maximum CPU utilization available for database processing on this server
JOBS	The total number of user and system jobs that are currently in the system. The total includes all jobs on job queues waiting to be processed, all jobs currently the active (being processed) and all jobs that have completed running but still have output on output queues to be produced

PROCCAP	the percentage of the uncapped processing capacity for the partition that was used during the elapsed time
RESPONSE	The average interactive response time during the previous Performance monitor base processing interval to nearest 0.1 of a second
RSPAVG5	The average interactive response time during the previous 5 Performance monitor base processing periods to nearest 0.1 of a second
RSPMAX5	The maximum interactive response time during the previous 5 Performance monitor base processing periods to nearest 0.1 of a second
SIGNON	The number of users currently signed on to the system. System request jobs and group jobs are not included in this number
SUSPGRP	The number of user jobs that have been temporarily suspended by group jobs so that another job may be run
SUSPJOB	The number of user jobs that have been temporarily suspended by system request jobs so that another job may be run
UNPROTSMAX	The largest amount (in megabytes (MB)) of storage used for temporary objects at any one time since the last IPL
UNPROTSUSED	The current amount (in megabytes (MB)) of storage in use for temporary objects

Comparison

Use the listed comparator options in conjunction with the 'Statistic' and 'Value' parameters to create the performance rule.

*EQ	Equals. An alert is raised if the statistic value matches the value specified in the 'Value' parameter
*NE	Not Equal. An alert is raised if the statistic value does not match the value specified in the 'Value' parameter
*LE	Less than or Equal to. An alert is raised if the statistic value is less than or equal to the value specified in the 'Value' parameter
*GE	Greater than or Equal to. An alert is raised if the statistic value is greater than or equal to the value specified in the 'Value' parameter

*LT	Less than. An alert is raised if the statistic value is less than the value specified in the 'Value' parameter
*GT	Greater than. An alert is raised if the statistic value is more than the value specified in the 'Value' parameter
*IN	In range. An alert is raised if the statistic value is within the lower and upper limit range as specified in the two 'Value' parameters

NOTE: Not all comparators apply to all performance statistic parameters.

Value

The value entered is used in conjunction with the 'Statistic' and 'Comparison' parameter values to complete the rule definition. The value entry varies dependent on the statistic used to create the rule.

NOTE: For assistance in specifying the value to be entered use **F4=Prompt** on the 'Statistic' parameter.

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Performance Rule display.

Using SLA statistics

SLA statistics can be used to determine if your systems are performing in accordance with your service level agreements.

To do this, you set up a Group of Performance rules that match your current service level agreements.

For example, you may have a service level agreement with the following requirements:

- 24x7 ASP% is below 85%
- 24x7 Response times are below one second
- Between 06:00 and 18:00 Subsystem A is active
- Between 06:00 and 18:00 Subsystem B is active
- Between 17:00 and 20:00 Subsystem C is active
- Between 06:00 and 18:00 JOBS A, B and C are running

You create a separate Performance rule for each of these requirements, specifying that the rule is to be used as an SLA statistic (as shown in the screen shot below). Note that the default setting for this parameter is *NO.

```

HEM0010R          Halcyon System Event Manager          HAL525P3
                  Change Performance Criteria           22/09/10 14:24:51

Rule number . . . . . 900          *ASP Any ASP percentage used 90% or
Rule type . . . . . *ASP          *ASP, *JOB, *POOL..., F4=Prompt
ASP number . . . . . *ALL        Number, *ALL, F4=Prompt
Statistic . . . . . SYSPCT       USEDPCT, SYSPCT..., F4=Prompt
Comparison . . . . . *GT        *EQ, *NE, *LE, *GE, *LT, *GT, *IN
Value . . . . . 90              0.001-99.999 percent

SLA statistic . . . . . *YES     *YES, *NO

F3=Exit  F12=Cancel  F21=Command line

```

Every time the rule is checked, Halcyon records whether you have met or failed to meet your agreed level of service. If any one of the rules that you have created as being part of your Service Level Agreement are not met, then you are outside the terms of the agreement.

To view your current performance levels, you need a valid license for Performance Analyzer. From within this product it is possible to display Performance Data which contains the 'SLA Conditions Met' data from the associated Performance Rules.

NOTE: Please contact halcyon.sales.admin@fortra.com if you are interested in using this product.

The SLA conditions met data uses the following indicators:

0	One or more of the SAL conditions were not met
1	The SLA conditions were met
blank	The SLA rules were not in force

```

HEM1660R                               Halcyon System Event Manager                               HAL525P3
OCS                                     Display Performance Data                               22/09/10 15:19:24

Mode . . . . . : *SYSTEM
Date . . . . . : 22/09/10
Detail . . . . . : *5MINS

          14:30 14:35 14:40 14:45 14:50 14:55 15:00 15:05 15:10 15:15
Perm Address %      .018 .018 .018 .018 .018 .018 .018 .018 .018 .018
Peak Perm Addr %    .000 .000 .000 .000 .000 .000 .000 .000 .000 .000
Temp Address %      .151 .151 .151 .151 .151 .151 .151 .151 .151 .151
Peak Temp Addr %    .000 .000 .000 .000 .000 .000 .000 .000 .000 .000
SLA conditions met  1    1    1    1    1    1    1    1    1    1

                                     BOTTOM
F3=Exit F4=Prompt F5=Refresh F7=Left F8=Right F9=Zoom in F24=More keys

```

To determine which of the rules managing SLA conditions failed the check, use either the [Message Console](#) (option 10=Message Console from the Halcyon main menu) or use the Enterprise Console.

NOTE: An action must be defined for the rule that sends the alert to either the Message Console or the Enterprise Console.

SLA Audit Log File

An SLA Audit Log file, HALSLALG, is available to audit when an SLA condition/Rule has been triggered.

Two system defaults control the data added to the SLA Audit Log;

- [HAL/SLAAUDITLOG](#) - Whether entries are to be added to the SLA Audit Log.
- [HAL/SLAAUDITLOGLIFE](#) - How many days to retain the entries in the SLA Audit Log.

The Clear SLA Audit Log (**CLRSLALOG**) command, is used by the Action Monitors to purge the SLA Audit Log to the number of days defined in system default [HAL/SLAAUDITLOGLIFE](#).

User Groups and Rules

User groups and rules monitor user profiles for failed on-sign on attempts, storage usage, special authority and so on. Alerts are generated when pre-defined thresholds are exceeded or specific criteria selections are met.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               28/08/19 09:34:34
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt  Item      Description                               Status
---  ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  Output Queue                               Stopped
---  Device                                           Stopped
---  Job Queue                                       Stopped
---  Performance                               Stopped
1   User                                           Stopped
---  Distribution Queue                               Stopped
---  Inactivity                                       Stopped
---  Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                               Stopped
---  Log File                                         Stopped
More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F15=Sort description F16=Position to F24=More keys

```

Adding a User Rule Group

This option is used to add a user rule group to the existing user rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the User monitor on the Work with Rules main display to open the Add Device Rule Group display.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL525P3
                   Add User Rule Group                  17/02/11  10:21:58

User group . . . . . _____ Name
Description . . . . . _____
Check interval . . . . . 60          60 - 86400 seconds
Start time . . . . . *ALL          HH:MM or *ALL
End Time . . . . . *ALL          HH:MM or *ALL

F3=Exit  F5=Refresh  F12=Cancel

```

Parameters on the User Rule Group display

The following parameters are available on this display.

User group

Enter the name by which this user rule group will be identified.

Description

Enter a description for this user rule group. The entry made here is displayed on the Work with Rules main display.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this rule group. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this user rule group.

*ALL	Always monitor this rule group
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this user rule group.

*ALL	Always monitor this rule group
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is **AT LEAST** the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this user rule group to the User monitor.

Functions on the Add User Rule Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a User Rule

To add a User rule, select either option **1=Insert** or **F6=Add** against an existing user rule group entry to open the Add User Rule display.

Parameters on the Add User Rule display

The following parameters are available on this display.

WARNING: If Enter is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add User Rule                        26/01/16  14:21:05
User_group . . . . . EXAMPLE                             (1 of 2)
Description . . . . . Example User Profile rules
Rule number . . . . . 0920
Rule description . . . . .
Monitor by calendar . . . *NONE_____ Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59
Suspend on alert . . . . *DFT_____ *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_____ *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt
                                                                More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line
Description is required.

```

User group

Displays the name of the User Group to which this rule belongs.

Description

Displays the description of the User Group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration.

The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the user group
-------------	--

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press <**Page Down**> to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
SOS                 Add User Rule          30/11/09  10:49:37
User group . . . . . EXAMPLE          (2 of 2)

Description . . . . . Example User Profile rules
Type options, press enter:
2=Change 4=Delete 9=Move down
Opt Rule type  User      Class   Group   Status   Storage exceeds
= *USRPRF    *ALL    *ALL   *ALL   *ALL    *ALL
-----
Action                               Delay

BOTTOM

F3=Exit F5=Refresh F6=Add action F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the user rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add User Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing User Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add User Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add User Action display from where a new action can be added to this rule.

Changing User Rule Criteria

Getting there

Select option **2=Change** against the user rule criteria displayed on the Add/Change User Rule display. This opens the Change User Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change User Criteria                  24/11/15  08:05:47

Rule group . . . . . EXAMPLE
Rule number . . . . . 920          test

Rule type . . . . . *USRPRF

Select or omit profiles . . . *ALL

User class . . . . . *ALL          Name, *ALL, F4=Prompt
Group profile . . . . . *ALL          Name, *ALL, F4=Prompt
Accounting code . . . . . *ALL          Name, *ALL, *BLANK
Status . . . . . *ALL          *ALL, *ENABLED..., F4=Prompt
Failed sign-ons exceeds . . *ALL          *ALL, 0-999
Storage exceeds . . . . . *ALL          Value, *ALL
Comparison . . . . . *EQ
Special authority . . . . . *ALL

Open alert action . . . . . *DFT          *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the Change User Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the user rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*USRPRF	User Profile rule type
---------	------------------------

Select/omit profiles

Up to 12 user profiles and / or user lists can be selected or omitted from the rule.

S	Select this user profile to be included in the selection criteria
O	Omit this user profile from the selection criteria

User profile

Specifies the user profile to be selected or omitted in the selection criteria.

*ALL	All user names are selected
LIST	All user names are selected in the named user list are selected. Type "" in the parameter and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
generic*	To specify a generic user name, type starting characters and then an asterisk

TIP: Use **F4=Prompt** to view a list of valid user profiles.

User class

Specifies the user class of the user profile selected.

*ALL	Users with any user class are selected
name	Only users with the specified user class are selected

TIP: Use **F4=Prompt** to view a list of valid user classes.

Group profile

Specifies the group profile of the user profile selected.

*ALL	Users with any group profile are selected
name	Only users with the specified group profile are selected

TIP: Use **F4=Prompt** to view a list of valid group profiles.

Account code

Specifies the accounting code of the user profile selected.

*ALL	Users with any accounting code are selected
*BLANK	Only users with a blank accounting code are selected
name	Only users with the specified accounting code are selected

Profile status

Specifies the status of the user profile selected.

*ENABLED	Only user profiles that are at a status of *ENABLED are selected
*DISABLED	Only user profiles that are at a status of *DISABLED are selected
*ALL	All profiles, regardless of status, are selected

Failed sign-ons exceeds

Specifies whether to select user profiles by the number of failed sign-on attempts since the last successful sign-on.

*ALL	User profiles are selected regardless of failed sign-on attempts
0-999	User profiles that exceed this number of failed sign-on attempts since the last successful sign-on are selected

Storage exceeds

Specifies whether to check the auxiliary storage of the user profiles selected and if so, the acceptable storage value.

*ALL	The storage usage value is always included in the selection criteria
Value	Specify a value to compare against the actual storage value used by the user profile. If the storage exceeds the specified value it is included in the selection criteria. Values must be entered in the format of a number followed by a unit of measure. Valid units of measure are: K or Ki Kibibytes (1Ki=1024 Bytes) M or Mi Mebibytes (1Mi=1024Ki) G or Gi Gibibytes (1Gi=1024Mi) T or Ti Tebibytes (1Ti=1024Gi) If a unit of measure is not specified, the default of K or Ki is used The maximum value allowed is 909Ti

Comparison

Specifies the type of comparison to be used in this rule. When multiple values are permitted, an *EQ comparison is deemed to be successful when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equals
*NE	Not equal to

Special authority

Specifies whether to select user profiles by their special authority. If *EQ is specified for the comparison value, an alert is generated if any of the specified special authority values match the user profile. If *NE is specified as the comparison, an alert is only generated if the profile has none of the specified special authorities.

*ALL	User profiles are selected regardless of special authority
special authority	Only user profiles with or without the special authority values are selected, dependent on whether the comparison is *EQ or *NE

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry is system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change User Rule display.

Distribution Queues and Rules

Distribution queues are used to store distributions before they are sent or forwarded to other systems.

The following section details how to add and change Distribution queues and rules.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               28/08/19  14:24:23
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt  Item      Description                               Status
---  ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  Output Queue                               Stopped
---  Device                                           Stopped
---  Job Queue                                       Stopped
---  Performance                                   Stopped
---  User                                             Stopped
1|  Distribution Queue                             Stopped
---  Inactivity                                       Stopped
---  Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                             Stopped
---  Log File                                         Stopped
More...
F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

Adding a Distribution Queue Rule Group

This option is used to add a distribution queue rule group to the existing distribution queues. This action is taken with the cursor positioned against the Distribution Queue monitor on the Work with Rules main display.

Getting there

Select option **1=Insert** or **F6=Add** to open the Add Distribution Queue Rule Group display.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL525P3
                   Add Distribution Queue Rule Group      17/02/11 10:27:46
Distribution group . . . . . _____ Name, F4=Prompt
Description . . . . . _____
Check interval . . . . . 60          60 - 86400 seconds
Start time . . . . . *ALL          HH:MM or *ALL
End Time . . . . . *ALL          HH:MM or *ALL

F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

Parameters on the Add Distribution Queue Rule Group display

The following parameters are available on this display.

Distribution group

Enter the name by which the distribution queue rule group is identified.

Description

Enter a description for the distribution queue rule group. The entry made here is displayed on the Work with Rules main display. If you enter the name of an actual distribution queue in this parameter then this entry is automatically displayed in the 'Distribution queue name' parameter when adding distribution queue rules.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this distribution queue. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this distribution queue rule group.

*ALL	Always monitor this distribution queue rule group
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this distribution queue rule group.

*ALL	Always monitor this distribution queue rule group
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is **AT LEAST** the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this distribution queue rule group to the Distribution Queue monitor.

Adding a Distribution Queue Rule

To add a distribution queue rule, select either option **1=Insert** or **F6=Add** against an existing distribution queue entry to open the Add Distribution Queue Rule display.

Parameters on the Add Distribution Queue Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL               Add Distribution Queue Rule           26/01/16  14:40:52
Distribution group . . . . . EXAMPLE                    (1 of 2)

Description . . . . . Example Distribution Queue rules

Rule number . . . . . 0920
Rule description . . . . .
-----

Monitor by calendar . . . . . *NONE_____ Name, F4=Prompt
                               Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Suspend on alert . . . . . *DFT_          *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_           *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
Description is required.
More...

```

Distribution queue

Displays the name of the distribution queue to which this rule belongs.

Description

Displays the description of the distribution queue to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have

the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the distribution queue
-------------	--

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
-------------	--

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule data is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P1
                    Add Distribution Queue Rule          17/03/09 16:31:17
Distribution queue . . . . . TEST                          (2 of 2)

Description . . . . . AB Test
Type options, press enter.
2=Change 4=Delete 9=Move down
Opt Rule type  Queue Name  Priority Depth Check Status
= *DSQSTS      *ALL        *ALL      1      *YES
-----
Action                                     Delay

Bottom

F3=Exit F5=Refresh F6=Add action F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the distribution queue rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Distribution Queue Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria.

NOTE: See [Change Distribution Queue Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Distribution Queue Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Distribution Queue Action display from where a new action can be added to this rule.

Changing Distribution Queue Criteria

Getting there

Select option **2=Change** against the distribution queue rule criteria displayed on the Add/Change Distribution Queue Rule display. This opens the Change Distribution Criteria display.

IMPORTANT: An item must match ALL the selection criteria entered in order for an alert to be raised. Therefore, when setting distribution queue criteria, it is usual practice to specify one particular criterion and set the other parameters to *ALL.

```

HEM0010R          Halcyon System Event Manager          HAL720P4
QA                Change Distribution Queue Criteria    31/03/15 11:44:19

Rule group . . . . . EXAMPLE
Rule number . . . . . 920

Rule type . . . . . *DSQSTS

Distribution queue name . . *ALL_          Name, *ALL, F4=Prompt
Queue priority . . . . . *ALL_          NORMAL, HIGH, *ALL
Queue depth exceeds . . . . *ALL_          0-99999, *ALL
Comparison . . . . . *EQ_            *EQ, *NE
Queue status . . . . . *ALL_

Open alert action . . . . . *NONE_      *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the Change Distribution Queue Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the distribution queue rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*DSQSTS	Distribution queue status
----------------	---------------------------

Distribution queue name

Specifies the distribution queue name to be selected. If this rule is for a named distribution queue, then this entry is automatically displayed in this parameter, otherwise the entry defaults to *ALL.

*ALL	All distribution queues are selected
name	Type a specific distribution queue name

NOTE: Use **F4=Prompt** to view a list of valid distribution queues.

Queue priority

Specifies the queue priority to be selected.

*NORMAL	The normal distribution priority queue is selected
*HIGH	The high distribution queue priority is selected
*ALL	The normal and high distribution priority queues are selected

Queue depth exceeds

Specifies the queue depth above which a distribution queue is selected. Type a value between 1 and 999. If the number of non-held distributions then exceeds this value, the distribution queue is selected.

1-999	Enter values from 1 to 999. The default entry is 1
--------------	--

Comparison

Specifies the type of comparison. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal

Queue status

Specify the distribution queue status. Up to 11 status values may be specified.

*ALL	The special value selects all status values
STARTING	The sender job is starting
INIT	A gateway sender is initializing the gateway function
NOT-RDY	The queue is released but no sender job is active
WAITING	The queue is waiting for distributions. This is the normal idle state for a distribution queue
CONNECT	The sender is attempting to establish a communications session and to start the receiver
SENDING	Distributions are being sent
HELD	The queue is held
ERR_HELD	The queue is held by the SNADS sender process due to an error condition
RTY-WAIT	The sender has encountered a recoverable error and is waiting before trying to send the distribution again
RTY_FAIL	The sender job is active. However, the number of retry attempts for the queue has been reached
FAILED	An irrecoverable error has occurred. The sender job has ended

TIP: Use **F4=Prompt** to view a list of valid distribution queue status

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Distribution Queue Rule display.

Examples of using multiple criteria settings within Distribution Queue rules

EXAMPLE: With all Criteria parameters set to *ALL

- Distribution queue name: *ALL
- Queue priority: *ALL
- Queue depth exceeds: *ALL
- Comparison: *EQ
- Queue status: *ALL

As all criteria are set to *ALL, an alert is raised for every distribution queue that exists.

EXAMPLE: With Queue Depth set to 5

- Distribution queue name: *ALL
- Queue priority: *ALL
- Queue depth exceeds: 5
- Comparison: *EQ
- Queue status: *ALL

An alert is raised for every distribution queue that has more than 5 items in the queue.

EXAMPLE: With Queue Status of FAILED

- Distribution queue name: *ALL
- Queue priority: *ALL
- Queue depth exceeds: *ALL
- Comparison: *EQ
- Queue status: FAILED

An alert is raised for every distribution queue that is in FAILED status.

EXAMPLE: With Queue Depth set to 5 and Queue Status set to FAILED

- Distribution queue name: *ALL
- Queue priority: *ALL

- **Queue depth exceeds:** 5
- **Comparison:** *EQ
- **Queue status:** FAILED

An alert is raised for every distribution queue that has more than 5 items in the queue and is in a status of FAILED.

IMPORTANT: It is not possible to set the distribution queue criteria to generate an alert for distribution queues with more than 5 items in the queue OR in FAILED status. You must create two separate rules to cover this and similar scenarios.

Functions on the Change Distribution Queue Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

Inactivity Groups and Rules

Inactivity rules can be used to monitor prolonged periods of inactivity across a range of different IBMi sessions, jobs and functions.

Getting there

Select option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               29/08/19 09:38:25
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt  Item      Description                               Status
---  ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  Output Queue                                      Stopped
---  Device                                           Stopped
---  Job Queue                                         Stopped
---  Performance                                       Stopped
---  User                                              Stopped
---  Distribution Queue                               Stopped
---  Inactivity                                       Stopped
---  Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                               Stopped
---  Log File                                         Stopped
More...

F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F15=Sort description F16=Position to F24=More keys

```

How Inactivity Rules are calculated

An Inactivity rule generates an alert if the CPU time used by the job on one cycle is the same it was on the previous cycle.

For example, you create an Inactivity rule with a Job Status as equal to 'Held' with an Inactivity time period of 5 minutes. An alert is raised, if after 5 minutes have elapsed, the Job Status is still reported by the Inactivity monitor as 'Held' (assuming all other rule criteria are also met).

Adding an Inactivity Rule Group

This option is used to add an inactivity rule group to the existing inactivity rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Inactivity monitor on the Work with Rules main display to open the Add Inactivity Rule Group display.

```

HEM_MNTQUE          Halcyon System Event Manager          HAL525P3
                    Add Inactivity Rule Group           17/02/11  10:32:34
Inactivity group . . . . . _____ Name
Description . . . . . _____
Check interval . . . . . 60          60 - 86400 seconds
Start time . . . . . *ALL          HH:MM or *ALL
End Time . . . . . *ALL           HH:MM or *ALL

F3=Exit  F5=Refresh  F12=Cancel

```

Parameters on the Add Inactivity Rule Group display

The following parameters are available on this display.

Inactivity group

Enter the name by which this inactivity rule group is identified.

Description

Enter a description for this inactivity rule group. The entry made here is displayed on the Work with Rules main display.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this Inactivity Group. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

Start time

Enter the time at which monitoring starts for this inactivity rule group.

*ALL	Always monitor this inactivity rule group
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this inactivity rule group.

*ALL	Always monitor this inactivity rule group
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is **AT LEAST** the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this inactivity rule group to the Inactivity monitor.

Adding an Inactivity Rule

To add a new Inactivity rule, select either option **1=Insert** or **F6=Add** against an existing Inactivity Group entry to open the Add Inactivity Rule display.

Parameters on the Add Inactivity Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add Inactivity Rule                  26/01/16  14:51:03
Inactivity group . . . . . EXAMPLE                      (1 of 2)
Description . . . . . Example Inactivity rules
Rule number . . . . . 0910
Rule description . . . . .
Monitor by calendar . . . . *NONE_____ Name, F4=Prompt
                          Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y  Y  Y  Y  Y  Y  Y
Time range . . . . . 00:00 - 23:59
Suspend on alert . . . . . *DFT_          *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_           *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
Description is required.
More...

```

Inactivity group

Displays the name of the Inactivity Group to which this rule belongs.

Description

Displays the description of the Inactivity Group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration.

The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

This parameter defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking this Inactivity Group
-------------	---

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
-------------	--

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry Alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule data is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
SOS                 Add Inactivity Rule                 30/11/09  11:14:15
Inactivity group . . . . . EXAMPLE                     (2 of 2)

Description . . . . . Example Inactivity rules
Type options, press enter.
2=Change 4=Delete 9=Move down

Opt Rule type  Job name  User      Group      Subsystem  Job type  Time-out
=  *INASTS    *ALL     *ALL     *ALL     *ALL     *INTER   1

-----
Action                                     Delay

BOTTOM

F3=Exit  F5=Refresh  F6=Add action  F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the inactivity rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Inactivity Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Inactivity Group Rule Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Inactivity Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Inactivity Action display from where a new action can be added to this rule.

Changing Inactivity Rule Criteria

Getting there

Select option **2=Change** against the Inactivity Group rule criteria displayed on the Add/Change Inactivity Group Rule display. This opens the Change Inactivity Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P%
MANL              Change Inactivity Criteria            21/01/16 10:46:06

Rule group . . . . . EXAMPLE
Rule number . . . . . 900          Interactive job inactive > 60 mins

Rule type . . . . . *INASTS
Job name . . . . . *ALL          Name, generic*, *ALL
User name . . . . . *ALL          Name*, *List, *ALL, F4=Prompt
Group profile . . . . . *ALL       Name*, *List, *ALL, F4=Prompt
Accounting code . . . . . *ALL     Name, *ALL, *BLANK
Function type . . . . . *ALL       *, CMD, DLY, GRP, I/O..., F4=Prompt
Function name . . . . . *ALL       Name, generic*, *ALL
Subsystem . . . . . *ALL          Name, generic*, *ALL
Job type . . . . . INTER          *ALL, Type, F4=Prompt
Inactivity time out . . . . . 60   1-10080 mins, *ALL
Job status test . . . . . *NE      *EQ, *NE
Job status value . . . . . SRQ     _____
                                   _____
                                   _____
                                   _____
Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the Change Inactivity Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the inactivity rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*INASTS	Inactivity Status rule type
----------------	-----------------------------

Job name

Specifies the names of the jobs to be monitored.

*ALL	All job names are selected
name	Only jobs with a specific job name are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)

User name

Specifies the users of the jobs to be monitored.

*ALL	Jobs with any user names are selected
List	All user profiles included in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
name	Only jobs with a specific user name are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)

Group profile

Specifies the group profile of the jobs to be monitored. This may be a user list.

*ALL	Jobs with any group profile are selected
List	Jobs with any user names selected in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list
name	Only jobs with a specific group profile are selected
generic*	To specify a generic group profile, type starting characters followed by an asterisk (*)

Account code

Specifies the account code of the jobs to be monitored.

*ALL	Jobs with any account code are selected
name	Only jobs with a specific account code are selected
*BLANK	Only jobs with a blank account code are selected

Function type

Specifies the current function or program name of the jobs to select.

*ALL	Jobs with any function type are selected
*	Special operation
CMD	Command
DLY	Delay job
GRP	Suspended group job
I/O	Subsystem input/output
IDX	Index rebuild
JVM	Java virtual machine
LOG	History logging
MNU	Menu
MRT	Multiple requestor terminal
PGM	Program
PMC	Procedure

Function name

Specifies the function (program name of the jobs to be monitored).

*ALL	Jobs with any function name are selected
name	Only jobs with a specific function name are selected
generic*	To specify a generic function name, type starting characters followed by an asterisk (*)

Subsystem

Specifies the subsystem of the jobs to be monitored.

*ALL	Jobs within any subsystem are selected
name	Only jobs within the specific subsystem are selected
generic*	To specify a generic subsystem name, type starting characters followed by an asterisk (*)

Job type

Specifies the job type of the jobs to be monitored.

*ALL	All job types
*NONINTER	Exclude interactive job
*NONSBS	Exclude subsystem monitor jobs
AUTO	Auto start jobs. Jobs that start automatically when a subsystem is started
BATCH	Batch job that includes the following: Batch, Batch Immediate, Remote Procedures Advanced 36 Server, Multi Requester Terminal and Pre-start jobs
BCH	Batch - Regular
BCI	Batch - Immediate
EVK	Batch - Procedure start request
INTER	Interactive jobs
MRT	Batch - Multiple requester terminal
M36	Batch - Advanced 36 server
PDJ	Batch - Print driver
PJ	Batch - Prestart
RDR	Reader job
SBS	Subsystem monitor job
SYS	System job
WTR	Writer jobs

Inactivity time out

Specifies the inactivity time. This is the time in minutes to check against jobs that are inactive.

1-10080 minutes	A value between 1 to 10080 minutes (7 days)
--------------------	---

Job status test

Specifies the type of comparison used with the 'Status value' parameter.

*EQ	Equal. All jobs are selected if the job status found, matches any of the statuses specified in the 'Job status value' parameters
*NE	Not equal. All jobs are selected if the job status found, does not match any of the statuses specified in the 'Job status value' parameters

Job status value

Specify the job statuses that jobs are to be checked against. Up to twenty different values may be specified (if *ALL is not specified).

*ALL	Compare against all job statuses
name	Compare against specified job statuses

TIP: To view a list of valid statuses, position the cursor over a 'Status' parameter and press **F4=Prompt**.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Press **Enter** to change the existing criteria and return to the Add/Change Inactivity Rule display.

Object Groups and Rules

An object is a named storage space that consists of a set of characteristics that describes the object and, in some cases, data. An object is anything that exists in and occupies space in storage and on which operations can be performed. The Object monitor can be used to check these objects on a regular basis and raise alerts if any issues are found.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               29/08/19  10:58:09
Type options, press enter
1=Insert  2=Change  3=Copy  4=Delete  5=Display  6=Release  7=Hold  8=Alerts
9=Print  10=Reset  13=Export  14=Counts  15=Review msgs  23=Rule history...
Opt  Item      Description                               Status
---  ---      ---
---  Message Queue                               Stopped
---  TCP/IP                                           Stopped
---  Job Log                                           Stopped
---  Output Queue                                       Stopped
---  Device                                           Stopped
---  Job Queue                                         Stopped
---  Performance                                       Stopped
---  User                                             Stopped
---  Distribution Queue                               Stopped
---  Inactivity                                       Stopped
---  1 Object                                           Stopped
---  Custom                                           Stopped
---  Alert Intelligence                               Stopped
---  Log File                                         Stopped
More...
F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F15=Sort description  F16=Position to  F24=More keys

```

Adding an Object Rule Group

This option is used to add an object rule group to the existing object rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Object monitor on the Work with Rules main display to open the Add Object Rule Group display.

```

HEM_MNTQUE                               Halcyon System Event Manager                               HAL720P2
MANL                                       Add Job Queue Rule Group                               22/08/19 15:45:16
Job queue . . . . . Name, F4=Prompt
Library . . . . . *LIBL Name*, *ALL, *LIBL, F4=Prompt
ASP group . . . . . *SYSBAS Name, *SYSBAS, F4=Prompt
Description . . . . .
Check interval . . . . . 60 60 - 86400 seconds
Start time . . . . . *ALL HH:MM or *ALL
End time . . . . . *ALL

F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

Parameters on the Add Object Rule Group display

The following parameters are available on this display.

Object group

Enter the name by which this object group is identified.

Description

Enter a description for this object group. The entry made here is displayed on the Work with Rules main display.

Check interval

Enter the time period, in seconds, between each check of the rules defined within this object group. Any value between 60 and 86400 seconds is permitted.

NOTE: The time of the interval check is dependent on when the monitor is started and is not a fixed time.

IMPORTANT: The check interval is defined at group level for objects, not at rule level. You must therefore define all object rules that require the same check interval within the same group. Multiple groups can be defined with different check intervals.

Start time

Enter the time at which monitoring starts for this object group.

*ALL	Always monitor this object group
HHMM	Start monitoring at the specified time (24 hour clock format)

NOTE: Although you can enter a start time of 00:00, actual monitoring of this rule group will not commence until 00:01.

End time

Enter the time at which monitoring ends for this object group.

*ALL	Always monitor this object group
HHMM	End monitoring at the specified time (24 hour clock format)

IMPORTANT: Ensure that the difference between the Start and End times is AT LEAST the same amount of time for 'Check interval' or the monitor may not perform a check within the times specified.

Press **Enter** to add this object group to the object monitor.

Adding an Object Rule

To add an object group rule, select either option **1=Insert** or **F6=Add** against an existing object group entry to open the Add Object Group Rule display.

Parameters on the Add Object Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add Object Rule                      26/01/16  15:05:30
Object group . . . . . EXAMPLE                          (1 of 2)
Description . . . . . Example Object rules
Rule number . . . . . 0915
Rule description . . . . .
Monitor by calendar . . . *NONE_____ Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59
Suspend on alert . . . . *DFT_          *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_           *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line
Description is required.
More...

```

Object group

Displays the name of the object group to which this rule belongs.

Description

Displays the description of the object group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have

the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the object group
-------------	--

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
-------------	--

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter in the rule group header
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule data is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
SOS                 Add Object Rule                      30/11/09  11:25:43
Object group . . . . . EXAMPLE                          (2 of 2)

Description . . . . . Example Object rules
Type options, press enter.
2=Change 4=Delete 9=Move down
Opt Rule type  Object  Library  Type  Exists  Size
= *OBJECT  QGPL  QSYS  *LIB  *YES  *ALL
-----
Action                                     Delay

BOTTOM

F3=Exit F5=Refresh F6=Add action F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the Object Group rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions To Rules](#) for more information.

Using the Add Object Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Object Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Object Rule display 2nd page

F6=Add action

Use **F6=Add action** to open the Add Object Action display from where a new action can be added to this rule.

Changing Object Criteria

Getting there

Select option **2=Change** against the Object Group rule criteria displayed on the Add/Change Object Rule display. This opens the Change Object Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                20/02/17  10:02:01

Rule group . . . . . EWE
Rule number . . . . . 10

Rule type . . . . . FILE          *OBJECT, *DTAARA, *FILE..., F4=Prompt

File name . . . . . QGPL          Name, F4=Prompt
Library . . . . . QSYS           Name, F4=Prompt
ASP group . . . . . *SYSBAS      Name, *SYSBAS, F4=Prompt
Check member . . . . . *FIRST    Name, *FIRST, *ALL, *NONE
File or member exists . . . . . *YES *YES, *NO
Number of records:
Comparison . . . . . *EQ         *EQ, *NE, *LE, *GE, *LT, *GT
No of records . . . . . *ALL     0-999999999, *ALL
Member age from:
Comparison . . . . . *EQ         *EQ, *NE, *LE, *GE, *LT, *GT
Age . . . . . *ALL D            Nbr, *ALL/D=Days, H=Hrs, M=Mins, S=Secs

SLA statistic . . . . . *NO      *YES, *NO
Open alert action . . . . . *DFT *DFT, *NONE, *ACK, *CLOSE
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Parameters on the Change Object Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the object rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

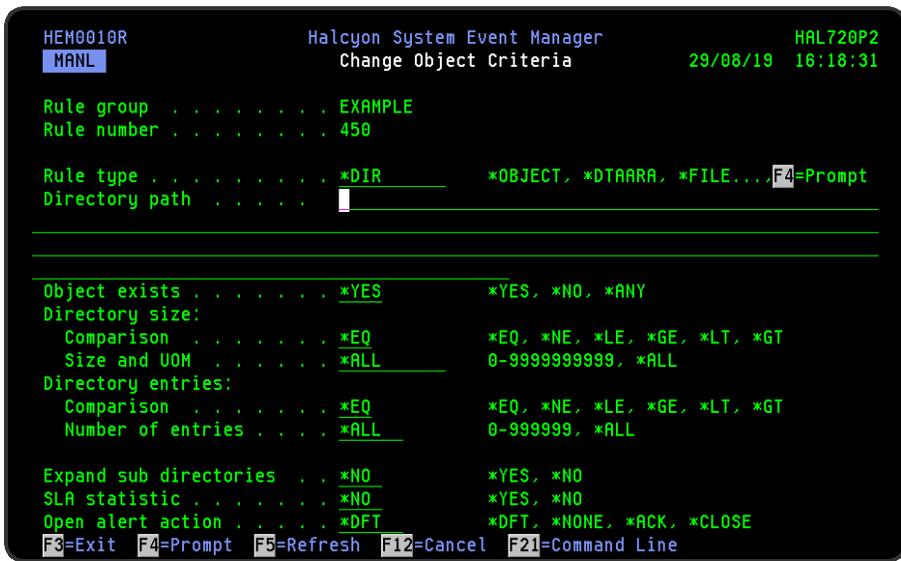
Rule type

Specifies the type of rule. Each monitor supports one or more rule types.

*DIR	Check IFS Directory status
*DTAARA	Check data area status
*DTAQ	Check data queue status
*FILE	Check database file status
*IFS	Check IFS object status
*IFSCNT	Count of IFS objects
*JOBTBL	Check Job Table entries
*JRN	Check journal status
*LIB	Check library status
*OBJECT	Check object status
*RDCDCNT	Check database file fields

NOTE: Subsequent parameters on this display are dependent on the choice made in this parameter.

*DIR Rule Type Parameters



Directory path

Specifies the IFS directory path of the directory to select. Type the required path or use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. A generic path may be specified.

NOTE: The path may or may not be case-sensitive depending on the file system in which the directory is located.

Object exists

Specifies whether or not the object normally exists.

*YES	The object normally exists. An alert is generated if the object does not exist
*NO	The object does not normally exist. An alert is generated if the object exists
*ANY	Selects only the first occurrence matching the requested criteria. This means a single alert is raised regardless of how many matching objects are found

Directory size

Comparison

Specifies the type of comparison. The total size includes all the objects (excluding sub-folders) within the selected Directory/Folder. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Size and Unit of Measure (UOM)

Specifies the directory size.

*ALL	Any directory size is acceptable
-------------	----------------------------------

0-9999999999	Specify the actual directory size
---------------------	-----------------------------------

When a directory size is specified, an optional unit of measure suffix may be included. If no unit of measure is specified, the size is bytes. The supported units of measure are:

No UOM	Bytes
K or KB	Kilobytes
M or MB	Megabytes
G or GB	Gigabytes
T or TB	Terabytes
KI or KIB	Kibibytes
MI or MIB	Mebibytes
GI or GIB	Gigibytes
TI or TIB	Tebibytes

Directory entries

Comparison

Specifies, when the 'Object exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'Directory path' parameter. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to

*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of entries

Specifies, when the 'Object exists' parameter is set to *YES, the number of entries that the data queue normally contains.

1-999999	The directory path normally contains this number of entries
*NOMAX	The directory path can contain any number of entries

Object type

When the Number of entries parameter is not set to *ALL, this parameter specifies the type of directory entries required.

*ALL	Any type of object is acceptable
*NONDIR	The types of directory entries required excludes lower levels of directories. Specifically, object types *DIR, *DDIR, *FLR and *DFLT are not counted
type	Specify the object type required. Use F4=Prompt to display a list of valid choices from which a selection can be made

Expand sub-directories

Specifies whether the content of directories under the specified directory path should be included in the calculations for object size or number of entries.

*NO	Sub-directories are not included in the rule
*YES	Expands any directories under the specified directory path and include the content of any *NONDIR type object (matching the rule) in the calculations

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
-------------	---

*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*DTAARA Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                29/08/19 16:19:03

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *DTAARA          *OBJECT, *DTAARA, *FILE... F4=Prompt

Data area name . . . . . QGPL          Name, F4=Prompt
Library . . . . . QSYS                Name, F4=Prompt
ASP group . . . . . *SYSBAS          Name, *SYSBAS, F4=Prompt
Object exists . . . . . *YES          *YES, *NO

Data area value:
Comparison . . . . . *EQ              *EQ, *NE, *LE, *GE, *LT, *GT
Value . . . . . *ALL

-----
Value, *ALL, *BLANK

SLA statistic . . . . . *NO           *YES, *NO
Open alert action . . . . . *DFT      *DFT, *NONE, *ACK, *CLOSE
F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line

```

Data area name

Specifies the name of the data area to select. Use **F4=Prompt** to display a list of valid choices from which a selection can be made. When using F4, the results are based upon the entries found within the specified Library and ASP group fields, so complete these first.

Library

Specifies the name of the library in which the data area is located. Use **F4=Prompt** to display a list of valid choices from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the data area to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Object exists

Specifies whether or not the object normally exists.

*YES	The object normally exists. An alert is generated if the object does not exist
*NO	The object does not normally exist. An alert is generated if the object exists

Data area value

Comparison

Specifies, when the 'Object exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'Data area name' parameter. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Value

Specifies the data content of the data area to be selected.

*ALL	Data areas with any value are selected
*BLANK	Data areas containing all blanks are selected
value	Specify the value or partial value of the data area to select. This value is compared to the value or partial value found in the data area. If the found data area is type *DEC, the value specified here is compared to the formatted character representation of the data area. If both the value specified here and the value found in the data area are numeric (regardless of the data area type), a numeric comparison is done, otherwise a character comparison is done. For example, typing the value 123.0 selects a *DEC data area containing the value 123 or a *CHAR data area containing the characters "123" or "123.0" and so on

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

*DTAQ Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                30/08/19  08:53:30

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *DTAQ          *OBJECT, *DTAARA, *FILE... F4=Prompt

Data queue name . . . . . QGPL      Name, F4=Prompt
Library . . . . . QSYS             Name, F4=Prompt
ASP group . . . . . *SYSBAS        Name, *SYSBAS, F4=Prompt
Object exists . . . . . *YES       *YES, *NO

Data queue entries:
  Comparison . . . . . *EQ         *EQ, *NE, *LE, *GE, *LT, *GT
  Number of entries . . . . . *ALL  0-999999, *ALL

SLA statistic . . . . . *NO        *YES, *NO
Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Data queue name

Specifies the name of the data queue to select. Use **F4=Prompt** to display a list of valid choices from which a selection can be made. When using F4, the results are based upon the entries found within the specified Library and ASP group fields, so complete these first.

Library

Specifies the name of the library in which the data queue is located. Use **F4=Prompt** to display a list of valid choices from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the data queue to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library in the system ASP. This is the default entry
----------------	--

name	Specify the ASP group name
-------------	----------------------------

Object exists

Specifies whether or not the object normally exists.

*YES	The object normally exists. An alert is generated if the object does not exist
*NO	The object does not normally exist. An alert is generated if the object exists

Directory entries

Comparison

Specifies, when the 'Object exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'Data queue name' parameter. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of entries

Specifies, when the 'Object exists' parameter is set to *YES, the number of entries that the data queue normally contains.

1-999999	The data queue normally contains this number of entries
*ALL	The data queue can contain any number of entries

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*FILE Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria              30/08/19 09:12:00

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *FILE          *OBJECT, *DTAARA, *FILE... F4=Prompt

File name . . . . . QGPL           Name, F4=Prompt
Library . . . . . QSYS            Name, F4=Prompt
ASP group . . . . . *SYSBAS       Name, *SYSBAS, F4=Prompt
Check member . . . . *FIRST       Name, *FIRST, *ALL, *NONE, *COUNT
File or member exists . . *YES     *YES, *NO
Number of records:
  Comparison . . . . . *EQ        *EQ, *NE, *LE, *GE, *LT, *GT
  No of records . . . . *ALL       0-9999999999, *ALL
Member age from:
  Comparison . . . . . *EQ        *EQ, *NE, *LE, *GE, *LT, *GT
  Age . . . . . *ALL D           Nbr,*ALL/D=Days,H=Hrs,M=Mins,S=Secs

SLA statistic . . . . . *NO       *YES, *NO
Open alert action . . . *DFT      *DFT, *NONE, *ACK, *CLOSE
F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line

```

File name

Specifies the name of the file to select. Use **F4=Prompt** to display a list of valid choices from which a selection can be made. When using F4, the results are based upon the entries found within the specified Library and ASP group fields, so complete these first.

Library

Specifies the name of the library in which the file is located. Use **F4=Prompt** to display a list of valid choices from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the file to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Check member

Specifies the file member name to select.

*FIRST	The first member in the file must or must not exist
*NONE	Indicates that it is the file, rather than a specific member within the file, that must or must not exist
*COUNT	Checks that the file exists and contains the specified number of members based upon the 'Comparison' and 'Number of members' parameters
*ALL	Checks the file and all the members in the file
name	Type the name of a file member that must or must not exist

File or member exists

Specifies whether or not the file or member normally exists.

*YES	The file or member normally exists. An alert is generated if the file or member does not exist
*NO	The file or member does not normally exist. An alert is generated if the file or member exists

Number of records

Comparison

Specifies, when the 'Object exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'File name'

parameter. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of records (members if 'Check member' parameter is set to *COUNT)

Specifies, when the 'File or member exists' parameter is set to *YES or 'Check member' parameter is set to *COUNT, the number of entries that the file or member normally contains.

1-999999999	Specify the actual number of records
*ALL	Any number of records is acceptable

Member age from

Specifies the base date for the age calculation.

*CREATE	The date the object was created
*LASTUSED	The date the object was last used. If no last used date exists, the date on which the object was last changed is used
*LASTCHG	The date the object was last changed
*LASTSAVE	The date the object was last saved with UPDHST(*YES) specified on the command

Comparison

Specify the type of comparison for the number of records matching the selection criteria. An alert is raised if the number of records matching the selection criteria causes the expression to be true.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Age

Specifies the age of the object in the units specified in the 'Age UOM' parameter.

*ALL	Any object age qualifies
0-999	Specify the object age in units specified in the 'Age UOM' parameter

Age UOM (Units of Measure)

Specifies the object age units of measure.

D	Days
H	Hours
M	Minutes
S	Seconds

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*JOBTBL Rule Type Parameters

```

HEM0010R                               Halcyon System Event Manager
MANL                                     Change Object Criteria                               1/22/25 14:13:37

Rule group . . . . . MINS1
Rule number . . . . . 20
Rule type . . . . . *JOBTBL
                                test
                                *OBJECT, *DTAARA, *FILE...,F4=Prompt

Compare Job Table Entries
Job Table Type . . . . . AVAILABLE, TOTAL..., F4=Prompt
Alert when entries . . . . *LT
                                *EQ, *NE, *LE, *GE, *LT, *GT
Value or percentage . . . . 25%
                                Number or %
Compare Job Table Type . . . . AVAILABLE, TOTAL..., F4=Prompt

SLA statistic . . . . . *NO
                                *YES, *NO
Open alert action . . . . *DFT
                                *DFT, *NONE, *ACK, *CLOSE

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command line

```

Compare Job Table Entries

Job Table Type

Specifies the job table to use.

AVAILABLE	The number of available job table entries
TOTAL	The total number of job table entries
ACTIVE	The number of active job table entries
IN USE	The number of in use job table entries
JOBQ	The number of job queue job table entries
OUTQ	The number of output queue job table entries

Alert when entries

Specify the type of comparison for number of job table entries matching the select criteria. An alert will be raised if the number job table entries matching the select criteria causes the expression to be true.

*EQ	When equal
*NE	When not equal
*LE	When less than or equal to
*GE	When greater than or equal to
*LT	When less than
*GT	When greater than

Value or percentage

Specify the number of job table entries (greater than 1), or a percentage value of the job table entry type specified below. A percentage must be specified in the form "nn%". For example 5% or 90%.

Compare Job Table Type

Specifies the job table value to use. This value is required when the comparison is a percentage. For a literal numeric value this field must be blank.

Blank	The comparison does not require this entry
AVAILABLE	The number of available job table entries
TOTAL	The total number of job table entries
ACTIVE	The number of active job table entries
IN USE	The number of in use job table entries
JOBQ	The number of job queue job table entries
OUTQ	The number of output queue job table entries

SLA Statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule. The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default HAL/DFTOPNALTACTION is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*JRN Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                30/08/19  09:51:53

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *JRN          *OBJECT, *DTAARA, *FILE... F4=Prompt

Journal name . . . . . QGPL          Name, F4=Prompt
Library . . . . . QSYS              Name, F4=Prompt
ASP group . . . . . *SYSBAS        Name, *SYSBAS, F4=Prompt
Object exists . . . . . *YES        *YES, *NO

Journal state . . . . . *ALL

Journalized objects:
Comparison . . . . . *EQ           *EQ, *NE, *LE, *GE, *LT, *GT, *CHG
Number of objects . . . . . *ALL    0-999999, *ALL

SLA statistic . . . . . *NO         *YES, *NO
Open alert action . . . . . *DFT     *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Journal name

Specifies the journal name to select. This defaults to QGPL. Use **F4=Prompt** to display a list of valid journal names from which a selection can be made. When using F4, the results are based upon the entries found within the specified Library and ASP group fields, so complete these first.

Library name

Enter the name of the library in which the journal is located. Use **F4=Prompt** to display a list of valid library names from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the journal to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Object exists

Specifies whether to select objects the do or od not exist.

*YES	Select objects that do exist
*NO	Select objects that do not exist

Journal state

Specifies the state of the journal.

*ALL	All journal states are selected
*ACTIVE	The journal is active
*INACTIVE	The journal is inactive (remote journals only)
*FAILED	An error, such as communication line failure, has occurred (remote journals only)
*INACTPEND	The journal is being deactivated (remote journals only)
*STANDBY	The journal is in standby mode (local journals only)

Journalled objects

Comparison

Specifies, the type of comparison check to be used with the number of entries in the 'Number of objects' parameter.

*EQ	Equal
NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GR	Greater than

Number of objects

Specifies the number of objects contained in the library.

0-999999	Specify the number of objects. Specify the type and name of the objects in the subsequent parameters
-----------------	--

*ALL	Any number of objects is acceptable
-------------	-------------------------------------

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default

[HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*LIB Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                30/08/19  10:18:11

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *LIB          *OBJECT, *DTAARA, *FILE... F4=Prompt

Library name . . . . .           Name, F4=Prompt
ASP group . . . . . *SYSBAS      Name, *SYSBAS, F4=Prompt
Library exists . . . . . *YES     *YES, *NO

Check library attribute:
Attribute . . . . . *OBJCOUNT   *OBJCOUNT, *LIBSIZE
Comparison . . . . . *EQ         *EQ, *NE, *LE, *GE, *LT, *GT
Number of objects . . . . *ALL    0-999999, *ALL

SLA statistic . . . . . *NO       *YES, *NO
Open alert action . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line

```

Library name

Enter the name of the library to be selected. Use **F4=Prompt** to display a list of valid library names from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Library exists

Specifies whether the library should or should not exist.

*YES	The library exists
*NO	The library does not exist

Check library attribute

Attribute

Specifies the library attribute to check.

*OBJCOUNT	Checks the number of objects in the library
*LIBSIZE	Checks the storage size of the library

Comparison

Specifies, when the 'Library exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'Attribute' parameter. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of objects

Specifies the number of objects contained in the library.

0-999999	Specify the number of objects. Specify the type and name of the objects in the subsequent parameters
*ALL	Any number of objects is acceptable

Object type

When the 'Number of objects' parameter is not *ALL, this parameter specifies the type of object required.

*ALL	Any type of object is acceptable
type	Specify the object type required. Use F4=Prompt to display a list of valid choices from which a selection can be made

Object name

When the 'Number of objects' parameter is not *ALL, this parameter specifies the name of the object required.

*ALL	Any object name is acceptable
generic	Specify the simple or generic name of the object

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*OBJECT Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                30/08/19  10:55:51

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *OBJECT          *OBJECT, *DTAARA, *FILE... F4=Prompt

Object name . . . . . QGPL           Name*, *ALL, F4=Prompt
Library . . . . . QSYS              Name*, *ALL, *ALLUSR, F4=Prompt
ASP group . . . . . *SYSBAS         Name, *SYSBAS, F4=Prompt
Object type . . . . . *LIB          Type, F4=Prompt
Object attribute . . . . . *ALL     Attr, *ALL, *BLANK, F4=Prompt
Object exists . . . . . *YES        *YES, *NO, *ANY
Object size:
  Comparison . . . . . *EQ          *EQ, *NE, *LE, *GE, *LT, *GT
  Size and UOM . . . . . *ALL       0-9999999999, *ALL
Object age from:
  Comparison . . . . . *EQ          *EQ, *NE, *LE, *GE, *LT, *GT
  Age . . . . . *ALL D             Nbr,*ALL/D=Days,H=Hrs,M=Mins,S=Secs
SLA statistic . . . . . *NO         *YES, *NO
Open alert action . . . . . *DFT    *DFT, *NONE, *ACK, *CLOSE
F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line

```

Object name

Specifies the object name to select. Enter an object name or specify a generic name comprising of starting characters followed by an asterisk. When a generic name or library is specified and the 'Object exists' parameter is *YES, an alert is raised for each object found that matches the selection criteria. When a generic name or library is specified and the 'Object exists' parameter is *NO, one alert is raised if no objects exist that match the selection criteria.

Library

Specifies the library of the object to be selected. Enter a library name, a generic name or a special value.

*ALL	Selects all libraries
*ALLUSR	Selects all user libraries
name*	Enter a simple or generic name

WARNING: Specifying *ALL, *ALLUSR or a generic* name can significantly affect performance. Try and keep names as precise as possible to limit the number of libraries searched.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the object to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Object type

Specifies the type of object to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Object attribute

Specifies the object attribute to select.

*ALL	Selects all libraries
*BLANK	Selects all objects with no attributes
attribute	Specify the attribute to select

Object exists

Specifies whether or not the object normally exists.

*YES	The object normally exists. An alert is generated if the object does not exist
*NO	The object does not normally exist
*ANY	Selects only the first occurrence matching the requested criteria. This means a single alert is raised regardless of how many matching objects are found

Object size

Comparison

Specifies, when the 'Object exists' parameter is set to *YES, the type of comparison check to be used with the number of entries in the 'Size and UOM' parameter. When multiple values are permitted, an *EQ comparison succeeds

when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Size and Unit of Measure (UOM)

Specifies the object size.

*ALL	Any object size is acceptable
0-99999999999	Specify the actual object size

When an object size is specified, an optional unit of measure suffix may be included. If no unit of measure is specified, the size is bytes. The supported units of measure are:

NO UOM	Bytes
K or KB	Kilobytes
M or MB	Megabytes
G or GB	Gigabytes
T or TB	Terabytes
KI or KIB	Kibibytes
MI or MIB	Mebibytes
GI or GIB	Gigibytes
TI or TIB	Tebibytes

Object age from

Specifies the base date for the age comparison calculation.

*CREATE	The object's creation date is used
*LASTUSED	The date on which the object was last used is the base date. If the object has no last date used, the last changed date is used instead
*LASTCHG	The last change date of the object is used
*LASTSAVE	The date the object was last saved with <code>UPDHST</code> (*YES) specified on the command. To specify 'No date' set the Age parameter to *N.

Comparison

Specifies the type of comparison. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Age

Specifies the age of the object, in the units specified in the Age Units of Measure parameter.

*ALL	Any object age is permitted
*N	Object base date has not been set. Comparison value must be set to *EQ or *NE
0-9999	Enter the object age in units specified in the Age Units of Measure parameter

Age Units of Measure

Specifies the unit of measure when calculating the object age.

D	Days
H	Hours
M	Minutes
S	Seconds

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*RCDCNT Rule Type Parameters

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria                30/08/19 11:59:50

Rule group . . . . . EXAMPLE
Rule number . . . . . 450
Rule type . . . . . *RCDCNT      *OBJECT, *DTAARA, *FILE... F4=Prompt
File name . . . . .             Name, F4=Prompt
Library . . . . .              Name, F4=Prompt
  ASP group . . . . . *SYSBAS   Name, *SYSBAS, F4=Prompt
Check member . . . . . *FIRST   Name, *FIRST
SQL select clause . . . . .

Alert when records . . . . *GT      *EQ, *NE, *LE, *GE, *LT, *GT
Value . . . . . 0           0 - 999999
SLA statistic . . . . . *NO      *YES, *NO
Open alert action . . . . *DFT   *DFT, *NONE, *ACK, *CLOSE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=Sub Vars  F21=Command Line

```

File name

Specifies the name of the file to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. When using F4, the results are

based upon the entries found within the specified Library and ASP group fields, so complete these first.

Library

Enter the name of the library in which the file is located. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

ASP group

Specifies the name of the auxiliary storage pool (ASP) group that contains the library of the file to be selected. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The library is in the system ASP. This is the default entry
name	Specify the ASP group name

Check member

Specifies the file member name to select.

*FIRST	Indicates the first member is selected
name	Specify the name of the member to be selected

SQL select clause

Specify a syntactically correct SQL select statement which must use the file and library specified in the 'File name' and 'Library name' parameters. Blank out this field and press **Enter** to reset the parameter to the template value 'SELECT * FROM library/file WHERE'.

The complete SQL statement is syntax checked, however you must ensure that the parameter names are correct otherwise the SQL statement fails at execution time. To improve performance, select a named parameter from the file instead of using the generic *.

The named parameter values from each record satisfying the selection criteria is also listed in any alert raised until the available message space is full.

You can also return data values from fields within a File within the second level Alert text. If, as part of the SQL SELECT statement, you specify specific fields, the second level Alert text can include up to 512 characters of data.

Allowable parameter data types are:

- Character
- Packed decimal
- Zoned decimal
- Binary

To select a graphic (DBCS) parameter use the SQL CHAR() function in order that SQL returns a text string from your statement.

NOTE: F4=Prompt can be used to select a parameter name from a list of the parameter names in the file. The chosen parameter name is then inserted into the SQL statement at the current cursor position.

Use **F16=Substitution Variables** to be able to add substitution variables to the SQL Statement.

Message HEM0846 is added to the [Halcyon Message Log](#) when the Object Monitor runs a SQL statement for an Object *RDCNT Rule which fails:

```
HEM0846 - Error(s) in SQL execution. Rule held. This message
has been added to Admin Alert Criteria (WRKADMALT) so that it
is sent to the message queue defined in system default
HAL/ADMINMSGQ.
```

Alert when records

Specify the type of comparison for the number of records matching the selection criteria. An alert is raised if the number of records matching the selection criteria causes the expression to be true.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than

*GT	Greater than
*IN	In range

Value

Specify the number of records, between 0 and 999,999,999, that raise an alert when the selection criteria is matched.

WARNING: Processing large files consumes significant system resources.

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to *YES and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to *YES

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

*IFS Rule Type Parameters

The *IFS and *IFSCNT rule types are almost identical except *IFS has an 'Object exists' parameter and *IFSCNT has an 'Object count' parameter. *IFS is primarily for use with a specific object path and *IFSCNT for use with a generic object path.

```

HEM0010R          Halcyon System Event Manager          HAL720P2
MANL              Change Object Criteria              30/08/19  15:31:17
                                                         (1 of 2)

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Rule type . . . . . *IFS          *OBJECT, *DTAARA, *FILE... F4=Prompt

Object path . . . . . |

-----

Object type . . . . . *ALL          *ALL, *BLKSF, *CHRSF... F4=Prompt
Object exists . . . . . *YES        *YES, *NO, *ANY
SLA statistic . . . . . *NO         *YES, *NO
Object size:
  Comparison . . . . . *EQ          *EQ, *NE, *LE, *GE, *LT, *GT
  Size and UOM . . . . . *ALL        0-999999999, *ALL
Object age from:
  Comparison . . . . . *CREATE      *CREATE, *LASTUSED, *LASTCHG
  Comparison . . . . . *EQ          *EQ, *NE, *LE, *GE, *LT, *GT
  Age . . . . . *ALL D             Nbr,*ALL/D=Days,H=Hrs,M=Mins,S=Secs
                                                         More...

F3=Exit  F4=Prompt  F5=Refresh  F10=Verify path  F12=Cancel  F24=More keys

```

Object path

Specifies the path of the object to be selected. The object may be any type including *DIR, *STMF, *SOCKET, etc. object path or press **F4=Prompt** to select the required object from a list.

The directories in the path may or may not be case sensitive, depending on the file system in which the directories are located. The final component of the path may be a simple or generic name. When a simple object name is used, the object name may or may not be case sensitive, depending on the file system in which the object is located. When a generic object name is used, the object name is not case sensitive.

Messages are added to the [Halcyon Message Log](#) for *IFS Rules when the Object Monitor is unable to process an *IFS folder.

IMPORTANT: The IFS does not support object permissions for programs running under *OWNER authority. (for example, QSECOFR adopted). Therefore, the user running the Object Monitor must have permission to the relevant folders/objects within the IFS that you want to monitor or it will not behave as expected. Also note that this applies to the whole folder path to the folder to be monitored. If any folder in the path does not grant the relevant authority, the Object Monitor is not allowed access.

Generic Object rules

1. If a generic name includes one or more periods, the part before the last period is the name component and the part after the last period is the extender component.
2. Each component may contain a generic specification. If a generic name does not include a period, the whole name is treated as a single unit and only one generic specification is allowed.
3. Each generic specification can comprise up to 2 '*' wildcards and any number of '?' wildcards. If 2 '*' wildcards are used, they must be the first and last characters in the specification. If 1 '*' wildcard is used, it can be anywhere in the specification. A '?' wildcard cannot immediately precede or follow a '*' wildcard. ? wildcards can follow other ? wildcards.
4. The '*' wildcard represents any number of characters, including zero. Each '?' wildcard represents 1 character.

EXAMPLE:

- /dir/* All objects
- dir/*.* All objects (alternative notation)
- /dir/test* All objects starting with test
- /dir/*test All objects ending in test
- /dir/*test* Objects containing test
- /dir/ab*cd Objects beginning with ab and ending with cd

Object type

Specifies the type of object to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	Any type of object is acceptable
type	Specify the type of object to select

Object exists (*IFS rule types only)

Specifies whether or not the object normally exists.

*YES	The object normally exists. An alert is generated if the object name does not exist. A separate alert is generated for each object that matches the criteria
-------------	--

*NO	The object does not normally exist. A single alert is generated if the object exists
*ANY	Selects only the first occurrence matching the requested criteria. This means a single alert is raised regardless of how many matching objects are found

SLA statistic

Specifies whether this rule is used as an SLA statistic. A record is added to the SLA Audit file, if this parameter is set to ***YES** and the Rule is "triggering" (not necessarily alerting) providing:

- Rule is NOT Held
- Rule is within check times (within Day Mask and Time Mask)
- System Default [HAL/SLAAUDITLOG](#) is set to ***YES**

NOTE: This action occurs regardless of whether Rule is suspended or on its check interval.

*YES	<p>This rule is used as an SLA statistic when it is released and on the days and time range specified in the rule.</p> <p>The rule is checked on every cycle of the Performance monitor and a flag set if the rule is triggered. The rule is only ignored if it is in HELD status. If the selection criteria is met, an SLA failure is signaled, if not met, an SLA pass is signaled. The rules which are defined as SLA statistics, together define the conditions which must be met for the SLA to be achieved. At any moment in time, the SLA is being met when all the active SLA rules are signaling SLA pass. A history is compiled of each check and is used in Performance Analyzer Reporting (if it is installed). To determine when the SLA was achieved, run the Display Performance Data (DSPPFMDTA) command. This command requires an additional license for Performance Analyzer</p>
*NO	This rule is not used as an SLA statistic

IMPORTANT: Using SLA statistics may impact performance. This parameter has no impact on the triggering of the remaining rule criteria. See [Using SLA statistics](#) for more information on how this setting can be used.

Object size

Comparison

Specify the type of comparison for the number of records matching the selection criteria. An alert is raised if the number of records matching the selection criteria causes the expression to be true.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Size and UOM (Units of Measure)

Specifies the object size.

*ALL	Any object size qualifies
0-999999999	Enter the object size

Object age from

Comparison

Specify the type of comparison for the number of records matching the selection criteria. An alert is raised if the number of records matching the selection criteria causes the expression to be true.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Age

Specifies the age of the object in the units specified in the Age UOM parameter.

*ALL	Any object age qualifies
0-9999	Specify the object age in units specified in the Age UOM parameter

Age UOM (Units of Measure)

Specifies the object age units of measure.

D	Days
H	Hours
M	Minutes
S	Seconds

Number of records

Comparison

Specify the type of comparison for the number of records matching the selection criteria. An alert is raised if the number of records matching the selection criteria causes the expression to be true.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of records

When 'Object exists' is *YES, and when data in file is *YES, this parameter specifies the number of records contained in the stream file. Non-stream file objects are deemed to contain zero records.

*ALL	Any number of records is acceptable
1-9999999999	Specify the number of records

Record length

When 'Object exists' is *YES, this parameter specifies the record file length.

1-99999	Enter the record length of the file
*VARY	The file has varying length records. Specify the end of record delimiter using the 'End of record' parameter
*NONE	The file is not organized into records. Only allowed when 'Number of records' parameter is *ALL

Open alert action

Specifies the action to be performed for alerts that were previously raised but for which the alerting criteria no longer applies. A warning is displayed if you set this parameter to a value other than *DFT and system default [HAL/DFTOPNALTACTION](#) is set to *DISABLE to inform you that this feature is disabled and the requested action will not be performed.

NOTE: Object *IFS Rules have the Open alert action applied at Item level rather than Rule level. Please note that this increases I/O for the Object Monitor.

*DFT	The entry in system default HAL/DFTOPNALTACTION determines the action
*NONE	Take no action. All previous alerts remain unchanged
*ACK	Any open alerts, raised by this rule, are acknowledged
*CLOSE	Any open alerts, raised by this rule, are closed

NOTE: The check of the criteria is only made when the rule is not held or suspended. Therefore, if the rule criteria is no longer triggering but the rule is suspended, the open alerts do not have the *ACK or *CLOSE action performed until the suspend time expires.

Alert when object count (*IFSCNT rule types only)

Comparison

Specifies the type of comparison. When multiple values are permitted, an *EQ comparison succeeds when the actual value matches any of the specified values, and a *NE comparison succeeds when the actual value matches none of the specified values. With *IN, two values must be specified and the comparison succeeds when the actual value is equal to or greater than the first value and less than the second value.

*EQ	Equal
*NE	Not equal
*LE	Less than or equal to
*GE	Greater than or equal to
*LT	Less than
*GT	Greater than

Number of objects (*IFSCNT rule types only)

Specifies the number of objects contained in the object. Non-stream file objects are deemed to contain zero records.

*ALL	Any number of objects is acceptable
0-9999999999	Specify the number of objects

F10=Verify path

When working with *IFS Object rules you can use **F10=Verify path** to display a pop-up window showing 'Exists', 'Type' and 'Size' information for the entered path.

*IFS Object Path Exclusions

With *IFS rules it is possible to exclude paths as part of the rule criteria. To do this, use **F13=Exclusions** when setting the criteria. This opens the Change Object Exclusions display.

From this display use **F6=Add** to be able to add an exclusion entry to the rule criteria.

```

HEM0011R          Halcyon System Event Manager          HAL525P3
PROD              Add Exclusion Entry                    20/09/12  10:24:16

Rule group . . . . . EXAMPLE
Rule number . . . . . 0950
Rule description . . . . . *STMF - File exists with > 100 records.

Object type . . . . . █ _____ *FLR, *STMF, *DIR, F4=Prompt
Object path . . . . . _____
_____
_____

F3=Exit  F4=Prompt  F12=Cancel

```

Parameters on the Add Exclusion Entry display

The following parameters are available on the Add Exclusion Entry display.

Object type

Specifies the type of object to be excluded.

*ALL	Any type of object is excluded
type	Enter the specific object type. Use F4=Prompt to display a list of valid alternatives from which a selection can be made

Object path

Specifies the path of the object to exclude. The object may be any type including *DIR, *STMF, *SOCKET, etc. Enter the object path or press **F4=Prompt** to select the required object from a list. The directories in the path may or may not be case sensitive, depending on the file system the directories are in. The final component of the path may be a simple or generic name. When a simple object name is used, the object name may or may not be case sensitive, depending on the file system the object is in.

When a generic object name is used, the object name is not case sensitive. The keyword *ALL can be used only once in the path to represent all sub directories of the preceding directory.

Generic Name rules

1. If a generic name includes one or more periods (.), the part before the last period is the name component and the part after the last period is the extender component.
2. Each component may contain a generic specification. If a generic name does not include a period, the whole name is treated as a single unit and only one generic specification is allowed.
3. Each generic specification can comprise up to 2 '*' wildcards and any number of '?' wildcards. If 2 '*' wildcards are used, they must be the first and last characters in the specification. If 1 '*' wildcard is used, it can be anywhere within the specification. A '?' wildcard cannot immediately precede or follow a '*' wildcard. '?' wildcards can follow other '?' wildcards.
4. The '*' wildcard represents any number of characters, including zero.
5. Each '?' wildcard represents 1 character.
6. The keyword *ALL may be specified once only in the path to represent sub directory names.

EXAMPLE:

- /dir/* All objects
- dir/*.* All objects (alternative notation)
- /dir/test* All objects starting with test
- /dir/*test All objects ending in test
- /dir/*test* Objects containing test
- /dir/ab*cd Objects beginning with ab and ending with cd
- /dir/*.pdf Objects with any name that have a pdf extender
- /dir/*xyz*.htm* html documents (the extender can be htm or html) with names containing xyz
- /dir/abc??.csv csv files with name abc followed by 2 other characters

NOTE: Use system default [HEM/OBJMONDIAG](#) to add a message to the [Halcyon Message Log](#) for each *IFS object not processed because of an Exclusion on an Object *IFS Rule.

HEM0881 - Object excluded from rule OBJ xxxxxxxxxxxx nnnn

Restricted Tasks Groups and Rules

Restricted state is a condition that occurs when all subsystems are ended, either manually or automatically by the system. When the operating system is in restricted state, most jobs cannot be active, and users cannot connect to the system. You need to ensure that information is saved and that other systems, such as a Windows server, are properly powered down before putting the operating system in restricted state, otherwise you may face losing data. Restricted Task rules monitor the QSYSOPR message queue for any messages relating to the Restricted Tasks state.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

IMPORTANT: From within Restricted Tasks Manager rules it is only possible to monitor message queue QSYSOPR.

NOTE: For Restricted Tasks Manager rules, the 'Status' parameter on the main Work with Rules display shows the current status of the Console Manager.

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               9/09/19 15:22:59
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
 1 Restricted Tasks
  Audit Journal                               Held
  Custom Journal                               Stopped
  HA-MX                                         Stopped
  Exit Point                                   Stopped
  MQ                                            Stopped

```

Bottom

```

F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

How Restricted Task Rules operate

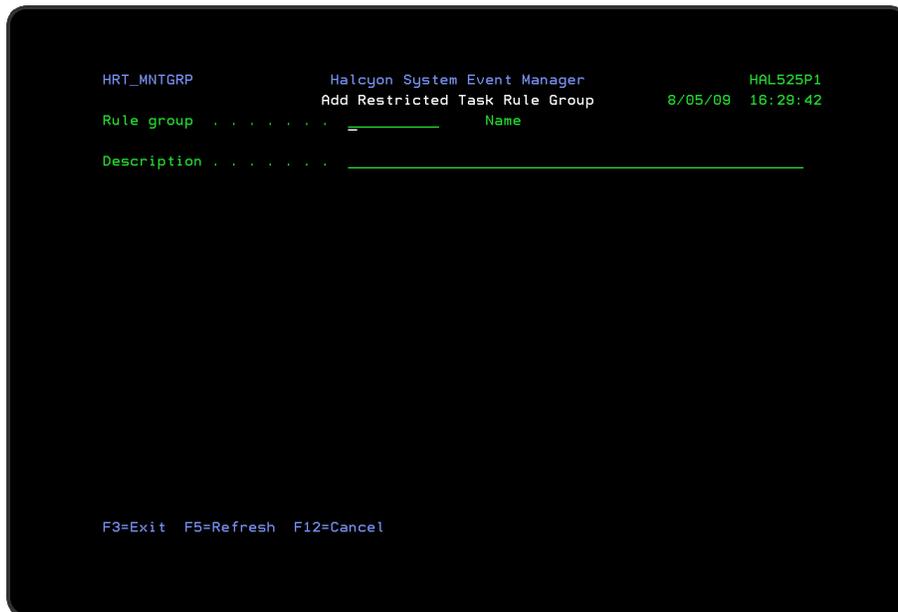
Restricted Task rules run in sequence number order, with the lowest sequence number active first. Ensure that any specific rules are created with a low sequence number prior to any 'catch-all' rule. It is recommended that you give the 'catch-all' rule the highest sequence number possible (9999) to ensure that this rule does not override rules with a specific purpose.

Adding a Restricted Tasks Group

This option is used to add a restricted tasks rule group to the existing restricted tasks rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against Restricted Tasks on the Work with Rules main display to open the Add Restricted Task Rule Group display.



Parameters on the Restricted Task Rule Group display

The following parameters are available on this display.

Rule group

Enter the name by which this restricted task rule group is identified.

Description

Enter a description for this restricted task rule group. The entry made here is displayed on the Work with Rules main display.

Press **Enter** to add this restricted task rule group.

Adding a Restricted Task Message Rule

To add a Restricted Task Message rule, select either option **1=Insert** or **F6=Add** against an existing Restricted Task Group entry to open the Add Restricted Task Message Rule display.

Parameters on the Add Restricted Task Message Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HRT_MNTRUL          Halcyon Restricted Tasks Manager          HAL720P2
MANL                Add Restricted Task Message Rule          26/01/16 15:57:51
Rule group . . . . . EXAMPLE                                (1 of 2)

Description . . . . . Example Restricted Tasks Rules

Rule number . . . . . 0015
Rule description . . . . .
On-close action . . . . . *NONE      Name, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel
Description is required.
More . . .

```

Rule group

Displays the name of the group to which this rule belongs.

Description

Displays the description of the group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display.

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

TIP: Use **F4=Prompt** to display a list of valid action schedules for use in this parameter.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule data is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HRT_MNTRUL          Halcyon Restricted Tasks Manager          HAL525P3
PRD                 Add Restricted Task Message Rule          22/07/14 15:58:40
Rule group . . . . . EXAMPLE                                (2 of 2)

Description . . . . . Example Restricted Tasks Rules
Type options, press Enter.
2=Change 3=Copy 4=Delete 9=Move down
Opt Task group +  Msg type      Msg sev  Msgid      File      Library  +
_ *ALL          *ALL          *ALL    *ALL        *ALL      *ALL

                Actions
Action

F3=Exit F5=Refresh F6=Add action F12=Cancel
BOTTOM

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the restricted task message rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Restricted Task Rule Selection Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Additional Function on the Add Restricted Task Rule display 2nd page

F6=Add action

Use **F6=Add Action** to open the Add Performance Action display from where a new action can be added to this rule.

Changing Restricted Task Rule Selection Criteria

Message type

Specifies the type of messages selected by this rule.

*ALL	All message types are selected
*COMP	Completion messages are selected
*DIAG	Diagnostic message
*ESCAPE	Escape exception message
*INFO	Informational message
*INQ	Inquiry message
*NOTIFY	Notify exception message

Minimum message severity

Specifies the minimum message severity selected by this rule.

*ALL	Messages of any severity are selected
0-99	Messages of this severity or greater are selected

Select/Omit

This parameter is used to determine if this line is selected for or omitted from the criteria. At least one Select line must be specified for each rule. To qualify for selection, a message must be selected by at least one select criteria and must not be omitted by any omit criteria.

S	Select
O	Omit

Message ID/Key

Specify the message IDs selected by this rule, or specify ***ALL** to select ***ALL** messages. A number of special values are also supported which select restricted task process messages.

*ALL	All messages from the specified message file are selected
*GRPSTR	Restricted task group start messages (HRT8006) are selected. This message is issued when restricted state is achieved

*TSKSTR	Restricted task start messages (HRT8007) are selected. These messages are issued before running each task
*TSKCMD	Restricted task command messages (HRT8017) are selected. These messages are issued before running each task and contains the details of the command string that is run
*TSKCPL	Restricted task complete messages (HRT8019) are selected. These messages are issued on the successful completion of each task
*TSKERR	Restricted task failure messages (HRT8008) are selected. These messages are issues when a task fails
*TSKRCV	Restricted task recovery messages (HRT8009) are selected. These messages are issued when a task fails and detail the recovery action taken
*GRPEND	Restricted task group messages (HRT8010) are selected. This message is issued when the group is complete and the system is about to be shut down or started out of restricted state
msgid	Enter a specific or generic message ID

Message file

Specify the message file and/or library associated with a message ID or specify *ALL to select messages.

Press **Enter** to change the existing criteria and return to the Add/Change Restricted Task Message Rule display.

Using the Reply Action with Restricted Task Rules

When taking the Reply action as an option with Restricted Tasks Manager rules, the reply mechanism works differently from the usual method of replying to inquiry messages.

For Restricted Task rules, the Reply action is governed by the setting within the system default [HRT/INQMGRPY](#) which allows you to specify either a default reply or user controlled reply. If selecting default reply, all inquiry messages are given the default reply. REPLY Actions do not work. If using the User Controlled reply setting, inquiry messages sent to QSYSOPR may be replied to using a REPLY action. If a message sent to QSYSOPR is not replied to, it is given the default reply. Inquiry messages sent to any other message queue cause Restricted Tasks Manager to hang.

Functions on the Change Selection Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Audit Journal Groups and Rules

IBMi provides a mechanism for managing the audit journal and journal receivers. Audit Journal rules can be used to monitor for a wide variety of audit journal entries and raise alerts should any issues be found.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               10/09/19 09:10:31
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
  1 Restricted Tasks
  1 Audit Journal                               Held
  -- Custom Journal                               Stopped
  -- HA-MX                                         Stopped
  -- Exit Point                                   Stopped
  -- MQ                                           Stopped

```

Bottom

```

F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

How Audit Journal Rules Operate

The Audit Journal Monitor processes rules in sequential group and then rule order. Thus, the first group of audit rules is selected and all the rules within this group are run. Then, the next group is selected and all the rules in this group are run and so on through the list of groups and rules. The first group/rule combination with select criteria that matches an audit journal entry processes the associated action.

An Omit entry within a rule only applies to that rule. Therefore, an audit entry that is omitted by one rule, may still be processed by other rules later in the sequence.

Audit Journal Alerts

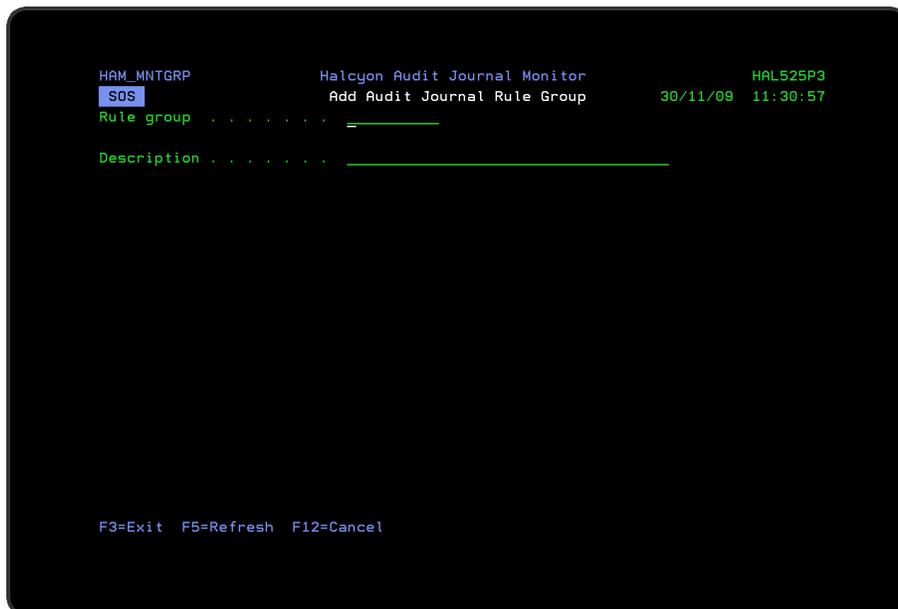
Any alerts raised by audit journal rules include the 'journal sequence' number of the entry that caused the alert to be raised. This number can be used within the 'Starting large sequence number' and /or 'Ending large sequence number' parameters when using the Display Journal (**DSPJRN**) command.

Adding an Audit Journal Rule Group

This option is used to add an audit journal group to the existing audit journal rule groups.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Audit Journal monitor on the Work with Rules main display to open the Add Audit Journal Rule Group display.



Parameters on the Add Audit Journal Rule Group display

The following parameters are available on this display.

Rule group

Enter the name by which this audit journal rule group is identified.

Description

Enter a description for this audit journal rule group. The entry made here is displayed on the Work with Rules main display.

Press **Enter** to add this audit journal rule group to the Audit Journal monitor.

Adding an Audit Journal Rule

To add a device rule, select either option **1=Insert** or **F6=Add** against an existing Audit Journal rule entry to open the Add Audit Journal Rule display.

Parameters on the Add Audit Journal Rule display

The following parameters are available on this display.

WARNING: If **Enter** is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HAM_MNTRUL          Halcyon Audit Journal Manager          HAL720P2
MANL                Add Audit Journal Rule                26/01/16    16:08:51
Rule group . . . . . EXAMPLE                             (1 of 2)
Library . . . . .
Description . . . . . Example Audit Journal Rules

Rule number . . . . . 015
Rule description . . . . . _____

Journal entry type . . . . . _
Receive status . . . . . R          R=Received, N=Not received
Monitor by calendar . . . . . *NONE      Name, F4=Prompt
                               Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59

Journal entry occurrence . . . . . 1          1 - 999
Occurrence time range . . . . . 1440      1 - 1440 minutes

Suspend rule for . . . . . *DFT_      *DFT, *NONE, 1-1440
Console comment . . . . . *NO_        *YES, *NO
On-close action . . . . . *NONE      Name, F4=Prompt
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line
More...

```

Rule group

Displays the name of the group to which this rule belongs.

Description

Displays the description of the group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. An entry in this parameter is mandatory and is best changed to correspond to the selected journal entry type. The entry here is displayed on the Work with Rules main display.

Journal entry type

Specifies the type of audit entry that this rule monitors. Use **F4=Prompt** to open a pop-up window displaying a list of valid audit journal entries from which a selection may be made.

Valid entries against which audit journal rules can be set, include:

AD	Auditing changes
AF	Authority failure
AP	Obtaining adopted authority
AU	Attribute changes
AX	Row and column access control
CA	Authority changes
CD	Command string audit
CO	Create object
CP	User profile changes, created or restored
CQ	Change of CRQD object
CU	Cluster operations
CV	Connection verification
CY	Cryptographic configuration

DI	Directory services
DO	Delete object
DS	DST security password reset
EV	System environment variables
GR	Generic record
GS	Socket description was given to another job
IM	Intrusion monitor
IN	IPL after normal end
IP	Interprocess communication
IR	IP rules actions
IS	Internet security management
JD	Change to user parameter of a job description
JS	Actions that affect jobs
KF	Key ring file
LD	Link, unlink or look up any directory entry
ML	Office services mail actions
NA	Network attribute changed
ND	APPN directory search filter violation
NE	APPN end point filter violation
NR	Next journal receiver
OM	Object move or rename
OR	Object restore
OW	Object ownership changed
O1	Optical access single file or directory
O2	Optical access single file or directory
O3	Optical access volume
PA	Program changed to adopt authority
PF	PFT operations
PG	Change of an object's primary group

PO	Printed output
PR	Previous journal receiver
PS	Profile swap
PU	PTF object change
PW	Invalid password
RA	Authority changed during restore
RD	Audit journal receiver deleted
RJ	Restoring job description with user profile selected
RO	Change of ownership during restore
RP	Restoring adopted authority program
RQ	Restoring a *CRDQ object
RS	Journal receiver saved
RU	Restoring user profile authority
RZ	Changing a primary group during restore
SD	Changes to system distribution directory
SE	Subsystem routing entry changed
SF	Actions to spooled files
SG	Asynchronous signals
SK	Secure sockets connections
SM	System management changes
SO	Server security user information actions
ST	Use of service tools
SV	System value changed
VA	Changing an access control list
VC	Starting or ending a connection
VF	Closing server files
VL	Account limit exceeded
VN	Logging on and off the network
VO	Validation list actions

VP	Network password error
VR	Network resource access
VS	Starting or ending a server session
VU	Changing a network profile
VV	Changing service status
XD	Directory server extension
XP	Internal entry
X0	Network authentication
X1	Identify token
X2	Query Manager Profile Audit
YC	DLO object accessed (change)
YR	DLO object accessed (read)
ZC	Object accessed (change)
ZR	Object accessed (read)

Receive status

Defines the type of event to be monitored. Select from the following values:

R	Notify when a message is received
N	Notify at the end of a time period if message not received. See Time range and Period parameters for more information on additional parameters available when setting a 'Receive status' of 'N'

IMPORTANT: If creating a 'Message not received' rule which covers a time period that spans midnight, you must set the day parameter to include both days that it covers. A warning message is issued should the parameter not comply.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings

of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking this audit journal rule
-------------	---

Period

Operates in conjunction with the [Time range](#) and [Receive status](#) parameters.

For a not received rule only, use the time periods within the time range to limit monitoring. This is based on fixed points in time calculated as intervals from the nearest hour. For example, an entry of *6HRS results in the rule being active from 00:00 to 06:00, then again from 06:00 to 12:00, and so on. At the end of each period the rule resets and begins monitoring again. The following values can be specified.

*NONE	The time range parameter entry acts as the only limit
*5MINS	The rule is reset every 5 minutes

*10MINS	The rule is reset every 10 minutes
*15MINS	The rule is reset every 15 minutes
*30MINS	The rule is reset every 30 minutes
*1HOUR	The rule is reset every hour
*2HOURS	The rule is reset every 2 hours
*4HOURS	The rule is reset every 4 hours
*6HOURS	The rule is reset every 6 hours
*12HOURS	The rule is reset every 12 hours
*1DAY	The rule is reset every day

Journal entry occurrence

This value determines the number of times the journal entry type should be received before generating an alert. By setting the value greater than 1 you would not be alerted to the problem until the journal entry type had been received that number of times within the time range described below.

Occurrence time range

This value determines the length of time in which the message occurrence value must be reached before generating an alert. If a message arrives on the queue and occurs again in this time range, the occurrence number is reset to zero. If the message then subsequently arrives after this time, it is treated as the first occurrence and the cycle repeats.

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours).

For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
-------------	--

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert in that a reply is expected. the comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HAM_MNTRUL          Halcyon Audit Journal Monitor          HAL525P3
SOS                 Add Audit Journal Rule              30/11/09 14:48:21
Rule group . . . . . EXAMPLE                               (2 of 2)
Description . . . . . Example Audit Journal Rules
Audit Journal Entry Type AF test
Type options, press enter.
2=Change 4=Delete
Opt Sel/Omit Job      Job User      RC Other criteria
= Select *ALL *ALL * *ALL *ALL *ALL
  Action              Actions              Delay

BOTTOM
F3=Exit F5=Refresh F6=Add F12=Cancel

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the Audit Journal Group Rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the &ENTDATA substitution variable in an Audit Journal Action

&ENTDATA is a substitution variable used within Audit Journal Manager which returns the first 1024 characters of Audit Entry data. You can then manipulate it via other substitution variables in any way you like. For example, in an Action Schedule you might use a SNDMSG action with the following parameters:

- Action type SNDMSG
- Message ID *NONE
- Message file
 - Library *LIBL
 - ASP Group *SYSBAS
- Alert text &ENTDATA

This will return the full Audit Entry data entry (up to 1024 characters). If you want to manipulate this data further you can create a *USRPGM variable to extract a substring such as in the following example:

- Program @AUDDATA
 - Library HALPROD
- Parameter format *CHR32 (Choose format as required.)

The User program could then be something like:

```
PGM PARM(&SBSVAR &RTNDATA &ALERT)
```

```
DCL VAR(&SBSVAR) TYPE(*CHAR) LEN(10)
```

```
DCL VAR(&RTNDATA) TYPE(*CHAR) LEN(32)
```

```
DCL VAR(&ALERT) TYPE(*DEC) LEN(9)
```

```
DCL VAR(&AUDDATA) TYPE(*CHAR) LEN(1024) HALPROD/RTVSBSVAR  
VAR(ENTDATA) ALERT(&ALERT) + CHAR1024(&AUDDATA) CHGVAR VAR  
(&RTNDATA) VALUE(%SST(&AUDDATA 2 10))
```

ENDPGM

NOTE:

- &RTNDATA attributes must match the "Parameter format" specified.
- The system tells your program what alert you are in via the optional '&ALERT' parameter passed to your *USRPGM, so use this on the RTVSBSVAR command.
- Then substring the bit of data you want and return that in the '&RTNDATA' parameter.

Using the Add Audit Journal Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Audit Journal Selection Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Additional Functions on the Add Audit Journal Rule display

F6=Add action

Use **F6=Add action** to open the Add Audit Journal Group Action display where a new action can be added to this rule.

F17=Selection criteria

When working with multiple selection criteria for a rule, use **F17=Selection criteria** to position the display at the first selection criteria in the list.

F18=Actions

When working with multiple actions for a rule, use **F18=Actions** to position the display at the first action in the list.

Changing Audit Journal Selection Criteria

Getting there

Select option **2=Change** against the audit journal rule criteria displayed on the Add/Change Audit Journal Group display. This opens the Change Audit Journal Rule display.

```

HAM_MNTRUL          Halcyon Audit Journal Manager          HAL720P2
MANL                Change Audit Journal Rule              20/01/16 12:09:05
                                                           (1 of 2)
Rule group . . . . . EXAMPLE      Example Audit Journal Rules
Rule number . . . . . 0030      Job Description User Changed

Audit Journal Entry Type . JD Change user parameter of job description
Select or omit . . . . . S          S=Select, 0=Omit

Job name . . . . . *ALL           Name, *ALL
Job user . . . . . *ALL           Name, *ALL, *List, F4=Prompt
Acting user . . . . . *ALL        Name, *ALL, *List, F4=Prompt
From program name . . . . . *ALL  Name, *ALL, generic* name
Job description name . . . . . *ALL Name, *ALL, F4=Prompt
Job description library . . . . . *ALL Name, *ALL, F4=Prompt
Command type . . . . . *ALL       Code, *ALL, F4=Prompt
Old user profile . . . . . *ALL    Name*, *ALL, *R0D, *BLANKS, F4=Prompt
New user profile . . . . . *ALL    Name*, *ALL, *R0D, *BLANKS, F4=Prompt

Reason code . . . . . *          Code, *=All, F4=Prompt
More . . .

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

NOTE: Whenever an audit rule is added, deleted, changed, or its status alters, an informational message is logged. Message:

```
HAM0307 Audit Journal Monitor recalculated monitored entry types
is written to the Audit Journal job log.
```

Parameters on the Change Audit Journal Rule (Page 1) display

The following parameters are shown on the first page of the Change Audit Journal Rule display.

Rule group

Displays the name of the audit journal rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Audit Journal Entry Type

Displays the audit journal entry type that was selected on the initial rule criteria page.

Select or omit

Defines the type of rule process:

S	Select. Select this rule if the selection criteria are met, unless omitted by another specific rule
O	Omit. Omit this rule if the selection criteria are met

IMPORTANT: Adding an Omit to an Audit Journal rule increases the workload of the Audit Journal monitor. This is because the monitor has to check each audit entry for types selected and then process the omissions.

Job name

Specifies the job name to select. This represents the name of the job that causes the Audit Journal alert to be generated.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter a specific job name

Job user

Specifies the job user to select. This is the name of the user running the job that causes the Audit Journal entry to be generated. The entry in this parameter can also be a user list name, which must of be configured prior to use here.

*ALL	All job users are selected
-------------	----------------------------

List	All user profiles included in the named user list are selected. Type '' in this parameter and press F4=Prompt . A list of user lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
generic*	To specify a generic job user name, type starting characters followed by an asterisk (*)
name	Enter a specific job user

Actioning user

Specifies the user profile responsible for the action that caused the Audit Journal entry. This is the name of the user executing the command that causes the Audit Journal entry to be generated. This may be different to the user running the job. The entry in this parameter can also be a user list name, which must of be configured prior to use here.

*ALL	All user profiles are selected
List	All user profiles included in the named user list are selected. Type '' in this parameter and press F4=Prompt . A list of user lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
generic*	To specify a generic job user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

From program name

Specifies the name of the program that caused the Audit Journal entry to be raised.

*ALL	All program names are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter a specific program user

The remaining parameters on the first page of this display are dependent on the Audit Journal entry type selection. Further selection criteria parameters are available on Page 2 of the Change Audit Journal Rule display. See [Parameters on the Change Audit Journal Rule \(Page 2\) display](#) for more information.

For Audit Journal Entry Type: AD Auditing Changes

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for the specific reason code criteria
D	CHGDLOAUT command
O	CHGOBJAUD or CHGAUD command
S	Scan attribute CHGATR/Qp01setatr
U	CHGUSRAUD command

For Audit Journal Entry Type: AF Authority Failures

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Not authorized to object

B	Restricted instruction
C	Validation failure
D	Unsupported interface, object domain failure
E	Hardware storage protection error
F	ICAPI authorization error
G	ICAPI authentication error
H	Scan exit program action
I	System Java inheritance not allowed
J	Submit job profile error
K	Special authority violation
N	Profile token not a regenerable token
O	Optical object authority failure
P	Profile swap error
R	Hardware protection error
S	Default sign-on attempt
T	Not authorized to TCP/IP port
U	User permission request not valid
V	Profile token not valid for generating new profile token
W	Profile token not valid for swap
X	System violation
Y	Not authorized to the current 'JUID' parameter during a clear JUID operation
Z	Not authorized to the current 'JUID' parameter during a set JUID operation

For Audit Journal Entry Type: AP Obtaining adopted authority

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object

type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object owner

Specifies the object owner to select. This represents the user profile that owns the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Adopted authority used during program activation
E	End
S	Start

For Audit Journal Entry Type: AU Attribute changes

Attribute name

Specifies the attribute name to select.

*ALL	All attributes are selected
generic*	To specify a generic attribute, type starting characters followed by an asterisk (*)
name	Enter a specific attribute

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Eim association (only available in IBMi v7.2 onwards)
E	Eim configuration attributes

For Audit Journal Entry Type: AX - Row and Column Access Control

Type of entry

Specifies the type of entry to select.

*ALL	All entry types are selected
M	Column mask entry types are selected

P	Row permission entry types are selected
T	Table entry types are selected

Operation type

Specifies the type of operation to select.

*ALL	All operation types are selected
A	Alter operation types are selected
B	Internal use operation types are selected
C	Create operation types are selected
D	Drop operation types are selected

Table name

Specifies the table name to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	All table names are selected
name	Enter a specific table name

Table library

Specifies the table library name to select. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

*ALL	All table library names are selected
*OMITTED	Selects entries where the table library value is *OMITTED
name	Enter a specific table library name

Table library ASP

Specifies the table library ASP name to select. The default entry is *SYSBAS.

*ALL	All table library ASP names are selected
name	Enter a specific table library ASP name

Permission or mask name

Specifies the name to select. When entry type is 'P' this is the row permission name. When entry type is 'M' this is the column mask name.

*ALL	All names are selected
name	Enter a specific permission or mask name

Column name

Specifies the column name to select. This is only used when entry type is 'M' and the operation type is 'C'.

*ALL	All column names are selected
name	Enter the specific column name

Status 1

Specifies the status value to select. This is used only when operation type is 'A' or 'C'. When entry type is 'M' or 'P' this contains the row permission status or column mask status. When entry type is 'T', this contains the row access control status.

*ALL	All status 1 values are selected
A	(with entry type 'T') Activate
D	(with entry type 'T') Deactivate
E	(with entry type 'M; or 'P') Enabled
D	(with entry type 'M' or 'P') Disabled

Status 2

Specifies the status value to select. This is used only when operation type is 'A'. When entry type is 'T', this contains the column access control status.

*ALL	All status 2 values are selected
A	(with entry type 'T') Activate
D	(with entry type 'T') Deactivate

Previous status 1

Specifies the previous status value to select. Only used when operation type is 'A'. Values are dependent on entry type. When entry type is 'T', this contains the column access control status. ('A' or 'D'). When entry type is 'M' or 'P', this contains the previous row permission status ('E' or 'D').

*ALL	All previous status 1 values are selected
A	(with entry type 'T') Activate
D	Deactivate
E	(with entry type 'M' or 'P') Enabled

Previous status 2

Specifies the previous status value to select. This is used only when operation type is 'A'. When entry type is 'T', this contains the column access control status.

*ALL	All previous status 2 values are selected
A	(with entry type 'T') Activate
D	(with entry type 'T') Deactivate

For Audit Journal Entry Type: CA Authority changes

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Changes to authority

For Audit Journal Entry Type: CD Command string audit

Command string

Specifies the command string to select. This entry is treated a wildcard and represents the command that was run in the event that causes the Audit Journal alert to be generated.

WARNING: As the entry is treated as a wildcard, if you select **ALL* here you will return every single command ever run for the selected criteria combination.

*ALL	All command strings are selected. See the above warning
data	Enter a specific command, with parameters

EXAMPLE: Using 'STRSQL' in this parameter may return:
STRSQL
WRKOBJ OBJ (*ALL/STRSQL)
DLTOBJ OBJ (QSYS/STRSQL)
 as the entry is treated as a wildcard.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Command run
L	OCL statement
O	Operator control command
P	S/36 procedure
S	Command run after command substitution took place
U	Utility control statement

For Audit Journal Entry Type: CO Create object

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use

F4=Prompt to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path

TIP: Note: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
N	Creation of new object
R	Replacement of existing object

For Audit Journal Entry Type: CP User profile changed, created or restored

Affected user

Specifies the changed user to select. A change to this user caused the Audit Journal entry to be generated. Use **F4=Prompt** to display a list of user profiles from which a selection can be made.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Select when

The 'Select/Omit when' group is treated as a unit when determining whether the overall Select/Omit criteria has succeeded. This group comprises of:

Password	Y=Changed, N=Not Changed, Blank=Ignore
Special Authority	Y=Changed, N=Not Changed, Blank=Ignore, A=Added
Limit Capabilities	Y=Changed, N=Not Changed, Blank=Ignore
Status	Y=Changed, N=Not Changed, Blank=Ignore
User class	Y=Changed, N=Not Changed, Blank=Ignore

IMPORTANT: When selecting Audit Journal entry type CP, a 'Y' within any of the following parameters means 'OR' not 'AND'. Multiple entries will trigger an alert if one not all the criteria are triggered. Note that where multiple entries are selected using the 'Y' option, the alert text will include each criteria selected even though only one of the criteria may have triggered the alert.

Any parameter left blank is not checked against the selected user profile.

Password

Y	User profile password has been changed
N	User profile password has not been changed
blank	Password parameter ignored

Special authority

Y	User profile special authority has changed
N	User profile special authority has not changed
blank	Special Authority parameter ignored

Limit capabilities

Y	User profile limited capability setting has changed
N	User profile limited capability setting has not changed
blank	Limited Capabilities parameter ignored

Status

Y	User profile status has changed
N	User profile status has not changed
blank	Status parameter ignored

User class

Y	User class has changed
---	------------------------

N	User class has not changed
blank	User class parameter ignored

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Not authorized to object
B	Restricted instruction
C	Validation failure
D	Unsupported interface, object domain failure
E	Hardware storage protection error
F	ICAPI authorization error
G	ICAPI authorization error
H	Scan exit program action
I	System Java inheritance not allowed
J	Submit job profile error
K	Special authority violation
N	Profile token not a regenerable token
O	Optical object authority failure
P	Profile swap error
R	Hardware protection error
S	Default sign-on attempt
T	Not authorized to TCP/IP port
U	User permission request not valid
V	Profile token not valid for generating new profile token
W	Profile token not valid for swap
X	System violation
Y	Not authorized to the current 'JUID' parameter during a clear JUID operation

Z	Not authorized to the current 'JUID' parameter during a set JUID operation
---	--

For Audit Journal Entry Type: CQ Change of *CRQD object

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects.

If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change to a *CRQD object

For Audit Journal Entry Type: CU Cluster operations

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
M	Cluster control program
R	Cluster resource group (*GRP) management

For Audit Journal Entry Type: CV Connection verification

Point to point profile

Specifies the point to point TCP/IP connection user to select. This represents the name of the point to point profile used by the connection attempt that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of user profiles.

*ALL	All point to point user profiles are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific profile

Protocol

Specifies the type of protocol entry to select. This represents the protocol used by the connection attempt that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available values.

*ALL	All protocols are selected
L2TP	Layer Two Tunneling protocol
PPP	Point to Point protocol
SLIP	Serial Line Internet protocol

Action taken

Specifies the action taken to select. This represents the action taken for the connection type that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available values.

*	All actions are selected
A	Peer was not authenticated. Used for the reason code E or R
C	No response from the authentication server. Used for reason code R
L	LCP configuration error. Used for reason code R
N	NCP configuration error. Used for reason code R
P	Password is not valid. Used for reason code E or R
L	Authentication was rejected by peer. Used for reason code R
T	L2TP configuration error. Used for reason code E or R
U	User is not valid. Used for reason code E or R

Validation list name

Specifies the validation list name to select. This represents the name of the validation list used to authenticate the connection event that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available validation lists. If the 'Library' parameter is populated, the list will only include validation lists in the entered library.

*ALL	All validation lists are selected
generic*	To specify a generic validation list, type starting characters followed by an asterisk (*)
name	Enter a specific validation list name

Validation list library

Specifies the validation list library name to select. This represents the name of the library containing the validation list used to authenticate the connection event that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
-------------	----------------------------

generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Type a specific library name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Connection established
E	Connection ended
R	Connection rejected

For Audit Journal Entry Type: CY Cryptographic configuration

Action

Specifies the action to select. This represents the cryptographic configuration function performed that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available values.

*ALL	All actions are selected
CCP	Define a card profile
CCR	Define a card role
CLK	Set clock
CLR	Clear master keys
CRT	Create master keys
DCP	Delete a card profile
DCR	Delete a card role
DST	Distribute master keys
EID	Set environment ID
FCV	Load or clear FCV
INI	Re-initialize card

LOD	Load master key
QRY	Query role or profile information
RCP	Replace a card profile
RCR	Replace a card role
SET	Set master keys
SHR	Cloning shares
TST	Test master keys

Cryptographic device

Specifies the device name to select.

*ALL	All devices are selected
generic*	To specify a generic device name, type starting characters followed by an asterisk (*)
name	Type a specific device name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Cryptographic coprocessor access control
F	Cryptographic coprocessor facility control
K	Cryptographic services master key function
M	Cryptographic coprocessor master key function

For Audit Journal Entry Type: DI Directory server

LDAP operation type

Specifies the type of LDAP operation. This represents the LDAP operation type performed that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available values.

*ALL	All actions are selected
AD	Audit attribute change
AF	Authority failure
BN	Successful bind
CA	Object authority change
CF	Configuration change
CI	Create instance
CO	Object creation
CP	Password change
DI	Delete instance
DO	Object delete
EX	LDAP directory export
IM	LDAP directory import
OM	Object management
OW	Ownership change
PW	Password fail
RM	Replication management
UB	Successful unbind
ZC	Object change
ZR	Object read

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
L	LDAP operation

For Audit Journal Entry Type: [DO Delete object](#)

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)

name	Enter a specific path
-------------	-----------------------

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Object was deleted not under commitment
C	A pending object delete was committed
D	A pending object create was rolled back
I	Initialize environment variable space
P	The object delete is pending (object was under commitment control)
R	A pending object delete was rolled back

For Audit Journal Entry Type: DS DST security password reset

User

Specifies the user to select. This represents the name of the user affected by the job that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Password changed

Enter 'Y' to select when the user profile's password has been changed, set to *NONE or password expired changed to *YES. Enter 'N' to omit when the password has been changed.

*	All entries are selected
Y	Only entries where the password has changed are selected
N	Entries where the password has changed are omitted

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Reset of service tools user ID password
C	Changed to service tools user ID
D	Delete service tool user ID
H	Change service tool user ID
P	Service tools user ID password was changed
R	Create service tool user ID
S	Change service tool security attributes

For Audit Journal Entry Type: EV System environment variables

Variable name

Specify the name of the System environment variable or use *ALL to select all system environment variables.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Add
C	Change
D	Delete
I	Initialize environment variable space

For Audit Journal Entry Type: FT FTP Client Operations

NOTE: This Audit Journal Entry Type is only available in IBM O/S v7.5 onwards.

Job name

Specifies the job name to select. This is the name of the job that causes the Audit Journal entry to be generated.

*ALL	All job names are selected
generic"	To specify a generic job name, type starting characters and then an asterisk
name	Type a specific job name

Job User

Specifies the job user to select. This is the name of the user running the job that causes the Audit Journal entry to be generated. This may also be a user list name (starting with an asterisk) which must have already been configured.

*ALL	All job users are selected
*List	All job users included in the named user list are selected
generic*	To specify a generic job user name, type starting characters and then an asterisk
name	Type a specific job user

Actioning user

Specifies the user profile responsible for the action which caused the journal entry. This is the name of the user executing the command that causes the Audit Journal entry to be generated. This may be different to the user running the job. This may also be a user list name (starting with an asterisk) which must have already been configured.

*ALL	All user profiles are selected
*List	All user profiles included in the named user list are selected
generic*	To specify a generic user profile name, type starting characters and then an asterisk

name	Type a specific user profile
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From program name

Specifies the program to select. This is the name of the program that causes the Audit Journal entry to be generated.

*ALL	All program names are selected
generic*	To specify a generic program name, type starting characters and then an asterisk
name	Type a specific program name

Remote address

Specifies the remote address of the server.

*ALL	All journal entries are selected
Address	Journal entries with the specific address are selected

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	A certificate was accepted that is not signed by a trusted certificate authority.

Generic entry specific data

Starting position

Specifies the starting position of the data within the entry specific data.

Comparison

Specifies the type of comparison you want to perform.

*EQ	Entries matching the data are selected
*NE	Entries not matching the data are selected
*CT	Entries containing the data at the specified position are selected
*NC	Entries not containing the data string at the specified position are selected

Data value

Specifies the data string you want to search for. To search for blanks, enclose the blanks in apostrophes.

Journal sequence number

Comparison

Specifies the type of comparison you want to perform.

*EQ	Journal entries with the sequence number specified are selected
*GT	Journal entries with a sequence number greater than the number specified are selected
*GE	Journal entries with a sequence number greater than or equal to the number specified are selected
*LT	Journal entries with a sequence number lower than the number specified are selected
*LE	Journal entries with a sequence number lower than or equal to the number specified are selected
*IN	Journal entries with a sequence number in the specified range are selected. The range is inclusive

Sequence number

Specifies the journal sequence number or range of numbers. Specify a single number when Comparison is *EQ, *GT, *GE, *LT or *LE. Specify a range when Comparison is *IN. Sequence numbers should be in the range 1-18446744073709551615.

For Audit Journal Entry Type: GR Generic record

Affected user

Specifies the user profile to select. A change to this user caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

Associated IP address

Specifies the remote IP address associated with this journal entry. IPv6 addresses are supported in this parameter.

*ALL	All journal entries are selected
*NONE	Journal entries with no associated IP address are selected
IP Address	Journal entries with a specific IP address are selected. Enter the IP address in dotted decimal format

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Exit program added
C	Operations resource monitoring and control
D	Exit program removed
F	Function registration operations
R	Exit program replaced

For Audit Journal Entry Type: GS Socket description was given to another job

Changed job

Specifies the changed job to select. This represents the name of the job that causes the Audit Journal alert to be generated.

*ALL	All jobs are selected
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generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter a specific job name

Changed job user

Specifies the changed job user to select. This represents the name of the user running the job that causes the Audit Journal alert to be generated.

*ALL	All users are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

User profile name

Specifies the user profile name to select. This represents the user profile changed by the job that causes the Audit Journal alert to be generated.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
G	Give descriptor
R	Received descriptor
U	Unable to use descriptor

For Audit Journal Entry Type: IM Intrusion monitor

Local port

Specifies the local port number to select. This represents the local port number associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All port numbers are selected
name	Enter a specific port number

Local IP address

Specifies the local IP Address to select. This represents the local IP Address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP Addresses are selected
name	Type a specific IP Address

Remote port

Specifies the remote port number to select. This represents the remote port number associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All port numbers are selected
name	Type a specific port number

Remote IP address

Specifies the remote IP Address to select. This represents the remote IP Address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP Addresses are selected
name	Type a specific IP Address

Probe type

Specifies the probe type identifier to select. This represents the type of probe used to detect the possible intrusion which caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available probe types.

*ALL	All probe type identifiers are selected
ATTACK	Attack action detected event
TR-TCP	Traffic regulation action detected event over TCP
TR-UDP	Traffic regulation action detected event over UDP
SCANE	Scan event action detected event
SCANG	Scan global action detected event
XATTACK	Possible extrusion attack
XTRTCP	Outbound TR detected event (TCP)
XTRUDP	Outbound TR detected event (UDP)
XSCAN	Otbound scan event detected

Event type

Specifies the event type to select. This represents the type of potential intrusion detected which caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available event types.

*ALL	All event types are selected
ACKSTORM	TCP ACK Storm
ADRPOISN	Address poisoning
FLOOD	Flood event
FRAGGLE	Fraggle attack
ICMPRED	ICMP (internet Control Message Protocol) redirect
IPFRAG	IP fragment
MALFPKT	Malformed packet
OUTRAW	Outbound raw
PERPECH	Perpetual echo
PNGDEATH	Ping of Death

RESTOPT	Restricted IP options
RESTPROT	Restricted IP Protocol
SMURF	Smurf attack

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
P	Potential intrusion event detected

For Audit Journal Entry Type: IP Interprocess communication

Old owner

Specifies the old object owner to select. This represents the user profile that owned the object before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

New owner

Specifies the new object owner to select. This represents the user profile that owns the object after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)

Owner authority

Specifies the object owner's authority to select. This represents the authority level of the owner of the object changed by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available authorities.

*ALL	All owner authorities are selected
*R	Read authority
*W	Write authority
*RW	Read and write authority

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Ownership and authority changes
C	Create
D	Delete
F	Authority failure
G	Get
M	Shared memory attach
Z	Normal semaphore close or shared memory

For Audit Journal Entry Type: IR IP rules actions

File name

Specifies the file name to select. This represents the name of the file affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available files. If the 'Library' parameter is populated, the list only includes files from the named library.

*ALL	All files are selected
generic*	To specify a generic file name, type starting characters followed by an asterisk (*)
name	Enter a specific file name

File library

Specifies the library name to select. This represents the name of the library that containing the file affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Connection name

Specifies the connection name to select.

*ALL	All connection names are selected
generic*	To specify a generic connection name, type starting characters followed by an asterisk (*)
name	Enter a specific connection name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
L	IP rules have been loaded from a file
N	IP rules have been unloaded for an IP security connection
P	IP rules have been loaded for an IP security connection
R	IP rules have been read and copied to a file
U	IP rules have been unloaded(removed)

[For Audit Journal Entry Type: IS Internet security management](#)

Local IP address

Specifies the local IP Address to select. This represents the local IP Address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP Addresses are selected
name	Enter a specific IP Address

Local port

Specifies the local port number to select. This represents the local port number associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All port numbers are selected
name	Enter a specific port number

Remote IP address

Specifies the remote IP Address to select. This represents the remote IP Address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP Addresses are selected
name	Enter a specific IP Address

Remote port

Specifies the remote port number to select. This represents the remote port number associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All port numbers are selected
name	Enter a specific port number

Result code

Specifies the negotiation result code to select. This represents the negotiation result code of the event that caused the Audit Journal entry to be generated.

*ALL	All negotiation result codes are selected
0	Successful
1-30	Protocol specific errors
82xx	i5/OS VPN key manager specific errors

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Fail (this type no longer used)
C	Normal (this type no longer used)
U	Mobile user (this type no longer used)
1	IKE Phase 1 SA Negotiation
2	IKE Phase 2 SA Negotiation

For Audit Journal Entry Type: JD Change to user parameter of a job description

Job description name

Specifies the job description name to select. This represents the name of the job description affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available job descriptions. If the 'Library' parameter is populated, the list only includes job descriptions from the named library.

*ALL	All job descriptions are selected
generic*	To specify a generic job description name, type starting characters followed by an asterisk (*)
name	Enter a specific job description name

Job description library

Specifies the library name to select. This represents the name of the library containing the job description affected by the event that caused the Audit Journal event to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Command type

Specifies the command type to select. This represents the type of command used by the event that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available command types.

*ALL	All command types are selected
CHG	Change job description (CHGJOB) command
CRT	Create job description (CRTJOB) command

Old user profile

Specifies the old user profile to select. This represents the name of the user profile before the event that caused the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

New user profile

Specifies the new user profile to select. This represents the name of the user profile after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	User profile specified for the 'User' parameter of a job description

For Audit Journal Entry Type: JS Actions that affect jobs

Job type

Specifies the job name to select. This represents the name of the job that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available job types.

*	All job types are selected
A	Autostart
B	Batch
I	Interactive
M	Subsystem monitor
R	Reader
S	System
W	Writer
X	SCPF

Job type

Specifies the job type to select. This represents the type of the job that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available job types.

ASJ	Autostart
BCH	Batch
BCI	Batch immediate
EVK	Procedure start request

MRT	MRT
M36	IBMi Advanced 36 machine server
PDJ	Print device driver
PJ	Prestart
RDR	Reader
SBS	Subsystem monitor
SCPF	SCPF
SYS	System
WTR	Writer

Changed job

Specifies the changed job to select. This represents the name of the job that caused the Audit Journal entry to be generated.

*ALL	All jobs are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter a specific job name

Changed job user

Specifies the changed job user to select. This is the user running the job which changed that caused the Audit Journal entry to be generated.

*ALL	All users are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Associated IP Address

Specifies the remote IP address associated with this journal entry.

*ALL	All journal entries are selected
*NONE	All journal entries an associated IP address are selected
IP address	Journal entries with a specific IP address are selected. Enter a version 4 IP address in dotted decimal format

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	ENDJOBABN command
B	Submit
C	Change
E	End
H	Hold
I	DISCONNECT
J	The current job is attempting to interrupt another job
K	The current job is about to be interrupted
L	The interruption of the current job has completed
M	Change profile or group profile
N	ENDJOB command
P	Attach pre-start or batch immediate job
Q	Change query attributes
R	Job released
S	Job started
T	Modify profile or group profile using a profile token
U	CHGUSRTRC command used
V	Virtual device changed by QWSACCD5.api

[For Audit Journal Entry Type: KF Key ring file](#)

Certificate operation

Specifies the certificate operation type to select. This represents the type of certificate operation action that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available certificate operation types.

*ALL	All certificate operation types are selected
ADK	Certificate with private key added
ADD	Certificate added
REQ	Certificate requested
SGN	Certificate signed

Key ring operation

Specifies the key ring operation type to select. This represents the type of key ring action that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available key ring action types.

*ALL	All key ring operation types are selected
ADD	Key ring pair added
DFT	Key ring pair designated as default
EXP	Key ring pair exported
IMP	Key ring pair imported
LST	Key ring pair labels listed in a file
PWD	Key ring file password changed
RMV	Key ring file password removed
INF	Key ring pair information retrieval
2DB	Key ring file converted to key database file format
2YR	Key database file converted to key ring file

Trusted root operation

Specifies the trusted root operation to select. This represents the type of trusted root operation action that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of all trusted root operation action types.

*ALL	All trusted root operation types are selected
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TRS	Key ring pair designated as trusted root
RMV	Trusted root designation removed
LST	List trusted roots

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Certificate operation
K	Key ring file operation
P	Password incorrect
T	Trusted root operation

For Audit Journal Entry Type: LD Link, unlink or look up directory entry

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)

name	Enter a specific object name
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Path name

Specifies the path name to select. This represents the name of the path that contains the object that caused the Audit Journal entry to be generated.

*ALL	All paths are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path name

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of F4=Prompt. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
K	Search directory
L	Link directory
U	Unlink directory

For Audit Journal Entry Types: ML Office service mail actions

User profile

Specifies the user profile to select. This represents the user profile that initiated the action that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

User ID

Specifies the User ID to select. This represents the ID of the user that initiated the action that caused the Audit Journal entry to be generated.

*ALL	All user ID's are selected
generic*	To specify a generic user ID, type starting characters followed by an asterisk (*)
name	Enter a specific user ID

User address

Specifies the user address to select.

*ALL	All user addresses are selected
generic*	To specify a generic user address, type starting characters followed by an asterisk (*)
name	Enter a specific user address

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
O	Mail log opened

For Audit Journal Entry Type: NA Network attribute changed

Attribute name

Specifies the attribute name to select. This represents the name of the attribute that was changed that caused the Audit Journal entry to be generated.

*ALL	All attributes are selected
generic*	To specify a generic attribute name, type starting characters followed by an asterisk (*)
name	Enter a specific attribute name

New attribute value

Specifies the new attribute value to select. This represents the value of the attribute after the event that caused the Audit Journal entry to be generated.

*ALL	All attributes are selected
generic*	To specify a generic attribute name, type starting characters followed by an asterisk (*)
name	Enter a specific attribute name

Old attribute value

Specifies the old attribute value to select. This represents the value of the attribute before the event that caused the Audit Journal entry to be generated.

*ALL	All attributes are selected
generic*	To specify a generic attribute name, type starting characters followed by an asterisk (*)
name	Enter a specific attribute name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change to network attribute
T	Change TCP/IP attribute

For Audit Journal Entry Type: ND APPN directory search filter violation

Location name

Specifies the location to select. This represents the control point location that caused the Audit Journal entry to be generated.

*ALL	All locations are selected
name	Enter a specific location

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Directory search filter violation

For Audit Journal Entry Type: NE APPN end point filter violation

Location name

Specifies the location to select. This represents the location of the end point filter violation that caused the Audit Journal entry to be generated.

*ALL	All locations are selected
name	Enter a specific location

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	End point filter violation

For Audit Journal Entry Type: OM Object move or rename

Old object name

Specifies the old object name to select. This represents the name of the object before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the old 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Old object library

Specifies the old library to select. This represents the name of the library containing the object before it has been affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All objects are selected
name	Enter a specific object type

New object name

Specifies the new object to select. This represents the name of the object after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the new 'Library' and/or 'Object type' parameters are populated the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object, type starting characters followed by an asterisk (*)
name	Enter a specific object type

New object library

Specifies the new library to select. This represents the name of the library containing the object after it has been affected by the event that caused the Audit

Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
M	Object moved to a different library
R	Object renamed

For Audit Journal Entry Type: OR Object Restore

Restored object name

Specifies the restored object name to select. This represents the name of the object after it was restored causing the Audit Journal entry to be generated.

*ALL	All object names are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Restored object library

Specifies the restored library name to select. This represents the name of the library into which the restored object was saved causing the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific library name

Saved object name

Specifies the saved object name to select. This represents the name of the object when it was saved that caused the Audit Journal entry to be generated.

*ALL	All object types are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Saved object library

Specifies the saved library to select. This represents the name of the library containing the object when it was saved causing the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Restored object path

Specifies the path name to select for the restored object.

*ALL	All paths are selected
generic*	To specify a generic path, type starting characters followed by an asterisk (*)
name	Enter a specific path name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
E	An existing object was restored to the system
N	A new was restored to the system

For Audit Journal Entry Type: OW Object ownership changed

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Old owner

Specifies the old owner of the object to select. This represents the user profile that owned the object before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

New owner

Specifies the new object owner to select. This represents the user profile that owns the object after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change of object owner

For Audit Journal Entry Type: O1 (Optical access) single file or director

Object type

Specifies the optical volume type to select. Use **F4=Prompt** to select from a list of available optical volume types.

*	All optical volume types are selected
F	File
D	Directory end
S	Storage

Access type

Specifies the access type to select. Use **F4=Prompt** to select from a list of available access types.

*	All access types are selected
D	File data
A	File directory attributes
R	Restore operation
S	Save operation

Device name

Specifies the device name to select.

*ALL	All devices are selected
name	Enter a specific device name

Optical volume name

Specifies the optical volume name to select.

*ALL	All optical volume types are selected
generic*	To specify a generic optical volume, type starting characters followed by an asterisk (*)
name	Enter a specific optical volume name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Create directory
D	Delete
R	Read
U	Update
X	Release Held File

For Audit Journal Entry Type: O2 (Optical access) dual file or directory

Object type

Specifies the optical volume type to select. Use **F4=Prompt** to select from a list of optical volume types.

*ALL	All optical volume types are selected
generic*	To specify a generic optical volume, type starting characters followed by an asterisk (*)
name	Enter a specific optical volume name

Source device name

Specifies the source device name to select.

*ALL	All devices are selected
generic*	To specify a generic source device name, type starting characters followed by an asterisk (*)
name	Enter a specific source device name

Source optical volume name

Specifies the source optical volume name to select.

*ALL	All optical volumes are selected
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generic*	To specify a generic source optical volume name, type starting characters followed by an asterisk (*)
name	Enter a specific source optical volume name

Target device name

Specifies the target device name to select.

*ALL	All devices are selected
generic*	To specify a generic target device name, type starting characters followed by an asterisk (*)
name	Enter a specific target device name

Target optical volume name

Specifies the target optical volume name to select.

*ALL	All optical volumes are selected
generic*	To specify a generic target optical volume name, type starting characters followed by an asterisk (*)
name	Enter a specific target optical volume name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
B	Backup directory or file
C	Copy
M	Move file
R	Rename
S	Save held file

For Audit Journal Entry Type: O3 (Optical access) volume

Device name

Specifies the device name to select.

*ALL	All devices are selected
generic*	To specify a generic device name, type starting characters followed by an asterisk (*)
name	Enter a specific device name

Old optical volume name

Specifies the old optical volume name to select. This represents the name of the optical volume before the event that caused the Audit Journal entry to be generated.

*ALL	All optical volumes are selected
generic*	To specify a generic optical volume name, type starting characters followed by an asterisk (*)
name	Enter a specific optical volume name

New optical volume name

Specifies the new optical name to select. This represents the name of the optical volume after the event that caused the Audit Journal event to be generated.

*ALL	All optical volumes are selected
generic*	To specify a generic optical volume name, type starting characters followed by an asterisk (*)
name	Enter a specific optical volume name

Old authorization list

Specifies the old authorization list to select. This represents the name of the authorization list before the event that caused the Audit Journal event to be generated. Use **F4=Prompt** to select from a list of available authorization lists.

*ALL	All authorization lists are selected
generic*	To specify a generic authorization list, type starting characters followed by an asterisk (*)

name	Enter a specific authorization list
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New authorization list

Specifies the new authorization list to select. This represents the name of the authorization list after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available authorization lists.

*ALL	All authorization lists are selected
generic*	To specify a generic authorization list, type starting characters followed by an asterisk (*)
name	Enter a specific authorization list

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change
B	Backup volume
C	Convert backup volume to Primary
E	Export
I	Initialize
K	Check volume
L	Change authorization list
M	Import
R	Rename
R	Absolute read

For Audit Journal Entry Type: PA Program changed to adopt authority

Program name

Specifies the program name to select. This represents the name of the program affected by the event that caused the Audit Journal entry to be generated. Use

F4=Prompt to select from a list of available programs. If the 'Library' parameter is populated, the list only includes programs in the entered library.

*ALL	All programs are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter a specific program name

Program library

Specifies the library name to select. This represents the name of the library containing the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object owner

Specifies the object owner to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change program to adopt owner's authority
J	Java program adopts owner's authority

M	Change objec's SETUID, SETGUID or Restricted rename and unlink mode indicator
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For Audit Journal Entry type: PF PTF Operations

Product ID

Specify the IBM product ID.

*ALL	All entries are selected
Product ID	Only entries for the specific IBM product ID are selected

PTF ID

Specify the IBM PTF ID.

*ALL	All entries are selected
PTF ID	Only entries for the specific PTF ID are selected

Job name

Specifies the job name to select. This is the name of the job that causes the audit journal entry to be generated.

*ALL	All job names are selected
PTF ID	To specify a generic job name, type starting characters followed by an asterisk (*)

Job user

Specifies the job user to select. This is the name of the user running the job that causes the audit journal entry to be generated.

Actioning user

Specifies the actioning user to select. This user caused the audit journal entry to be generated. This may be different to the user running the job. This may also be a user list name (starting with an asterisk) which must already exist. Use **F4=Prompt** to select from a list of user profiles or type asterisk and press **F4** to see available user lists.

*ALL	All user profiles are selected
*List	All user profiles included in the named user list are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter the name of a specific user

From program name

Specifies the program name to select. This is the name of the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available programs. If the library field is populated, only programs from the selected library are available.

*ALL	All programs are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter the name of a specific program

From program library

Specifies the library name to select. This is the name of the library containing the program affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
*OMITTED	Selects entries where the program library is *OMITTED
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter the name of a specific library

Entry type

Specifies whether this rule selects based on the entry type.

*ALL	All entry types are selected
P	Only entries for PTF operations are selected
L	Only entries for PTF products operation are selected
I	Only entries for PTF IPL operation are selected

Entry action

Specifies whether this rule selects based on the entry action type.

*ALL	All entries are selected
DAMG	Only entries for DAMG (PFTF damaged) action are selected
DELT	Only entries for DELT (product deleted) action are selected
EXTE	Only entries for EXTE (PTF exit program ended) action are selected
EXTS	Only entries for EXTS (PTF exit program started) action are selected
GOPT	Only entries for GOPT (Go PTF option 7 or 8 invoked) action are selected
INSP	Only entries for INSP (INSPTF command invoked) action are selected
IPLA	Only entries for IPLA (Attended IPL performed) action are selected
IPLU	Only entries for IPLU (Unattended IPL performed) action are selected
LOAD	Only entries for LOAD (PTF loaded) action are selected
LOGF	Only entries for LOGF (PTF logged) action are selected
PAPY	Only entries for PAPY (PTF permanently applied) action are selected
PDLT	Only entries for PDLT (PTF deleted) action are selected
PRMV	Only entries for PRMV (PTF permanently removed) action are selected
REST	Only entries for REST (product restored/installed) action are selected
SAVE	Only entries for SAVE (Product saved) action are selected
SUPR	Only entries for SUPR (PTF Superseded) action are selected
SYNC	Only entries for SYNC (User called QPZSYNC) action are selected
TAPY	Only entries for TAPY (PTF temporarily applied) action are selected
TRMV	Only entries for TRMV (PTF temporarily removed) action are selected

For Audit Journal Entry type: PG Change of an object's primary group

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects.

If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the object library to select. This represents the name of the library that contains the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Old primary group

Specifies the old primary group to select. This represents the primary group before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available primary groups.

*ALL	All primary groups are selected
*NONE	No primary groups are selected
generic*	To specify a generic primary group, type starting characters followed by an asterisk (*)
name	Enter a specific primary group

New primary group

Specifies the new primary group to select. This represents the primary group after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available primary groups.

*ALL	All primary groups are selected
*NONE	No primary groups are selected
generic*	To specify a generic primary group, type starting characters followed by an asterisk (*)
name	Enter a specific primary group

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change primary group

For Audit Journal Entry Type: PO Printed output

Output queue

Specifies the output queue to select. Use **F4=Prompt** to select from a list of available output queues. If the output queue is populated, the list only includes output queues in the entered list.

*ALL	All output queues are selected
generic*	To specify a generic output queue, type starting characters followed by an asterisk (*)
name	Enter a specific output queue

Output queue library

Specifies the library name to select. This represents the name of the library containing the output queue affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Spool file name

Specifies the spool file name to select.

*ALL	All spool files are selected
generic*	To specify a generic spool file name, type starting characters followed by an asterisk (*)
name	Enter a specific spool file name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
D	Direct print
R	Sent to remote system for printing
S	Spool file printed

[For Audit Journal Entry Type: PS Profile swap](#)

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
*SAME	Selects journal entries where the user name is the same as the actioning user
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile name

Source location

Specifies the source location to select.

*ALL	All locations are selected
name	Enter a specific location name

Original profile

Specifies the original user profile to select. This represents the name of the user profile before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile name

New profile

Specifies the new user profile to select. This represents the name of the user profile after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)

name	Enter a specific user profile name
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Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Profile swap during pass-through
E	End work on behalf or relationship
H	Profile handle generated by the QSYGETPH api
I	All profile tokens were invalidated
M	Maximum number of profile tokens have been generated
P	Profile token generated for user
R	All profile tokens for a user have been removed
S	Start work on behalf of a relationship
V	User profile authenticated

For Audit Journal Entry Type: PU PTF Object Change

Product ID

Specify the IBM product ID.

*ALL	All entries are selected
Product ID	Only entries for the specific IBM product ID are selected

PTF ID

Specify the IBM PTF ID.

*ALL	All entries are selected
Product ID	Only entries for the specific PTF ID are selected

Job name

Specifies the job name to select. This is the name of the job that causes the audit journal entry to be generated.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)

Job user

Specifies the job user to select. This is the name of the user running the job that causes the audit journal entry to be generated.

Actioning user

Specifies the actioning user to select. This user caused the audit journal entry to be generated. This may be different to the user running the job. This may also be a user list name (starting with an asterisk) which must already exist. Use **F4=Prompt** to select from a list of user profiles or type asterisk and press **F4** to see available user lists.

*ALL	All user profiles are selected
*List	All user profiles included in the named user list are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter the name of a specific user

From program name

Specifies the program name to select. This is the name of the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available programs. If the library field is populated, only programs from the selected library are available.

*ALL	All programs are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter s specific program name

From program library

Specifies the library name to select. This is the name of the library containing the program affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
*OMITTED	Selects entries where the program library value is *OMITTED
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter s specific library name

Entry type

Specifies whether to select based on the entry type.

*ALL	All entries are selected
L	Only entries for Library PTF objects are selected
D	Only entries for Directory PTF objects are selected
S	Only entries for LIC PTF objects are selected

Entry action

Specifies whether to select based on the action type.

*ALL	All entries are selected
C	Only entries for changed PTF objects are selected
N	Only entries for new PTF objects are selected

PTF operation

Specifies whether to select based on the operation type.

*ALL	All entries are selected
A	Only entries for apply operations are selected
R	Only entries for remove operations are selected

Object name

Specifies the object name to select. This is the name of the object affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the library and/or object type fields are populated the list will only include objects in the entered library, or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Type a specific object name

Object library

Specifies the library name to select. This is the name of the library containing the object affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic object library name, type starting characters followed by an asterisk (*)
name	Type a specific object library name

For Audit Journal Entry Type: PW Invalid password

Affected user

Specifies the user profile to select. A change to this user profile caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Type a specific user profile name

Associated IP address

Specifies the remote IP address associated with this journal entry.

*ALL	All journal entries are selected
*NONE	Journal entries with no associated IP address are selected
IP Address	Journal entries with a specific IP address are selected. Enter the IP address in dotted decimal format

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	APPC bind failure
C	User authentication with the CHKPWD command failed
D	Service tools user ID not valid
E	Service tools password not valid
P	Password not valid
S	SQL Description password not valid
U	User name not valid
X	Service tools user ID is disabled
Y	Service tools user ID not valid
Z	Service tools password not valid

For Audit Journal Entry Type: RA Authority change during restore

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes the objects in the entered library and/or of the object type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)

name	Type a specific object name
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Object library

Specifies the object library to select. This represents the library containing the object that was affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the audit journal entry to be generated.

*ALL	All object types are selected
name	Enter a specific object type

Authorization list

Specifies the authorization list to select. Use **F4=Prompt** to select from a list of available authorization lists.

*ALL	All authorization lists are selected
generic*	To specify a generic authorization list, type starting characters followed by an asterisk (*)
name	Enter a specific authorization list

Public authority set to *EXCLUDE

Enter 'Y' to select when the public authority of the restored object has been set to *EXCLUDE. Enter 'N' to omit when the public authority of the restored object has been set to *EXCLUDE.

*	All entries are selected
Y	Only entries where the public authority has been set to *EXCLUDE are selected
N	Entries where the public authority has been set to *EXCLUDE are omitted

Private authority removed

Enter 'Y' to select when the private authority has been removed from the restored object. Enter 'N' to omit when the private authority has been removed.

*	All entries are selected
Y	Only entries where the private authority has been removed are selected
N	Entries where the private authority has been removed are omitted

Authorization list removed

Enter 'Y' to select when the authorization list has been removed from the restored object. Enter 'N' to omit when the authorization list has been removed.

*	All entries are selected
Y	Only entries where the authorization list has been removed are selected
N	Entries where the authorization list has been removed are omitted

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Changes to authority for object restored

For Audit Journal Entry Type: RJ Restoring job description with user profile

Job description name

Specifies the job description name to select. Use **F4=Prompt** to select from a list of available Job description names.

If the 'Library' parameter is populated, the list only includes job descriptions within the entered library.

*ALL	All job descriptions are selected
generic*	To specify a generic job description, type starting characters followed by an asterisk (*)
name	Enter a specific job description name

Job description library

Specifies the job description library to select. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Job description user

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Restoring objects that had ownership changed

For Audit Journal Entry Type: RO Change of object owner during restore

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects within the library and/or of the object type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the object library to select. This represents the name of the library containing the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library

Object type

Specifies the object name to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter the name of a specific object type

Old owner

Specifies the old object owner to select. This represents the user profile that owned the object before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
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generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

New owner

Specifies the new object owner to select. This represents the user profile the owns the object after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Restoring objects that had ownership changed

For Audit Journal Entry Type: RP Restoring adopted authority program

Program name

Specifies the program name to select. This represents the name of the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available programs. If the 'Library' parameter is populated, only programs within the entered library are included.

*ALL	All program names are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter a specific program name

Program library

Specifies the program library to select. This represents the name of the library containing the program affected by the event that caused the Audit Journal entry to be created. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object owner

Specifies the object owner to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Restoring objects that had ownership changed

For Audit Journal Entry Type: RQ Restoring a *CRQD object

Object name

Specifies the name of the object to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects within the entered library and/or of the object type.

*ALL	All objects are selected
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generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the name of the object library to select. This represents the name of the library containing the object that was affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Restore *CRQD object that adopts authority

For Audit Journal Entry Type: RU Restoring user profile authority

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Authority restored

Specify a selection based upon whether or not authorities were restored for the user.

*	All entries are selected
A	Only entries where authorities were restored are selected
S	Only entries where not all authorities were restored are selected

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Restoring authority to user profiles

For Audit Journal Entry Type: RZ Changing a primary group during restore

Object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal event to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only contains those objects within the library and/or of the object type.

*ALL	All object names are selected
generic*	To specify a generic object, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the object library to select. This represents the library containing the object that was affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Old primary group

Specifies the old primary group to select. This represents the primary group containing the object before the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available primary groups.

*ALL	All primary groups are selected
generic*	To specify a generic primary group, type starting characters followed by an asterisk (*)
name	Enter a specific primary group

New primary group

Specifies the new primary group to select. This represents the primary group containing the object after the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of primary groups.

*ALL	All primary groups are selected
generic*	To specify a generic primary group, type starting characters followed by an asterisk (*)

name	Enter a specific primary group
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Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Primary group changed

For Audit Journal Entry Type: SD Changes to a system distribution directory

Change type

Specifies the change type to select. Use **F4=Prompt** to select from a list of available change types.

*ALL	All change types are selected
ADD	Directory entry added
CHG	Directory entry changed
COL	Collector entry
DSP	Directory entry changed
OUT	Output file request
PRT	Directory entry printed
RMV	Directory entry removed
RNM	Directory entry renamed
RTV	Details retrieved
SUP	Supplier entry

Record type

Specifies the record type to select. Use **F4=Prompt** to select from a list of available record types.

*ALL	All change types are selected
-------------	-------------------------------

DIRE	Directory
DPTD	Department details
SHDW	Directory shadow
SRCH	Directory search

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Function requested

Specifies the requested function to select. Use **F4=Prompt** to select from a list of available functions.

*ALL	All functions are selected
*BLANK	Selected when function is blank (Journal entries with no value)
INIT	Initialization
OFFLIN	Offline initialization
REINIT	Re-initialization
SHADOW	Normal shadowing
STPSHD	Stop shadowing

User Id

Specifies the user ID to select.

*ALL	All user IDs are selected
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generic*	To specify a generic user ID, type starting characters followed by an asterisk (*)
name	Enter a specific user ID

User address

Specifies the user address to select.

*ALL	All user addresses are selected
generic*	To specify a generic user address, type starting characters followed by an asterisk (*)
name	Enter a specific user address

Network user Id

Specifies the network user ID to select.

*ALL	All network user IDs are selected
generic*	To specify a generic network user ID, type starting characters followed by an asterisk (*)
name	Enter a specific network user ID

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Primary group changed

For Audit Journal Entry Type: SE Subsystem routing entry changed

Subsystem name

Specifies the subsystem name to select. This represents the name of the subsystem affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available subsystems. If the

'Library' parameter is populated, only subsystems within the entered library are included.

*ALL	All subsystems are selected
generic*	To specify a generic subsystem, type starting characters followed by an asterisk (*)
name	Enter a specific subsystem name

Subsystem library

Specifies the subsystem library name to select. This represents the name of library containing the subsystem affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Executing program

Specifies the program name to select. This represents the name of the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available programs. If the 'Program library' parameter is populated, only programs within the entered library are included.

*ALL	All programs are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter a specific program name

Program library

Specifies the program library to select. This represents the name of the library containing the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
-------------	----------------------------

generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Sequence number

Specifies the sequence number to select.

*ALL	All sequence numbers are selected
number	Enter a specific sequence number

Command type

Specifies the command type to select. Use **F4=Prompt** to select from a list of available command types.

*ALL	All command types are selected
ADD	ADDRTGE
CHG	CHGRTGE
RMV	RMVRTGE

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Subsystem routing entry changed

For Audit Journal Entry Type: SF Actions to spooled files

Output queue

Specifies the output queue name to select. Use **F4=Prompt** to select from a list of available output queues. If the 'Library' parameter is populated, only output queues within the entered library are included.

*ALL	All output queues are selected
generic*	To specify a generic output queue, type starting characters followed by an asterisk (*)
name	Enter a specific output queue

Output queue library

Specifies the output queue library name to select. This represents the name of the library containing the output queue that was affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Spool file name

Specifies the spooled file to select.

*ALL	All spooled files are selected
generic*	To specify a generic spooled file name, type starting characters followed by an asterisk (*)
name	Enter a specific spooled file name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Spooled file read by someone other than the owner of the spooled file
C	Spooled file created
D	Spooled file deleted
H	Spooled file held
I	Create of inline file

R	Spoiled file released
S	Spoiled file saved
T	Spoiled file restored
U	Security-relevant spoiled file attribute
V	Only non-security-relevant spoiled file attributes changed

For Audit Journal Entry Type: SG Asynchronous signals

Signal number

Specifies the signal number to select.

*ALL	All signal numbers are selected
number	Enter a specific signal number

Handle action

Specifies the handle action to select. Use **F4=Prompt** to select from a list of available handle actions.

*ALL	All handle actions are selected
C	Process continued
E	Signal exception
H	Handled by invoking the signal catching function
S	Process stopped
T	Process ended
U	Request ended

Signal source

Specifies the signal source to select. Use **F4=Prompt** to select from a list of available signal sources.

*ALL	All signal sources are selected
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M	Machine source
P	Process source

Source job name

Specifies the source job to select.

*ALL	All source jobs are selected
generic*	To specify a generic source job, type starting characters followed by an asterisk (*)
name	Enter a specific source job name

Source user name

Specifies the source job user to select. This represents the user running the source job that caused the Audit Journal entry to be generated.

*ALL	All users are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Asynchronous i5/OS signal processed
P	Asynchronous Private Address Space Environment

For Audit Journal Entry Type: SK Secure sockets connections

Local IP address

Specifies the local IP address to select. This represents the local IP Address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP addresss are selected
name	Enter a specific IP address

Local port

Specifies the local port number to select. This represents the local port number associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All port numbers are selected
name	Type a specific port number

Remote IP address

Specifies the remote IP Address to select.

*ALL	All IP addresses are selected
name	Enter a specific IP address

Remote port

Specifies the port number to select.

*ALL	All port numbers are selected
name	Type a specific port number

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Accept
C	Connect

D	DHCP address assigned
F	Filtered mail
P	Port unavailable
R	Reject mail
U	DCHP address not assigned

For Audit Journal Entry Type: SM Systems management changes

Access type

Specifies the access type to select. Use **F4=Prompt** to select from a list of available access types.

*	All access types are selected
A	Add
C	Change
D	Delete
R	Remove
S	Display
T	Retrieve or receive

Sequence number

Specifies the sequence number to select.

*ALL	All sequence numbers are selected
name	Enter a specific sequence number

Message ID

Specifies the message ID to select.

*ALL	All message IDs are selected
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generic*	To specify a generic message ID, type starting characters followed by an asterisk (*)
name	Enter a specific message ID

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
B	Backup list changed
C	Automatic cleanup options
D	DRDA
H	HFS file system
N	Network file operation
O	Backup options changed
P	Power on/off schedule
S	System reply list
T	Access path recovery times changed

For Audit Journal Entry Type: SO Server security user information actions

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Add entry
C	Change entry
R	Remove entry
T	Retrieve entry

For Audit Journal Entry Type: ST Use of service tools

(Service tool

Specifies the service tool to select. Use **F4=Prompt** to select from a list of available service tools.

*ALL	All service tools are selected
AN	ANZJVM
AM	ARM diagnostic trace (see ARMSRV shell command)
CD	QTACTIONDV, QTADMPCDV
CE	QWTCTLTR
CS	STRCYPSCN
CT	DMPCLUTRC
DC	DLTCMNTRC
DD	DMPDLO
DF	QWTDMPFR
DI	QSCDIRD

DJ	DMPJVM, QPYRTJVM
DM	DMPMEMINF
DO	DMPOBJ
DS	DMPYSOBY, QTADMPTS, QTADMPDV, QWTDMPPLF
DU	DMPUSRPRF
DW	STRDW, ENDDW, ADDDWDFN, RMVDWDFN
EC	ENDCMNTRC
ER	ENDRMTSPT
GS	QMSGSTSD
HD	QYHCHCOP (DASD)
HL	QYCHCHCOP (LPAR)
JW	STRJW, ENDJW, ADDJWDFN, RMVJWDFN
LC	EPT created
LD	EPT deleted
LE	EPT for the job has been changed
LF	System EPT has been fixed up
LG	Entries in the EPT have been changed
LH	EPT compared
LI	EPT entries displayed
MC	QWTMAINT (change)
MD	QWTMAINT (dump)
MP	End system job
MQ	Restart system job
OP	Operations console
PC	PRTCMNTRC
PE	PRTERLOG, QTADMPDV
PI	PRTINTDTA, QTADMPDV
PS	QP0FPTOS
SC	STRCMNTRC

SE	QWTSETTR
SF	QWCCDSIC, QWVRCSTK (Display Internal stack entry)
SJ	STRSRVJOB
SN	QPZSYNC
SR	STRRMTSPT
SS	QFPHPSF
ST	STRSST
SV	QSRSRV
TA	TRCTCPAPP
TC	TRCCNN (*FORMAT specified)
TE	ENDTRC, ENDPEX, TRCJOB (*OFF or *END specified)
TI	TRCINT or TRCCNN with SET(*ON), SET(*OFF) or SET(*END)
TQ	QWCTMQTM
TS	STRTRC, STRPEX, TRCJOB (*ON specified)
UD	QTAUPPDDV
WE	ENDWCH, QSEWCH
WS	STRWCH, QSCWCH
WT	WRKTRC
WW	WRKWCH

Accessed object name

Specifies the object name to select. This represents the name of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, only objects available in the entered library and/or object type are included.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the object library to select. This represents the name of the library containing the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of variable libraries.

*ALL	All libraries are selected
*MCHCXT	Special value (Machine context)
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

SST user profile (Service tools profile)

Specifies the service tools user profile to select. This represents the name of the service tools profile used for STRSST. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Service record

For Audit Journal Entry Type: SV System value changed

System value/Service attribute

Specifies the system value or system attribute to select. Use **F4=Prompt** to select from a list of available values.

*	All system values and service attributes are selected
JRNRCVCNT	Changed journal recovery count value
MAXCCHWAIT	Changed journal maximum cache wait time
QINPIDCO	Change the current install disk configuration option with QINPIDCO API

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Change to system values
B	Change to service attributes
C	Change to system clock
D	Adjustment to Coordinated Universal Time
E	Change to option
F	Change to syste-wide journal attribute

For Audit Journal Entry Type: VA Changing an access control list

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Action performed

Specifies the action performed to select. Use **F4=Prompt** for a list of available values.

*	All actions are selected
A	Addition
C	Modification
D	Deletion

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
F	Failed
S	Successful

For Audit Journal Entry Type: VC Starting or ending a connection

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Rejection reason

Specifies the rejection reason to select. Use **F4=Prompt** to select from a list of available rejection reason codes.

*	All rejection reasons are selected
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A	Automatic disconnect (timeout), share removed or administrative permissions lacking
E	Error, session disconnect or incorrect password
N	Normal disconnection or user name limit
P	No access permission to shared resource

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
E	End
R	Reject
S	Start

For Audit Journal Entry Type: VF Closing server files

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Administrative disconnection
N	Normal client disconnection
S	Session disconnection

For Audit Journal Entry Type: VL Account limit exceeded

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Account expired
D	Account disabled
L	Logon hours exceeded
U	Unknown or unavailable
W	Workstation not valid

For Audit Journal Entry Type: VN Logging on and off the network

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

User privilege

Specifies the user privilege to select. Use **F4=Prompt** to select from a list of available user privileges.

*	All user privileges are selected
A	Administrator
G	Guest
U	User

Rejection reason

Specifies the rejection reason to specify. Use **F4=Prompt** to select from a list of available rejection reason codes.

*	All rejection reasons are selected
A	Access denied
F	Forced off due to logon limit
P	Incorrect password

Additional reason

Specifies the additional rejection reason to select. Use **F4=Prompt** to select from a list of available additional rejection reason codes.

*	All additional rejection reasons are selected
A	Account expired
D	Account disabled
L	Logon hours not valid
R	Requester ID not valid
U	Unknown or unavailable

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
F	Logoff requested
O	Logon requested
R	Logon rejected

For Audit Journal Entry Type: VO Validation list actions

Validation list name

Specifies the validation list name to select. This represents the name of the validation list connected to the event that caused the Audit Journal event to be generated. Use **F4=Prompt** to select from a list of available validation lists. If the 'Library' parameter is populated, the list only includes validation lists in the entered library.

*ALL	All validation lists are selected
generic*	To specify a generic validation name, type starting characters followed by an asterisk (*)
name	Enter a specific validation name

Validation list library

Specifies the validation list library name to select. This represents the name of the library containing the validation list connected to the event that caused the Audit Journal entry to be selected. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Add validation list entry
C	Change validation list entry
F	Find validation list entry
R	Remove validation list entry
U	Unsuccessful validation of a validation list entry
V	Successful validation of a validation list entry

For Audit Journal Entry Type: VP Network password error

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
P	Password error

For Audit Journal Entry Type: VR Network resource access

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

LDAP operation type

Specifies the operation type to select. Use **F4=Prompt** to select from a list of available operation types.

*	All operation types are selected
A	Resource attributes modified
C	Instance of the resource created
D	Resource deleted
P	Resource permissions modified
R	Data run or read from a resource
W	Data written to a resource
X	Resource was run

Return code

Specifies the return code to select. The return code is available if resource access is granted.

*ALL	All return codes are selected
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name	Enter a specific return code
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Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
F	Resource access failed
S	Resource access successful

For Audit Journal Entry Type: VS Starting or ending a server session

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
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generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

User privilege

Specifies the user privilege to select. Use **F4=Prompt** to select from a list of available user privileges.

*	All user privileges are selected
A	Administrator
G	Guest
U	User

Rejection reason

Specifies the rejection reason code to select. Use **F4=Prompt** to select from a list of available rejection reason codes.

*	All reason codes are selected
A	Administrator disconnect
D	Automatic disconnect (timeout, share removed or administrative permissions lacking)
E	Error, session disconnect or incorrect password
N	Normal disconnection or user name limit
R	Account restriction

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
E	End session
S	Start session

For Audit Journal Entry Type: VU Changing a network profile

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Action performed

Specifies the action performed to select. Use **F4=Prompt** to select from a list of available values.

*	All actions are selected
A	Addition

C	Modification
D	Deletion

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
G	Group record
M	User profile global information
U	User record

For Audit Journal Entry Type: VV Changing a service status

Server name

Specifies the server name to select.

*ALL	All servers are selected
generic*	To specify a generic server name, type starting characters followed by an asterisk (*)
name	Enter a specific server name

Computer name

Specifies the computer name to select.

*ALL	All computers are selected
generic*	To specify a generic computer name, type starting characters followed by an asterisk (*)
name	Enter a specific computer name

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Status

Specifies the status request status to select. Use **F4=Prompt** to select from a list of available service request status codes.

*	All service request types are selected
A	Service active
B	Start service pending
C	Continue paused service
E	Stop pending for service
H	Service pausing
I	Service paused
S	Service stopped

Service code

Specifies the service code to select.

*ALL	All service codes are selected
generic*	To specify a generic service code, type starting characters followed by an asterisk (*)
name	Enter a specific service code

Return code

Specifies the return code to select. The return code is available if resource access is granted.

*ALL	All return codes are selected
name	Enter a specific return code

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Service status changed
E	Service stopped
P	Server paused
R	Server restarted
S	Server started

For Audit Journal Entry Type: XD Directory server extension

Cross reference

Specifies the cross reference string to select. The cross reference string correlates this entry with the DI entry.

*ALL	All cross reference strings are selected
generic*	To specify a generic cross reference string, type starting characters followed by an asterisk (*)
name	Enter a specific cross reference string

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
G	Group names

For Audit Journal Entry Type: X0 Network authentication

Status

Specifies the status code to select.

*ALL	All status codes are selected
generic*	To specify a generic status code, type starting characters followed by an asterisk (*)
name	Enter a specific status code

Local IP address

Specifies the local IP address to select. This represents the local IP address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP addresses are selected
name	Enter a specific IP address

Remote IP address

Specifies the remote IP address to select. This represents the remote IP address associated with the detected event that caused the Audit Journal entry to be generated.

*ALL	All IP addresses are selected
name	Enter a specific IP address

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
A	Decrypt of KRB_AP_PRIV or KB_AP_SAFE checksum error
B	Remote IP address mismatch
C	Local IP address mismatch
D	KRB_AP_PRIV or KB_AP_SAFE timestamp error
E	KRB_AP_PRIV or KB_AP_SAFE replay error
F	KRB_AP_PRIV or KB_AP_SAFE sequence order
K	GSS accept - expired credential
L	GSS accept - checksum error

M	GSS accept - channel bindings
N	GSS unwrap or GSS verify expired content
O	GSS unwrap or GSS verify decrypt/decode
P	GSS unwrap or GSS verify checksum error
Q	GSS unwarp or GSS verify sequence error
1	Service ticket valid
2	Service principals do not match
3	Client principals do not match
4	Ticket IP address mismatch
5	Decryption of ticket failed
6	Decryption of authenticator failed
7	Realm is not within client local realms
8	Ticket is a replay attempt
9	Ticket is not yet valid

For Audit Journal Entry Type: X1 Identify token

Failed request reason

Specifies the failed request reason code to select. Use **F4=Prompt** to select from a list of available reason codes.

*	All reason codes are selected
0	Token length mismatch
10	EIM identifier mismatch
11	Application instance ID mismatch
12	Token signature not valid
13	Identity token not valid
14	Target user not found
16	Key handle not valid
17	Token version not supported

18	Public key not found
----	----------------------

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
D	Delegate of identity token was successful
F	Delegate of identity token failed
G	Get user from identity token was successful
U	Get user from identity token failed

For Audit Journal Entry Type: X2 Query Manager Profile Audit

Job name

Specifies the job name to select. This is the name of the job that causes the Audit Journal entry to be generated.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter a specific job name

Job user

Specifies the job user to select. This is the name of the user running the job that causes the Audit Journal entry to be generated.

*ALL	All job users are selected
generic*	To specify a job user name, type starting characters followed by an asterisk (*)
name	Enter a specific job user name

Actioning user

Specifies the actioning user to select. This is the user that caused the Audit Journal entry to be generated. This may be different to the user running the job. This may also be a user list name (starting with an asterisk) which must already exist. Use **F4=Prompt** to select from a list of available user profiles, or type an asterisk and press **F4=Prompt** for a list of user lists.

*ALL	All user profiles are selected
*List	All user profiles included in the named user list are selected
generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

From program name

Specifies the program name to select. This is the name of the program affected by the event that caused the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available programs. If the library field is populated the list will only include programs in the entered library.

*ALL	All programs are selected
generic*	To specify a generic program name, type starting characters followed by an asterisk (*)
name	Enter a specific program name

From program library

Specifies the library name to select. This is the name of the library containing the program affected by the event that causes the Audit Journal entry to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
*OMITTED	Select entries where the program library value is *OMITTED
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Query manager profile

Specifies the Query manager profile to select. This may also be a user list name (starting with an asterisk) which must already exist.

*ALL	All job users are selected
*LIST	All job user included in the named user list are selected
generic*	To specify a generic job user name, type starting characters followed by an asterisk (*)
name	Enter a specific job user name

For Audit Journal Entry Type: YC DLO object accessed (change)

Job name

Specifies the job name to select. This is the name of the job that causes the Audit Journal entry to be generated.

*ALL	All job names are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk (*)
name	Enter a specific job name

Job user

Specifies the job user to select. This is the name of the user running the job that causes the Audit Journal entry to be generated.

*ALL	All job users are selected
generic*	To specify a generic job user name, type starting characters followed by an asterisk (*)
name	Enter a specific job user name

Processing user

Specifies the user to select. Use **F4=Prompt** to select from a list of valid available user profiles.

*ALL	All users are selected
-------------	------------------------

generic*	To specify a generic user name, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Office user

Specifies the office user as used within AS/400 distribution services. Use **F4=Prompt** to select from a list of valid available user profiles.

*ALL	All user profiles are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user profile

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Folder name

Specifies the name of the document library object to select.

*ALL	All folders are selected
generic*	To specify a generic folder, type starting characters followed by an asterisk (*)
name	Enter a specific folder name

Document library object

Specifies the name of the document library object to select.

*ALL	All document library objects are selected
generic*	To specify a generic document library object, type starting characters followed by an asterisk (*)
name	Enter a specific document library object name

Folder path

Specifies the folder containing the document library object.

*ALL	All folder paths are selected
generic*	To specify a generic folder path, type starting characters followed by an asterisk (*)
name	Enter a specific folder path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Change of DLO object

For Audit Journal Entry Type: YR DLO object accessed (read)

User profile

Specifies the user profile to select. Use **F4=Prompt** to select from a list of available user profiles.

*ALL	All users are selected
generic*	To specify a generic user profile, type starting characters followed by an asterisk (*)
name	Enter a specific user name

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object name

Folder name

Specifies the name of the document library object to select.

*ALL	All folders are selected
generic*	To specify a generic folder, type starting characters followed by an asterisk (*)
name	Enter a specific folder name

Path name

Specifies the folder containing the document library object.

*ALL	All folder paths are selected
generic*	To specify a generic folder path, type starting characters followed by an asterisk (*)
name	Enter a specific folder path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
R	Read of a DLO object

For Audit Journal Entry Type: ZC Object accessed (change)

Access type

Specifies the access type to select. This represents the access type of the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available access types.

*ALL	All access types are selected
type	Select a specific access type (1 to 72)
	1 Add
	2 Activate Program
	3 Analyze
	4 Apply
	5 Call Or TFRCTL
	6 Configure
	7 Change
	8 Check
	9 Close
	10 Clear
	11 Compare Parts
	12 Cancel

	13 Copy
	14 Create
	15 Convert
	16 Debug
	17 Delete
	18 Dump
	19 Display
	20 Edit
	21 End
	22 File
	23 Grant
	24 Hold
	25 Initialize
	26 Load
	27 List
	28 Move
	29 Merge
	30 Open
	31 Print
	32 Query
	33 Reclaim
	34 Receive
	35 Read
	36 Reorganize
	37 Release
	38 Remove
	39 Rename
	40 Replace
	41 Resume

	42 Restore
	43 Retrieve
	44 Run
	45 Revoke
	46 Save
	47 Save With Storage Free
	48 Save And Delete
	49 Submit
	50 Set
	51 Send
	52 Start
	53 Transfer
	54 Trace
	55 Verify
	56 Vary
	57 Work
	58 Read/Change DLO Attribute
	59 Read/Change DLO Security
	60 Read/Change DLO Content
	61 Read/Change All Parts
	62 Add Constraint
	63 Change Constraint
	64 Remove Constraint
	65 Start Procedure
	66 Get Access On **OOPOOL
	67 Sign Object
	68 Remove All Signatures
	69 Clear A Signed Object
	70 MOUNT

	71 Unload
	72 End Rollback

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All folders paths are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific folder path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Change of an object
U	Upgrade of open access to an object

For Audit Journal Entry Type: ZR Object accessed (read)

Access type

Specifies the access type to select. This represents the access type of the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available access types.

NOTE: A full list of access types can be found in the [For Audit Journal Entry Type: ZC Object accessed \(change\)](#) section.

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available objects. If the 'Library' and/or 'Object type' parameters are populated, the list only includes objects in the entered library or of the entered type.

*ALL	All objects are selected
generic*	To specify a generic object name, type starting characters followed by an asterisk (*)
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
generic*	To specify a generic library name, type starting characters followed by an asterisk (*)
name	Enter a specific library name

Object type

Specifies the object type to select. This represents the type of the object affected by the event that causes the Audit Journal alert to be generated. Use **F4=Prompt** to select from a list of available object types.

*ALL	All object types are selected
name	Enter a specific object type

Path

Specifies the path name to select.

*ALL	All path names are selected
generic*	To specify a generic path name, type starting characters followed by an asterisk (*)
name	Enter a specific path

TIP: Use **F4=Prompt** in this parameter to be prompted for the IFS path. For DLO objects you must first select the QDLS folder. You are prompted directly within DLO. The Object type is not taken in to account by the use of **F4=Prompt**. Only the path already entered is used.

Reason code

*	All reason codes apply
Code	Enter the letter for specific reason code criteria
C	Change of an object
U	Upgrade of open access to an object

Once the audit journal parameters have been completed on page 1 of the Change Audit Journal Rule display, press **Page Down** to open the second page of criteria for the selected audit journal entry type.

Parameters on the Change Audit Journal Rule (Page 2) display

The following parameters are available on Page 2 of the Change Audit Journal display.

Rule group

Displays the name of the audit journal rule group that contains the rule currently displayed.

Rule number

Displays the sequence number of the rule.

Generic entry, specific data parameters

The following parameters are used to raise an alert based upon the location of a specific item of data within a generic entry.

Starting position

Specifies the starting position of the data within the entry specific data.

Comparison

Specifies the type of comparison you want to perform.

*EQ	Entries matching the data are selected
*NE	Entries not matching the data are selected
*CT	Entries containing the data at the specified position are selected
*NC	Entries not containing the data string at the specified position are selected

Data value

Specifies the data string for which you want to search. Enclose any searches for blanks in apostrophes.

Journal sequence number

The following parameters are used to raise an alert based upon the journal sequence number.

Comparison

Specifies the type of comparison you want to perform.

*EQ	Journal entries with the sequence number specified are selected
*GT	Journal entries with a sequence number greater than the number specified are selected
*GE	Journal entries with a sequence number greater or equal to the number specified are selected
*LT	Journal entries with a sequence number lower than the number specified are selected
*LE	Journal entries with a sequence number lower than or equal to the number specified are selected
*IN	Journal entries with a sequence number in the specified range are selected. The range is inclusive

Sequence numbers

Specifies the journal sequence number or range of numbers. Specify a single number when Comparison is *EQ, *GT, *GE, *LT or *LE. Specify a range when Comparison is *IN. Sequence numbers should be in the range 1-18446744073709551615.

Functions on the Change Audit Journal Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Custom Journal Groups and Rules

The Custom Journal Monitor allows you to create rules to check entries in journals other than those found in the system audit journal, which are covered by [Audit Journal Groups and Rules](#).

Custom journal rules operate in the same ways as Audit Journal rules. Please see [How Audit Journal Rules operate](#) for more information.

Getting there

Using option **1=Insert** or **F6=Add** on the Work with Rules display allows you to add a level to the current selection (dependent on the cursor position when the Insert/Add option is taken).

```

HAL0030R                               Halcyon Software                               HAL720P2
MANL                                     Work with Rules                               23/09/19 08:06:55
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                               Status
-- Restricted Tasks
  Audit Journal                               Held
  1 Custom Journal                             Stopped
  HA-MX                                         Stopped
  Exit Point                                  Stopped
  MQ                                           Stopped

```

Bottom

```

F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

Adding A Custom Journal Rule Group

The following section details how to add and change custom journal groups and rules.

Getting there

Select option **1=Insert** or **F6=Add** with the cursor positioned against the Custom Journal monitor on the Work with Rules main display to open the Add Restricted Task Rule Group display.



Parameters on the Add Custom Journal Rule Group display

The following parameters are available on this display.

Journal

Enter the name of the journal to be monitored. If required, use **F4=Prompt** to display a list of system libraries from which a selection can be made by using option **1=Select** against the required library. Once the library has been selected, a list of available journals within the library are displayed for selection.

NOTE: Not all libraries contain journals that can be monitored.

Library and ASP

For a Custom Journal Rule Group, the library and ASP that the journal to be monitored resides on must be entered. The group (journal) name in conjunction with the library name and ASP uniquely identify which journal is to be monitored.

Description

Enter a textual description of this custom journal rule group that will be used to identify the rule group throughout the system.

Press **Enter** to create the custom journal rule group.

Adding a Custom Journal Rule

To add a new custom journal rule, select either option **1=Insert** or **F6=Add** against an existing custom journal rule group entry to open the Add Custom Journal Rule display.

Custom Journal Monitor allows you to monitor journals on IASPs. It is important to note that at least 1 Auxiliary Monitor is required for each IASP to be monitored. The number of Auxiliary Monitors to use is defined in system default HAM/JRNAUXMON.

Parameters on the Add Custom Journal Rule display

The following parameters are available on this display.

WARNING: If Enter is pressed at any time during the creation of the rule, the currently entered data is validated. If valid at that point, the new rule is created. If further configuration was required use option **2=Change** against this rule from the Work with Rules main display.

Page 1

```

HAM_MNTRUL          Custom Journal Monitor          HAL720P2
MANL               Add Custom Journal Rule          27/01/16  09:29:19
Journal           HALJRN                            (1 of 2)
Library           HALQA
Description       Halcyon Journal

Rule number       060
Rule description

Journal entry type  _
Receive status    R          R=Received, N=Not received
Monitor by calendar *NONE      Name, F4=Prompt
                  Mon Tue Wed Thu Fri Sat Sun
Monitor on days   Y Y Y Y Y Y Y
Time range        00:00 - 23:59

Journal entry occurrence  1          1 - 999
Occurrence time range    1440      1 - 1440 minutes

Suspend rule for     *DFT_          *DFT, *NONE, 1-1440
Console comment      *NO_           *YES, *NO
On-close action      *NONE          Name, F4=Prompt
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command line

```

Journal

Displays the name of the journal being monitored by this rule.

Library

Displays the name of the library in which the named journal resides.

Description

Displays the description of the group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration. The rule number can be changed at a later point by taking option **2=Change** against the rule on the main Work with Rules display. See [Rule renumbering](#) for more information.

Rule description

Enter a description for the new rule. An entry in this parameter is mandatory and is best changed to correspond to the selected journal entry type. The entry here is displayed on the Work with Rules main display.

Journal entry type

Enter a two letter code to represent the custom journal entry that this rule monitors. As this is a custom journal monitor there is no pre-defined list of entries permissible in this rule and for the same reason no verification is performed on the entry in this field.

Receive status

Defines the type of event to be monitored. Select from the following values:

R	Notify when a message is received
N	Notify at the end of a time period if a message is not received. See Time range and Period parameters for more information on additional parameters available when setting a Receive status of 'N'

IMPORTANT: If creating a 'Message Not Received' rule which covers a time period that spans midnight, you must set the day parameter to include both days that it covers. A warning message is issued should the parameter not comply.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run. Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings

of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify *NONE here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking this custom journal rule
-------------	--

Period

Operates in conjunction with the 'Time range' and 'Receive status' parameters.

For a not received rule only, the time periods within the time range to limit monitoring. This is based on fixed points in time calculated as intervals from the nearest hour. For example, an entry of *6HRS results in the rule being active from 00:00 to 06:00, then again from 06:00 to 12:00, and so on. At the end of each period the rule resets and begin monitoring again. The following values can be specified:

*NONE	The time range parameter entry acts as the only limit
*5MINS	The rule is reset every 5 minutes

*10MINS	The rule is reset every 10 minutes
*15MINS	The rule is reset every 15 minutes
*30MINS	The rule is reset every 30 minutes
*1HOUR	The rule is reset every hour
*2HOURS	The rule is reset every 2 hours
*4HOURS	The rule is reset every 4 hours
*6HOURS	The rule is reset every 6 hours
*12HOURS	The rule is reset every 12 hours
*1DAY	The rule is reset every day

Journal entry occurrence

This value determines the number of times the journal entry type should be received before generating an alert. By setting the value greater than 1 you would not be alerted to the problem until the journal entry type had been received that number of times within the time range described below.

Occurrence time range

This value determines the length of time in which the message occurrence value must be reached before generating an alert.

If a message arrives on the queue and occurs again in this time range, the occurrence number is reset to zero. If the message then subsequently arrives after this time, it is treated as the first occurrence and the cycle repeats.

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
-------------	--

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry alert as the equivalent of a Message Manager Inquiry alert is that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press <**Page Down**> to move to the second page.

Functions

F3=Exit

Exits this display and returns to the menu.

F4=Prompt

Where supported, displays a list of valid entries for the field.

F5=Refresh

Refreshes the screen data to the state when the screen was first entered. All rule date is updated permanently by pressing Enter without changing the screen.

F10=Notes

Displays the Notes window allowing you to enter textual notes against the field.

F12=Cancel

Exits this display and returns to the previous display.

F21=Command Line

Displays the system command line.

Page 2

```

HAM_MNTRUL          Custom Journal Monitor          HAL720P4
0a                  Add Custom Journal Rule          17/04/15  10:49:09
Rule group . . . . . HALJRN                          (2 of 2)
Description . . . . . Test Rule Group
Audit Journal Entry Type GH  GH-Custom Journal Rule
Type options, press enter.
2=Change 3=Copy 4=Delete
Opt Sel/Omit Job   Job User   User Profile RC  Other criteria
-  Select  *ALL   *ALL   *ALL   *   *ALL *ALL *ALL *ALL
Action                                     Actions                                     Delay
Bottom
F3=Exit F5=Refresh F6=Add F12=Cancel F17=Selection criteria F18=Actions

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the Audit Journal Group Rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Custom Journal Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Custom Journal Selection Criteria](#) for more information.

Copy

This option is only valid against rule actions. Use option **3=Copy** to copy the selected action into a new rule action.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Additional Functions on the Add Custom Journal Rule display 2nd page

The following functions are available on this display.

F6=Add action

Use **F6=Add action** to open the Add Audit Journal Group Action display where a new action can be added to this rule.

F17=Selection criteria

When working with multiple selection criteria for a rule, use **F17=Selection criteria** to position the display at the first selection criteria in the list.

F18=Actions

When working with multiple actions for a rule, use **F18=Actions** to position the display at the first action in the list.

Changing Custom Journal Selection Criteria

Getting there

This option is invoked by taking option **2=Change** against the custom journal rule criteria displayed on the Add/Change Custom Journal Rule display. This opens the Change Custom Journal Rule display.

There are two pages available when using the Change Custom Journal Rule display.

Parameters on the Change Custom Journal Rule display

The following parameters are available on this display.

Page 1

```

HAM_MNTRUL          Custom Journal Monitor          HAL720P4
  QA                Change Custom Journal Rule      17/04/15  10:58:42

Rule group . . . . . HALJRN      Test Rule Group
Rule number . . . . . 0010      GH-Custom Journal Rule

Audit Journal Entry Type . GH Custom Journal Rule

Select or omit . . . . . S          S=Select, 0=Omit

Job name . . . . . *ALL          Name, *ALL
Job user . . . . . *ALL          Name, *ALL, F4=Prompt
Actioning user . . . . . *ALL     Name, *ALL, F4=Prompt
From program name . . . . . *ALL  Name, *ALL, generic* name
From program library . . . . . *ALL Name, *ALL, F4=Prompt
Object name . . . . . *ALL       Name, *ALL, F4=Prompt
Object library . . . . . *ALL     Name, *ALL, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F6=Generic Select  F12=Cancel

```

Rule group

Displays the name of the custom journal rule group that contains this rule.

Rule number

Displays the sequence number and description of the rule to which this criteria is applied.

Audit Journal Entry Type

Displays the custom journal entry type that was entered on the initial rule criteria page.

Select or omit

Defines whether you want to select or omit this rule criteria for action processing:

S	Select. Select this rule if the selection criteria are met, unless omitted by another specific rule
O	Omit. Omit this rule if the selection criteria are met

WARNING: Adding an Omit to a custom journal rule increases the workload of the Custom Journal Monitor. This is because the monitor has to check each audit entry for types selected and then process the omissions.

Job name

Specifies the job name to select. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data.

*ALL	All job names are selected
name	Enter a specific job name

Job user

Specifies the job user to select. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data. Use **F4=Prompt** to display a list of valid job users that can be selected for this parameter.

*ALL	All job user names are selected
List	All user profiles included in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
name	Enter a specific job user

Actioning user

Specifies the user profile responsible for the action that caused the custom journal entry. This is the name of the user executing the command that causes the custom journal entry to be generated. This may be different to the user running the job. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data. Use **F4=Prompt** to display a list of valid user profiles that can be selected for this parameter.

*ALL	All job users are selected
List	All user profiles included in the named user list are selected. Type '' in this field and press F4=Prompt . A list of User Lists is displayed. Use option 5=Display against a list to show the names of all the user profiles within this list. Alternatively, providing you have sufficient authority, you can use F6=Add to create a new user list for this rule
name	Enter a specific job user

From program name

Specifies the name of the program that caused the custom journal entry to be raised. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data. Use **F4=Prompt** to display a list of valid programs that can be selected for this parameter.

*ALL	All program names are selected
name	Enter a specific user name

From program library

Specifies the program library to select. This represents the name of the library containing the program affected by the event that caused the custom journal entry to be created. Not all criteria apply to all custom journal entry types.

If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
-------------	----------------------------

name	Enter a specific library name
*OMITTED	Selects entries where the program library value is *OMITTED

Object name

Specifies the object name to select. This represents the name of the object affected by the event that causes the custom journal alert to be generated. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Generic Select** to enter generic data. Use **F4=Prompt** to select from a list of available objects.

*ALL	All objects are selected
name	Enter a specific object name

Object library

Specifies the library name to select. This represents the name of the library containing the object affected by the event that causes the custom journal alert to be generated. Not all criteria apply to all custom journal entry types. If you are unsure of the correct entry, set this entry to ***ALL** and use **F6=Genericselect** to enter generic data. Use **F4=Prompt** to select from a list of available libraries.

*ALL	All libraries are selected
name	Enter a specific library name

Press **Page Down** for the second page of custom journal selection criteria.

Page 2

```

HAM_MNTRUL          Custom Journal Monitor          HAL720P2
MANL                Change Custom Journal Rule      24/11/15  13:40:23
                                                         (2 of 2)
Rule group . . . . . HALJRN      Halcyon Journal
Rule number . . . . . 0050  UP - Not received period

Generic entry specific data:
Starting position . . . . . █          1-16000
Comparison . . . . .          *EQ, *NE, *CT, *NC
Data value . . . . . _____

Journal sequence number:
Comparison . . . . .          *EQ, *LT, *LE, *GT, *GE, *IN
Sequence number . . . . . _____

F3=Exit  F5=Refresh  F12=Cancel                                Bottom

```

Rule group

Displays the name of the custom journal rule group that contains the rule currently displayed.

Rule number

Displays the sequence number of the rule.

Generic entry, specific data parameters

The following parameters are used to raise an alert based upon the location of a specific item of data within a generic entry.

Starting position

Specifies the starting position of the data within the entry specific data.

Comparison

Specifies the type of comparison you want to perform.

*EQ	Entries matching the data are selected
*NE	Entries not matching the data are selected
*CT	Entries containing the data at the specified position are selected

*NC	Entries not containing the data string at the specified position are selected
------------	---

Data value

Specifies the data string for which you want to search. Enclose any searches for blanks in apostrophes.

Journal sequence number

The following parameters are used to raise an alert based upon the journal sequence number.

Comparison

Specifies the type of comparison you want to perform.

*EQ	Journal entries with the sequence number specified are selected
*GT	Journal entries with a sequence number greater than the number specified are selected
*GE	Journal entries with a sequence number greater than or equal to the number specified are selected
*LT	Journal entries with a sequence number lower than the number specified are selected
*LE	Journal entries with a sequence number lower than or equal to the number specified are selected
*IN	Journal entries with a sequence number in the specified range are selected. The range is inclusive

Sequence numbers

Specifies the journal sequence number or range of numbers. Specify a single number when Comparison is *EQ, *GT, *GE, *LT or *LE. Specify a range when Comparison is *IN. Sequence numbers should be in the range 1-18446744073709551615.

Functions on the Change Custom Journal Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.


```

HAL_MNTACT          Halcyon Message Manager          HAL525P3
SOS                 Add Message Action              2/12/09 11:31:11

Message queue . . . . . QSYS/QHST
Rule number . . . . . 900          Backup objects NOT saved
Action sequence . . . . . 10
Action type . . . . . _____ Type, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel
Action Type is required.

```

Parameters on the Add Action display

The following parameters are available on this display.

Message queue

Displays the name of the message queue to which the rule and action are applied.

NOTE: Only displayed if the action is being added to a message queue rule.

Rule number

Displays the number and description of the rule to which the action is applied.

Action sequence

For actions within rules, (when more than one action is applied to a rule) this is the action sequence number. This specifies the order in which actions are taken if the rule criteria are met (lowest number first).

NOTE: See [Adding more than one action to a Message Queue rule](#) for more information

Action type

Selects the action that is performed if the rule criteria are met.

Invalid Actions

Any actions that are invalid are shown highlighted in reverse image so that they can be corrected before the rule is made active.

Rule Actions

Rule actions define what happens whenever an alert is raised by the triggering of rule criteria. The action types available for use are dependent on the rule to which they are being applied.

Action Categories

To aid performance of alert processing, actions have been assigned in within two internal categories; Primary and Secondary. The breakdown of the actions in each category is as follows:

Primary Actions

Name	Description	Restrictions
ACTSCH	Action Schedule	
AI	Alert Intelligence	
CLOSE	Close	
CONSOLE	Send Message to Console	
DELETE	Delete	
EMAILSLPF	Email Spooled File	Output Queue Rules only
EMAILSTMF	Email Stream File	Output Queue Rules only
EXTLOG	External Log	
HLDRULE	Hold Rule	
REPLY	Reply	Message Queue Rules only
RLSRULE	Release Rule	
RSTRULE	Reset Rule	
SNDMSG	Send Message	
SNDTXT	Send Text	
SNMPTRAP	Send SNMP Trap	

Secondary Actions

Name	Description	Restrictions
ARCHIVE	Archive	Output Queue Rules only
COMMAND	Command	
CPYOUTQ	Copy Output Queue	Output Queue Rules only
CPYSPLF	Copy Spooled File	Output Queue Rules only
CPYTOSTMF	Copy Spooled File to STMF	Output Queue Rules only
EXPORT	Export Spooled File	Output Queue Rules only
RUNSCRIPT	Run Script	Output Queue Rules only

The action monitors pick up and process primary actions first and only process secondary actions if there are no outstanding primary actions to be processed.

If auxiliary action monitors are running then the primary action monitor only processes primary actions.

Example

All the auxiliary action monitors have been busy for a long time archiving large spooled files. As auxiliary action monitors are active, the primary action monitor only handles outstanding primary actions, such as CONSOLE actions, meaning alerts continue to be processed in a timely manner.

Action Schedule action

Selecting the Action Schedule action selects a user-defined schedule that then performs the actions listed within the Action Schedule.

NOTE: See [Work with Action Schedules](#) for more information.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              23/09/19  14:47:49

Rule group . . . . . EXAMPLE
Rule number . . . . . 20          test

Action type . . . . . ACTSCH      Type, F4=Prompt
Action schedule . . . . .          Name, F4=Prompt
Console alert type . . . . . *AUTO *AUTO, *INFO, *COMP..., F4=Prompt
Console severity . . . . . *AUTO  0-99, *SAME, *AUTO
Default alert text . . . . . &ALERT

-----
Subject, if email . . . . . *AUTO

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Action Schedule action display

The following parameters are available on this display.

Action schedule

Use **F4=Prompt** to display a list of Action Schedules (these must have already been created) from which a selection can be made.

Console alert type

Specifies the type of alert for any CONSOLE or SNMPTRAP actions raised by this action schedule. When *AUTO is specified, the alert type is determined by the 'Alert type' parameter in each action. When *AUTO is not specified, the alert type specified here is used if the 'Alert type' parameter in an action is set to *AUTO.

*INFO	Information
*COMP	Completion

*WARN	Warning
*ERROR	Error
*CRITICAL	Critical

Console severity

Specifies the severity for any CONSOLE or SNMPTRAP actions raised by this action schedule. When *AUTO is specified, the severity is determined by the 'Severity' parameter in each action. When *AUTO is not specified, the severity specified here is used if the 'Severity' parameter in an action is set to *AUTO.

*SAME	If the alert is caused by a message detected by Message Manager, the message severity is used as the console severity. Otherwise, console severity is 0
0-99	Specifies the specific console severity to use

Default alert text

Provides the value for the &DFTALRTXT substitution variable when used in any Console Alert (CONSOLE), Send Message (SNDMSG), Send Text Message (SNDTXT), Email Spooled File (EMAILSPLF) or EMAIL Stream File (EMAILSTMF) actions raised by this action schedule. The value specified here may also contain [substitution variables](#).

Subject, if email

Specifies the action schedule subject text. The subject text specified here is used by any SNDTXT actions invoked by this Action Schedule that have *AUTO specified in their 'Subject' parameter.

*AUTO	This action schedule does not specify any subject text. SNDTXT actions invoked by this action schedule define their own subject text
*NONE	SNDTXT actions invoked by this Action Schedule that have *AUTO specified in the 'Subject' parameter will have a blank subject
text	SNDTXT actions invoked by this Action Schedule that have *AUTO specified in the 'Subject' parameter will use the text specified here

Maximum message length

When the email is sent using SMTP, the maximum subject length is 256 characters provided all characters can be encoded using CCSID 367, if not then CCSID 1208 (UTF-8) encoding is used and the maximum length is 128 characters.

When the email is sent using Distribution Services, the maximum subject length is 60 characters if no attachment is specified, or 44 characters if an attachment is specified.

The method used is set by system default [HMC/EMAILMETHOD](#).

Functions on the Action Schedule action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Archive action

The Archive action is available specifically for Output Queue rules. The Archive Spooled File action saves a spooled file into a Spooled File Manager archive file.

```

HAL_MNACT          Halcyon System Event Manager          HAL720P2
MANL              Add Output Queue Action              26/09/19  11:37:17

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . ARCHIVE          Type, F4=Prompt
Archive file group . . . . *RPTTYP    Name, *OUTQ, *DFT..., F4=Prompt
Library . . . . .                Name, *OUTQ, F4=Prompt
ASP group . . . . .                Name, *SYSBAS, F4=Prompt
Archive type . . . . . *DFT          *DFT, *STD, *INDEXED
Retain days . . . . . *RPTTYP        1-9999, *DFT, *NOMAX, *RPTTYP
Spooled file option . . . *LEAVE     *LEAVE, *DELETE
Script . . . . . *NONE              *NONE, name, F4=Prompt

Override spooled file name *NONE      Name, *NONE
Delay . . . . . 0                  0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Archive action display

The following parameters are available on the Archive action display.

Archive file group

Specifies the name of the archive file group to which to save the spooled file. If the file does not exist, it is created when a spooled file is archived. If the file does not exist, it must be an archive file group. Type a qualified name or type special values.

The following special values are allowed for archive file group name:

*DFT	The name specified in the system default HEM/DFTARCFILE is used as the archive file group name and the name specified in system default HEM/DFTARCLIB is used as the library name. When this value is used, the library qualifier must be blank
*RPTTYP	The name and library specified in the report type definition that this spooled file matches is used as archive file group and library name. When this value is used, the library qualifier must be blank
*OUTQ	Specifies that the output queue name is used as the archive file group name

*MTHYR	Specifies that the archive file group name is mmmyyyy, where mmm is the 3 letter abbreviated month name, and yyyy is the 4 digit year number of the date on which the spooled file is archived
*MTHWKYR	Specifies that the archive file group name is mmmwwyy, where mmm is the 3 letter abbreviated month name, ww is the 2 digit week of the month number and yy is the 2 digit year number of the date on which the spooled file is archived

Library

The following special values are allowed for the library qualifier.

*OUTQ	Specifies that the output queue library is used as the archive library
--------------	--

ASP group

The following values are allowed for the library ASP qualifier.

Name	Specifies that the ASP name for the archive library
*SYSBAS	Specifies that the archive library is on the system ASP

Archive type

Specifies the type of Halcyon archive file. If this parameter is not *DFT, the type of the archive specified in the resolved 'Archive file group' parameter **MUST** be the same otherwise the action fails.

*DFT	If the archive file exists, the type is set to the existing type. If the archive does not exist, the archive will be created with the type specified in system default HEM/DFTARCTYPE
*INDEXED	If the archive file exists and it is of type *INDEXED, the action archives the spooled file in *INDEXED format. If the archive file does not exist, it is created with type *INDEXED. This feature requires an licensed installation of Halcyon Document Management System
*STD	If the archive file exists, and it is of type *STD, the action archives the spooled file in *STD format. If the archive file does not exist, it is created with type *STD

Retain Days

Specifies the number of days to retain the archive member. After this number of days, the archive member is removed by the automatic archive purge.

*DFT	The value specified in system default HEM/DFTARCRETAIN is used
*RPTTYP	The value specified in the report type configuration matching the spooled file being archived is used. If no matching report type configuration is found, the value specified in the system default HEM/DFTARCRETAIN is used
*NOMAX	The archive member will never be removed by the automatic archive purge
Number of days	Specify a number of days in the range 1 to 9999

Spooled file option

Specifies the action taken after a spooled file is successfully archived.

*LEAVE	The spooled file remains on the output queue
*DELETE	The spooled file is deleted from the output queue

Script

Specifies whether to run a Halcyon Spooled File script over the archived spooled file.

*NONE	A script is not run
script	Specifies the name of the script to run

Override spooled file name

Specifies a name which replaces the spooled file name when a spooled file is archived. This is the name of the spooled file within the archive.

*NONE	The spooled file name is not changed
Name	The spooled file name is changed to this name within the archive

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Archive action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Close action

Selecting the Close action closes the alert, without further action.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              23/09/19 16:00:59

Rule group . . . . . EXAMPLE
Rule number . . . . . 20          test

Action type . . . . . CLOSE          Type, F4=Prompt
Alert to close . . . . . *NO          *CURRENT, *REF
Condition . . . . . *COMPNOERR       *NONE, *COMP, *COMPNOERR

Delay . . . . . 0                  0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Close action display

The following parameters are available on this display.

Alert to close

Specifies the alert that is closed when with action is invoked.

*CURRENT	The Close action is performed on the alert that triggered the action
*REF	The Close action is performed on the alert specified by the entries in the subsequent qualifier parameters that are displayed when Enter is pressed

Condition (*CURRENT alerts only)

Specifies the alert condition required in order for the Close action to be performed.

*NONE	When the Close action is performed, the alert is closed and any pending actions are canceled
--------------	--

*COMP	When the Close action is performed, the alert is not actually closed until all pending actions have been performed. The actions do not have to complete successfully
*COMPNOERR	When the Close action is performed, the alert is not closed until all the actions have completed successfully. If one of more actions fail, the alert is never closed by this action. In this case, the alert must be manually closed

When a Close action runs and *NONE is specified, the status of the Close action changes to Complete.

When a Close action runs and *COMP or *COMPNOERR is specified, the status of the Close action goes to Cnd-Wait. When the conditions are met, the Close action status changes to Complete and the alert is then closed. In the Display Message Detail display, the close method for the alert is shown as reason code "B".

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Additional parameters for *REF type Close actions

The following parameters are available when *REF is selected as the Close action.

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	When action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Monitor code

Specify the Halcyon three letter monitor code of a rule or alert reference. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Rule group

Specifies the Rule Group name. For Message Queue, Output Queue and Job Queue rules, enter a three part qualified name comprising queue name, library name and ASP group name. For other rules, enter just the rule group name.

Queue Library

If the rule group is for a Message Queue, Output Queue or Job Queue enter a qualified library name, otherwise leave this parameter blank.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The system ASP is used
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries from all ASPs in this ASP group included in the library name

Rule number

Specifies which rules to select.

*ALL	All rules in the specified rule group are selected
*GRP	Selects the rule group itself
1-9999	Selects a specific rule number

Alert instance

Specifies the Alert Instance qualifier of an alert reference. When there are multiple open alerts selected by the Monitor, Queue and Rule Sequence Number alert qualifier parameters, this parameter specifies which of those open alerts on which the action is performed.

*FIRST	The action is performed on the first (oldest) open alert
*LAST	The action is performed on the last (newest) open alert

Functions on the Close action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Command action

Select the Command action to perform a command on the alert.

```

HAL_MNACT          Halcyon System Event Manager          HAL720P2
MANL              Add Output Queue Action              25/09/19 15:57:44

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 905

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . .

____
____
____

ASP group . . . . . *RULGRPASP          *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL                1-65533, *SYSVAL
System . . . . . *LOCAL                Name, *LOCAL, F4=Prompt

Delay . . . . . 0                      0-86400 secs
Repeat . . . . . *NONE                 *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Command action display

The following parameters are available on this display.

Command

Specifies the command to run. You can specify any command that is allowed to run in the *EXEC environment (in most cases, these are the same as the commands that can be run at a command line). The command may include substitution variables.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

<p>*RULGRPASP</p>	<p>When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by one of these rules, the current thread has no ASP group</p>
--------------------------	---

*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when the command is run. All libraries in the system ASP and any basic user ASPs are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (but not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command / message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65533	The command is run using the specified CCSID

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, on which to perform the Command action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location name

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

This parameter is used to specify the time interval between which the Command action repeats until the alert is acknowledged or closed.

*NONE	The action does not repeat
1-60mins	The action repeats at the specified interval until the alert is acknowledged or closed

Functions on the Command action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Console action

Selecting the Console action results in any triggered alert being sent to the IBMi Message Console, or Enterprise Console, the PC-based GUI application.

```

HAL_MNACT          Halcyon Message Manager          HAL720P2
MANL              Add Job Log Action                24/09/19 09:52:05

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . CONSOLE          Type, F4=Prompt
Alert text . . . . . &ALERT

-----

System . . . . . *LOCAL          Name, *LOCAL, F4=Prompt
Sub-Console . . . . . *SYSTEM      Name, F4=Prompt

Alert type . . . . . *AUTO          *AUTO, *INFO, *COMP..., F4=Prompt
Severity . . . . . *AUTO           0-99, *SAME, *AUTO
Display attribute . . . . . *DFT     *DFT, *ATR, F4=Select attribute
Sound alarm . . . . . *NO           *YES, *NO
Delay . . . . . 0                   0-86400 secs

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Console action display

The following parameters are available on this display.

Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the Rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, on which to perform the action. If messages are sent to *LOCAL, they can be viewed using [Message Console](#) from the Halcyon main menu. Messages sent to other systems can be viewed using the Enterprise Console.

Use **F4=Prompt** to display a list of alternative systems. The entries in this list must have been previously identified using Configuration - [Work with Remote Locations](#).

*LOCAL	The action is performed on the current system and in the current environment
--------	--

system

The action is performed on the system and environment defined by the specified location name

Console

If the entry in the 'System' parameter is an i5 system, as defined in [Work with Remote Locations](#), you can specify the console to which the alert is sent. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

name	Specify the name of a console that exists on the destination system
-------------	---

NOTE: This parameter only applies to the i5 based [Message Console](#) and not the PC-based Enterprise Console.

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Alert Type

Specifies the type of alert.

*AUTO	The alert type is automatically set from the message severity
0	Info
1-29	*WARN
30-49	*ERROR
50-99	*CRITICAL
*INFO	Information
*COMP	Completion
*WARN	Warning
*ERROR	Error
*CRITICAL	Critical

NOTE: This setting does not apply to alerts raised by Message Manager to warn of inquiry messages. Alerts of that type are always *INQUIRY.

Display attribute

Specifies the display attribute used to display alerts generated by this rule on the [Message Console](#).

*DFT	The display attribute used to display alerts from this rule are determined by the settings on the Message Console.
*ATR	The display attribute used to display alerts from this rule are specified by this parameter. Use *ATR as the parameter setting and then position the cursor over the op of the attribute that you want to specify for this rule. Press Enter to confirm

NOTE: This setting only applies to the i5 based Message Console. This does not apply to the PC-based Enterprise Console. For Message Console - Alerts view color schemes see [F22=Alert attributes](#) and for Message Console - Systems view color schemes see [System attributes](#).

Sound alarm

Specifies whether to sound an audible alarm when the alert is first displayed by any user if the message arrives when the [Message Console](#) is in use.

*YES	Sounds an alarm when the message arrives at the Message Console. This needs to be supported and configured on the remote display device
*NO	No alarm is sounded. This is the default setting

NOTE: This setting only applies to the i5 based Message Console and not the PC-based Enterprise Console.

Severity

Specifies the console severity of the alert. If specified, this setting overrides the setting at rule level.

*SAME	If the alert is caused by Message Manager, the message severity is used as the console severity. Otherwise the console severity is 0
0-99	Specifies the specific console severity to use

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Restricted Tasks Manager limitations using Console action

The following limitations apply when using the Console action with Restricted Tasks Manager rules:

- If the Console action is sent to the *LOCAL message console, nobody is able to see the alerts until the system restarts out of its restricted state. This only applies to *LIVE runs.
- Sending a Console action to a IBM i, also informs that device that this system has gone into a restricted state. The remote system then updates this system's status on its message console (systems view) and Work with Remote Location displays. Until that time, remote systems indicate that this system is off-line, providing the Network Monitors shut-down correctly. When the system restarts out of restricted state, the remote system resets the status to 'Connected'. A remote system to which you do not send a console message will not know that this system is in a restricted state and has the status of this system as 'Off-line'.
- It is not possible to close alerts using the Message Console until the system is out of its restricted state and the Network Monitors are started.
- Messages related to Restricted Tasks Manager that are logged prior to restricted state starting or after it ends are not caught by Restricted Tasks Manager rules. You must use Message Manager rules. If you are sending the entire details of the Restricted State operation to Enterprise Console, the messages start by coming from Message Manager rules, when in restricted state from Restricted State rules, and once restricted state has ended messages, come from Message Manager rules once more.

Functions on the Console action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Copy Spooled File action

The Copy Spooled File action is available specifically for Output Queue rules. The Copy Spooled File action allows you to copy a spooled file or part of a spooled file onto another output queue. A completion message can be sent to a message queue when the copy is completed.

```

HAL_MNTACT                Halcyon System Event Manager                HAL720P2
MANL                      Add Output Queue Action                    26/09/19 09:02:21

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . CPYSPLF                Type, F4=Prompt
Page range . . . . . *ALL                   *ALL, *LAST, 1-9999999
Ending page . . . . .                       *LAST, 1-9999999
To spooled file . . . . *SAME               Name, *SAME
New owner . . . . . *SAME                   Name, *SAME, F4=Prompt
To output queue . . . . *SAME               Name, *SAME, F4=Prompt
Library . . . . .                               Name
ASP Group . . . . .                               Name, *SYSBAS, F4=Prompt
Insert banner . . . . . *NO                  *YES, *NO

Notify message queue . . *NONE               Name, *NONE, F4=Prompt
Library . . . . .                               Name

Delay . . . . . 0                            0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Copy Spooled File action display

The following parameters are available on this display.

Page range

Specifies the pages to be copied. This parameter is only supported for *SCS spooled files. For other types of spooled files *ALL is the default.

*ALL	All pages are copied
*LAST	The last page is copied
1-9999999	Specifies the page to copy from

Ending page

*LAST	Specifies that the last page is the page on which to end the copy
-------	---

1-99999999	Specify the last page of the copy
------------	-----------------------------------

To spooled file

Specifies the name of the new spooled file.

*SAME	The name of the new spooled file is the same as the one from which it is being copied
name	Enter the name of the new spooled file

New owner

Specifies the owner of the copied spooled files.

*SAME	The owner of the new spooled file is the same as the one from which it is being copied
name	Enter the name of the new owner of the spooled file

To output queue / library / ASP Group

Specifies the output queue in which to create the new spooled files. If you are using **F4=Prompt** to search for queue and library, the ASP group is set first. Therefore if you want to search an ASP other than *SYSBAS you must specify the ASP group name first.

*SAME	The new spooled file is created in the same output queue as the spooled file being copied
output queue	Specify the qualified name of the output queue

Insert banner

Specifies whether to insert a banner page at the start of the spooled file copy.

*YES	Insert a banner range
*NO	Do not insert a banner page

User (If Insert banner is set to *YES)

Specify the optional user name text to print on the banner page.

Department (If Insert banner is set to *YES)

Specify the optional department name text to print on the banner page.

Notify message queue / Library

Specifies the message queue and qualified library to which a message is sent indicating the creation of the new spooled files.

*NONE	No message is sent
message queue	Specify the qualified name of the message queue

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Copy Spooled File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Copy to STMF action

The Copy to STMF action is available specifically for Output Queue rules. The Copy Spooled File to Stream File action allows you to copy all or part of a spooled file to a stream file as a PDF document.

```

HAL_MNTACT                Halcyon System Event Manager                HAL720P2
MANL                      Add Output Queue Action                    26/09/19 09:58:57

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . CPYTOSTMF      Type, F4=Prompt
To stream file . . . . . *AUTO

-----

Output format . . . . . *PDF          *HTML, *PDF, *TXT, *CSV
PDF title . . . . . *FILE
Bookmark . . . . . *HALCYON         *NONE, *PAGES, *HALCYON
Control position . . . . . *AUTO     1-255, *AUTO
Stream file option . . . . . *ADDSEQ  *NONE, *REPLACE, *ADDSEQ
From CCSID . . . . . *SYSVAL        1-65533, *SYSVAL
Stream file code page . . . . . *SYSDFT 1-32767, *SYSDFT, *PCASCII, *STDASCII
Page range . . . . . *ALL           *ALL, *LAST, 1-9999999
Ending page . . . . .                *LAST, 1-9999999
Delay . . . . . 0                   0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F24=More keys

```

Parameters on the Copy to STMF action display

The following parameters are available on this display.

To stream file

Specifies the path name of the PDF document to which the spooled file is copied. All directories in the path name must exist. New directories are not created. If the stream file does not exist, it is created. If the specified path does not already end in the '.pdf' extension, it is automatically applied.

The path name may include substitution variables.

Output format

Specifies the format in which the spooled file data should be converted to when copied to the stream file.

*HTML	Hypertext Markup Language is used
*PDF	Portable Document Format is used

*TXT	Text format is used
*CSV	Comma Separated Values format is used. The CSV field definitions are defined on the Work with Report Types display. If the spooled file does not match a defined Report Type, or no CSV layout has been defined for that Report Type, the CSV field definitions are determined automatically

IMPORTANT: The *HTML, *TXT and *CSV options require Spooled File Manager installed. The *PDF option supports 8SCS spooled files only up to IBMi O/S v7.1 and all spooled file types from v7.2.

PDF title

Specifies the title of the PDF document that is created.

*FILE	The name of the spooled file being copied is used as the PDF title
title	Specify the PDF title

TIP: The title of a PDF document is available under File Properties in the PDF reader.

Bookmark

Specifies whether and how to create bookmarks in the PDF document.

NOTE: This parameter is only supported for *SCS spooled files. For other types of spooled file, *NONE is assumed

*NONE	No bookmarks are created
*PAGES	<p>A bookmark is created for each page of the report using the following rules:</p> <p>A bookmark is created for each page of the report. If the spooled file contains less than 20 pages, the PDF contains a single level of bookmarks with a bookmark for each page. If the spooled file contains between 20 and 199 pages, the PDF contains 2 levels of bookmarks, with the top level containing bookmarks for pages 1-9, 10-19, 20-29 and so on.</p> <p>Expanding a top level bookmark reveals the bookmarks for the pages within that range. If the spooled file contains more than 200 pages, the PDF contains 3 levels of bookmarks using the same expansion method as before</p>

*HALCYON	<p>Bookmarks are created using the Halcyon bookmark definitions which comprise of two parts:</p> <p>Line definitions. These tell the Copy to PDF (CPYTOPDF) command which lines in the spooled file to bookmark. Output %1 to %4 as required, starting at the control position of the report. %1 indicates a top level bookmark and %4 indicates the lowest level.</p> <p>When only one level is required, use %1. When two levels are required use %1 and %2 and so on</p> <p>Column definitions. These tell the Copy to PDF (CPYTOPDF) command the starting position and length of the text to use for the bookmarks at each level. These definitions must be written to the User Defined Data of the spooled file.</p> <p>To do this, use the Override with Printer File (OVRPRTF) command and set the data using the 'User defined data' parameter. This should be in the format:</p> <pre>%1=S,L;%2=S,L;%3=S,L;%4=S,L;</pre> <p>This is where S is the starting position and L is the length for the bookmark text at each level. It is only necessary to provide the declarations for the levels actually used. The maximum length supported is 64. Instead of an actual length, the special indicator, *, may be used for L. In this case, the bookmark text comprises the text found between position S and the control position with leading and trailing spaces removed, and any instances of more than two consecutive intermediate spaces reduced to two spaces</p>
----------	--

Control position

When the 'Bookmark' parameter is set to *HALCYON, this parameter specifies the starting position of the Line Definitions in the report. Specify a value between 1 and 255.

Stream file option

Specifies whether the copy operation replaces an existing file, fails to copy or generates a new name if a stream file with the specified name already exists. If the stream file does not exist, it is created.

*ADDSEQ	The file name specified in the 'To stream file' parameter is modified to create a unique file name. A suffix of the form '_nnn' is added at the end of the file name but before the '.pdf' extension, where 'nnn' is a number in the range 000 to 999
*NONE	The file is not copied and the action fails

*REPLACE	The data in the file is replaced with new data
-----------------	--

From CCSID

Specifies the CCSID of the spooled file data.

*SYSVAL	The coded character set identifier specified by the IBM system value QCCSID is used
1-65533	Specify the coded character set identifier (CCSID)
*TXT	Text format is used

Stream file code page

Specifies the method of obtaining the stream file code page and the CCSID equivalent of the code page that is used for data conversion.

*PCASCII	If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value. Otherwise, the operation fails. If the stream file does not exist, code page in the Windows encoding scheme (x4105) is computed. This code page is associated with the target stream file and is used for data conversion if it is requested. This option allows the resulting data to be used by Microsoft Windows applications
*STDASCII	If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, a code page in the IBM PC Data encoding scheme (x2100) is computed. This code page is associated with the target stream file and is used for data conversion if it is requested
1-32767	Specify the code page used. If the stream file exists, this option is only valid if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, the specified code page is associated with the stream file when it is created

Page range

Specifies the pages to copy.

NOTE: This parameter is only supported for *SCS spooled files. For other types of spooled files, *ALL is assumed.

Starting page

Specifies the page number at which to start the copy.

*ALL	All pages are copied
*LAST	The last page is copied
1-9999999	Specifies the first page to be copied

Ending page

Specifies the page number at which to end the copy.

*LAST	Specifies that the last page is the page number to copy
1-9999999	Specifies the last page to be copied

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Copy to STMF action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Delete Alert action

The Delete Alert action is used to delete the alert and remove the entry from the Alert Log. Deleting an open alert causes it to close first.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              24/09/19  10:39:56

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . DELETE          Type, F4=Prompt
Alert to delete . . . . . *CURRENT    *CURRENT, *REF
Condition . . . . . *COMPNOERR        *NONE, *COMP, *COMPNOERR

Delay . . . . . 0                      0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Delete Alert action display

The following parameters are available on this display.

Alert to delete

Specify the alert on which to perform the Delete action.

*CURRENT	The Delete action is performed on the current rule or alert that invoked this action
*REF	The Delete action is performed on the rule or alert specified by the qualifier parameters

Condition (*CURRENT alerts only)

Specifies the alert condition required for the Delete action to be performed.

*NONE	When the Delete action is performed, the alert is closed any other pending actions are canceled
--------------	---

*COMP	When the Delete action is performed, the alert is not actually closed until all pending actions have been performed. The actions so not have to complete successfully
*COMPNOERR	When the Delete action is performed, the alert is not actually closed until all pending actions have completed successfully. If one or more actions fail, the alert is never closed by this action. In this case, the alert must be closed by some other method

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Additional parameters for *REF type Delete actions

The following parameters are available when *REF is selected as the Delete action.

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Monitor code

Specify the Halcyon three letter monitor code of a rule or alert reference. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Rule group

Specifies the Rule Group name. For Message Queue, Output Queue and Job Queue rules, enter a three part qualified name comprising queue name, library name and ASP group name. For other rules, enter just the rule group name.

Queue Library

If the rule group is for a Message Queue, Output Queue or Job Queue enter a qualified library name, otherwise leave this parameter blank.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The system ASP is used
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries from all ASPs in this ASP group are included in the library name

Rule number

Specifies which rules to select.

*ALL	All rules in the specified rule group are selected
*GRP	Selects the rule group itself
1-9999	Selects a specific rule number

Alert instance

Specifies the Alert Instance qualifier of an alert reference. When there are multiple open alerts selected by the Monitor, Queue and Rule Sequence Number alert qualifier parameters, this parameter specifies which of those open alerts on which the action is performed.

*FIRST	The action is performed on the first (oldest) open alert
*LAST	The action is performed on the last (newest) open alert

Functions on the Delete Alert action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Email Spooled File action

The Email Spooled File action allows a message and an attachment created from a spooled file to be sent to one or more email addresses in response to an alert. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

TIP: Emails that fail to be sent on the first attempt can be resent using settings within systems defaults, [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

NOTE: Message Communicator retries an email with a failed attachment and then sends the email without the attachment if all retries fail.

```

HAL_MNTRACT          Halcyon System Event Manager          HAL720P2
MANL                 Add Output Queue Action              24/09/19  11:08:43

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 940

Action type . . . . . EMAILSPLF      Type, F4=Prompt
Subject . . . . . *AUTO
Alert text . . . . . &SYSNAME - &ALERT

-----

Message device . . . . .           Name, *EMAIL, F4=Prompt

-----

Output format . . . . . *PDF          *HTML, *PDF, *TXT, *CSV
Message priority . . . . . *AUTO      *AUTO, *HIGH, *NORMAL, *LOW
Delete after . . . . . *NO           *YES, *NO
Delay . . . . . 0                    0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F10=Additional options  F24=More keys

```

Restricted Tasks Manager support

If this action is selected as part of a Restricted State rule, Restricted Tasks Manager supports the sending of emails via an external SMTP server while in a restricted state.

Parameters on the Email Spooled File action display

The following parameters are available on this display.

Subject

Specifies the email subject text. The entry here overrides any *AUTO subject specified against the email address(es) specified in the 'Message device' parameter.

*AUTO	The subject is taken from the first sentence of the text found in the message, up to 60 characters in length
text	Specify the actual text of the subject line. This text may include substitution variables

IMPORTANT: The maximum subject length after any substitution variables have been resolved is 44 characters when using distribution services and 80 characters when using mail server framework. The email method used is set in the system default [HMC/EMAILMETHOD](#).

Alert text

Specifies the text of the message used to report the alert. The message may include substitution variables. If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the Rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

*DFTALRTEXT	When defining an action within an action schedule, this special value returns the text defined in the 'Default alert text' parameter on the action that invoked the action schedule
--------------------	---

Message device

Specifies the name of the message device to which the message is sent. The message device must be of type *EMAIL or *CALLGRP. If a message device of type *CALLGRP is used, the message is sent to the email addresses specified in the call group. The message is not sent to any other types of message device listed in the call group.

*EMAIL	The message is sent to an Ad-hoc email address. Specify the required email address. Substitution variables can be used in the 'Address' parameter, for example: &JOBUSER@Fortra.com
device name	The message is sent to the message device specified

Output format

Specifies the format in which the spooled file data should be converted to when copied to the stream file.

*HTML	Hypertext Markup Language is used
*PDF	Portable Document Format is used

*TXT	Text format is used
*CSV	Comma Separated Values format is used. The CSV field definitions are defined on the Work with Report Types display. If the spooled file does not match a defined Report Type, or no CSV layout has been defined for that Report Type, the CSV field definitions are determined automatically

IMPORTANT: The *HTML, *TXT and *CSV options require Spooled File Manager installed. The *PDF option supports 8SCS spooled files only up to IBMi O/S v7.1 and all spooled file types from v7.2.

Message priority

Specifies the priority used to send the message. The methodology used is different for phones/pagers and email addresses.

When a message is sent to a cell phone or pager and there is a queue of messages waiting, message priority determines the order in which the messages are processed. If *HIGH priority is used, the message is sent as soon as possible, but if *NORMAL or *LOW is selected, and the phone or pager does not accept messages at the current time due to the setting within the 'Time allowed to send' parameter, the message is not sent until the phone where the device does accept messages.

When a message is sent as an email using Distribution Services, this setting specifies which distribution queue is used and also specifies the message importance.

When a message is sent as an email using Mail Server Framework, this setting just specifies the message importance.

*AUTO	The system decides the priority to use:
	HIGH* Assigned to all message inquiry alerts and other messages with a severity of 30 or greater
	NORMAL Assigned to all message alerts with a severity of 1 to 20
	LOW Assigned to all message alerts with a severity of 0 and all non-message alerts
*HIGH	The message is sent with high priority
*NORMAL	The message is sent with normal priority
*LOW	The message is sent with low priority

Page range

Specifies the pages to copy. Only supported for *SCS type spooled files.

Starting page

Specifies the page at which the copy begins.

*ALL	All pages are copied
*LAST	The last page is copied
1-9999999	Specify the page from which to start the copy

Ending page

Specifies the page at which the copy ends.

*LAST	Copies from the starting page parameter to the last page
1-9999999	Specify the page at which to end the copy

Delete after (For Output Queue rules only)

Specifies whether the spooled file being attached is deleted after the email is sent.

*YES	The spooled file is deleted after the email is sent
*NO	The spooled file is not deleted

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

F10=Additional options

Use **F10=Additional options** to be able to set parameters for *AFPDS spooled files (Page Range applies to all spooled files).

Page Range (*Not AFPDS specific)

Specifies the pages to copy.

Starting Page

Specifies the page at which the copy begins.

*ALL	All pages are copied
*LAST	The last page is copied
1-9999999	Specify the page from which to start the copy

Ending Page

Specifies the page at which the copy ends.

*LAST	Copies from the starting page parameter to the last page
1-9999999	Specify the page at which to end the copy

PDF Options

Bookmark

Specifies whether and how to create bookmarks in the PDF document.

NOTE: This parameter is only supported for *SCS spooled files. For other types of spooled file, *NONE is assumed

*NONE	No bookmarks are created
*PAGES	<p>A bookmark is created for each page of the report using the following rules:</p> <p>A bookmark is created for each page of the report. If the spooled file contains less than 20 pages, the PDF contains a single level of bookmarks with a bookmark for each page. If the spooled file contains between 20 and 199 pages, the PDF contains 2 levels of bookmarks, with the top level containing bookmarks for pages 1-9, 10-19, 20-29 and so on.</p> <p>Expanding a top level bookmark reveals the bookmarks for the pages within that range. If the spooled file contains more than 200 pages, the PDF contains 3 levels of bookmarks using the same expansion method as before</p>

*HALCYON	<p>Bookmarks are created using the Halcyon bookmark definitions which comprise of two parts:</p> <p>Line definitions. These tell the Copy to PDF (CPYTOPDF) command which lines in the spooled file to bookmark. Output %1 to %4 as required, starting at the control position of the report. %1 indicates a top level bookmark and %4 indicates the lowest level. When only one level is required, use %1. When two levels are required use %1 and %2 and so on</p> <p>Column definitions. These tell the Copy to PDF (CPYTOPDF) command the starting position and length of the text to use for the bookmarks at each level. These definitions must be written to the User Defined Data of the spooled file.</p> <p>To do this, use the Override with Printer File (OVRPRTF) command and set the data using the 'User defined data' parameter. This should be in the format:</p> <pre>%1=S,L;%2=S,L;%3=S,L;%4=S,L;</pre> <p>This is where S is the starting position and L is the length for the bookmark text at each level. It is only necessary to provide the declarations for the levels actually used. The maximum length supported is 64. Instead of an actual length, the special indicator, *, may be used for L. In this case, the bookmark text comprises the text found between position S and the control position with leading and trailing spaces removed, and any instances of more than two consecutive intermediate spaces reduced to two spaces</p>
----------	---

Control position

Specifies, when the Bookmark parameter is set to *HALCYON, the starting position of the line definitions in the report.

*AUTO	The line definitions use the two right-most columns in the report
1-255	Enter a value between 1 and 255

AFPDS Page Definition

Size name

Specifies the paper size into which the image is to be transformed. This applies to *AFPDS type spooled files only.

*DEFAULT	The standard paper size is used
LETTER	The paper source is letter sized (8.5 x 11 inches)
LEGAL	The paper source is legal sized (8.5 x 14 inches)
EXECUTIVE	The paper source is executive sized (7.25 x 10 inches)
LEDGER	The paper source is ledger sized (11 x 17 inches)
A3	The paper source is A3 sized (297mm x 420mm)
A4	The paper source is A4 sized (210 x 297mm)
A5	The paper source is A5 sized (148mm x 210mm)
B4	The paper source is B4 sized (257mm x 364mm)
B5	The paper source is B5 sized (182mm x 257mm)
CONT80	The paper source is 8 inches wide and a continuous form
CONT132	The paper source is 13.2 inches wide and a continuous form

Orientation

Specifies the orientation of the image on the page. This applies to *AFPDS type spooled files only.

*PORTRAIT	The image is displayed in portrait format
*LANDSCAPE	The image is displayed in landscape format

Functions on the Email Spooled File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Email Stream File action

The Email Stream File action allows a message and an attachment created from a stream file to be sent to one or more email addresses in response to an alert. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

The Email Stream File action may be used in Object rules with rule type *STMF, in which case the stream file detected is attached. It may also be used in output queue rules with rule type *SPLF and Audit Journal rules with journal entry type SF, in which case the path of the stream file to attach is obtained from the &STMF substitution variable.

This variable must be set by running a CPYTOSTMF action or a COMMAND action running a CPYTOPDF, CPYTOTXT or CPYTOHTML command. This action must complete before the EMAILSTMF action runs.

To ensure this either set a suitable delay on the EMAILSTMF action or put both actions in an action schedule and condition EMAILSTMF on the action that creates the stream file.

NOTE: Only objects of type *STMF are supported by this action.

NOTE: Message Communicator retries an email with a failed attachment and then sends the email without the attachment if all retries fail.

```

HAL_MNTRACT          Halcyon System Event Manager          HAL720P2
MANL                 Add Output Queue Action              24/09/19 13:30:26

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 940

Action type . . . . . EMAILSTMF      Type, F4=Prompt
Subject . . . . . *AUTO
Alert text . . . . . &SYSNAME - &ALERT
-----

Message device . . . . .           Name, *EMAIL, F4=Prompt

Message priority . . . . . *AUTO      *AUTO, *HIGH, *NORMAL, *LOW
Delete after . . . . . *NO           *YES, *NO
Delay . . . . . 0                    0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F24=More keys

```

Restricted Tasks Manager support

If this action is selected as part of a Restricted State rule, Restricted Tasks Manager supports the sending of emails via an external SMTP server while in a restricted state.

Parameters on the Email Stream File action display

The following parameters are available on this display.

Subject

Specifies the email subject text. The entry here overrides any *AUTO subject specified against the email address(es) specified in the 'Message device' parameter.

*AUTO	The subject is taken from the first sentence of the text found in the message, up to 60 characters in length
text	Specify the actual text of the subject line. This text may include substitution variables

NOTE: The maximum subject length after any substitution variables have been resolved is 44 characters when using distribution services and 80 characters when using mail server framework. The email method used is set in the system default [HMC/EMAILMETHOD](#).

Alert text

Specifies the text of the message used to report the alert. The message may include substitution variables. If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the Rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

*DFTALRTEXT	When defining an action within an action schedule, this special value returns the text defined in the 'Default alert text' parameter on the action that invoked the action schedule
--------------------	---

Message device

Specifies the name of the message device to which the message is sent. The message device must be of type *EMAIL or *CALLGRP. If a message device of type *CALLGRP is used, the message is sent to the email addresses specified in the call group. The message is not sent to any other types of message device listed in the call group.

*EMAIL	The message is sent to an Ad-hoc email address. Specify the required email address. Substitution variables can be used in the 'Address' parameter, for example, &JOBUSER@Fortra.com
device name	The message is sent to the specified message device

Message priority

Specifies the priority used to send the message. The methodology used is different for phones/pagers and email addresses.

When a message is sent to a cell phone or pager and there is a queue of messages waiting, message priority determines the order in which the messages are processed.

If ***HIGH** priority is used, the message is sent as soon as possible, but if ***NORMAL** or ***LOW** is selected, and the phone or pager does not accept messages at the current time due to the setting within the 'Time allowed to send' parameter, the message is not sent until the phone where the device does accept messages.

When a message is sent as an email, the setting in this parameter specifies which distribution queue is used and the message importance.

*AUTO	The system decides the priority to use:
	HIGH* Assigned to all message inquiry alerts and other messages with a severity of 30 or greater
	NORMAL Assigned to all message alerts with a severity of 1 to 20
	LOW Assigned to all message alerts with a severity of 0 and all non-message alerts
*HIGH	The message is sent with high priority
*NORMAL	The message is sent with normal priority
*LOW	The message is sent with low priority

Delete after

Specifies whether the stream file being attached is deleted after the email is sent.

*YES	The stream file is deleted after the email is sent
*NO	The stream file is not deleted

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Email Stream File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Export action

The Archive action is available specifically for Output Queue rules. The Export Spooled File action allows a spooled file to be imported by any PC based Spooled File Manager GUI.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              26/09/19 13:03:01

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . EXPORT          Type, F4=Prompt
System . . . . . *DFT                Name, *DFT, F4=Prompt
Export description . . . . *NONE

Delay . . . . . 0                    0-86400 secs

F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

Parameters on the Export action display

The following parameters are available on this display.

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, to which the spooled file should be exported. The system specified must be a PC running the Halcyon Spooled File Manager GUI.

*DFT	The system specified by system default HEM/SPLRMTLOC is used
system	Specify the remote location name of a PC running the Halcyon Spooled File Manager GUI

Export description

Enter a description for this export.

*NONE	No description is used
desc	Type the required description

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Export action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

External Log action

The External Log action can be used to send the details of the alert to a physical file. If the specified file does not already exist, it is automatically created.

There are two levels of detail that can be specified for the External Log action:

- Basic
- Detailed

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              24/09/19 15:21:38

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 905

Action type . . . . . EXTLOG          Type, F4=Prompt
External log file . . . . .          Name, F4=Prompt
Library . . . . .                    Name
ASP group . . . . . *SYSBAS          *RULGRPASP, *ALTASP, Name, F4=Promp
Log format . . . . . *FMT2          *FMT1, *FMT2
Alert text . . . . . &SYSNAME - &ALERT

-----
Delay . . . . . 0                    0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the External Log action display

The following parameters are available on this display.

External log file/library

Specifies the qualified name of the external log file and library to which the alert information is added. If the file does not already exist, it is automatically created. The output to a log/file library on an Independent Disk Pool (ASPs) is supported (IBMi v6.1 or later).

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (but not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote IASP commands, you must set the ASP Group field manually.

Log format

Specifies the level of detail to be used for the external log.

*FMT1	The format is the as that used by Message Manager v5.3 and earlier. To check the details for this format, use the command DSPFFD FILE (HALxxx/HALEL1) where xxx is the name of your environment
*FMT2	This format records more information than *FMT1 and uses longer but variable length parameters. To check the format details run command DSPFFD FILE (HALxxx/HALEL2) where xxx is the name of your environment

Alert text

Specifies the alert text that is sent to the external file. The text may include substitution variables.

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the External Log action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Hold Rule action

Selecting the Hold Rule action allows you to hold either the current or a referenced rule if an alert is triggered by the rule to which this action applies.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19  08:52:50

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . HLDRULE          Type, F4=Prompt
Rule to hold . . . . . *CURRENT        *CURRENT, *REF

Re-release . . . . . *NO                *NO, *AFTER, *AT

Delay . . . . . 0                      0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Hold Rule action display

The following parameters are available on this display.

Rule to hold

Specifies on which rule the Hold Rule action is performed.

*CURRENT	The rule that invoked this action is held
*REF	The Hold Rule action is performed on the rule specified by the entries in the subsequent qualifier parameters that are displayed when Enter is pressed.

Re-release

Specify whether the rule being held should be released automatically.

*NO	The rule is not released automatically
*AFTER	The rule is release automatically when the specified period of time has elapsed
*AT	The rule is released automatically when the specified date and time is reached. A future date and time must be specified

NOTE: When the rule is automatically released, Message HAL0155 is sent to the [Halcyon Message Log](#) to include the automatic release information.

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Additional parameters for *REF type Hold Rule actions

The following parameters are available when *REF is selected as the Rule to hold.

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Monitor code

Specify the Halcyon three letter monitor code of a rule or alert reference. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Rule group

Specifies the Rule Group name. For Message Queue, Output Queue and Job Queue rules, enter a three part qualified name comprising queue name, library name and ASP group name. For other rules, enter just the rule group name. *ESCAPE message HAL0154 is issued if the Group/Queue specified here, cannot be found.

Queue Library

If the rule group is for a Message Queue, Output Queue or Job Queue enter a qualified library name, otherwise leave this parameter blank.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The system ASP is used
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries from all ASPs in this ASP group are included in the library name

Rule number

Specifies which rules to select.

*AFTER	All rules in the specified rule group are selected
*GRP	Selects the rule group itself
1-9999	Selects a specific rule number

Functions on the Hold Rule action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Reply to Inquiry Message action

Selecting the Reply action allows you to send a response to inquiry messages generated by IBMi devices that have been identified across your system.

NOTE: This action is only available for Message Queue rules. It is not possible to use this action in conjunction with QHST message rules.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19 09:11:31

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . REPLY          Type, F4=Prompt
Reply to send . . . . . *DFT

Delay . . . . . 0                    0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Reply action display

The following parameters are available on this display.

Reply

Specifies the reply to use for the inquiry message.

*DFT	The defined default reply for the message is used
*PGM	A user program determines the reply to use
reply	Enter a specific reply

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Reply action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Release Rule action

Selecting the Release Rule action allows you to release either the current or a referenced rule if an alert is triggered by this rule.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19 09:32:31

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . RLSRULE          Type, F4=Prompt
Rule to release . . . . . *CURRENT     *CURRENT, *REF

Delay . . . . . 0                      0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Release Rule action display

The following parameters are available on this display.

Rule to release

Specifies on which rule the Release Rule action is performed.

*CURRENT	The rule that invoked this action is released
*REF	The Release Rule action is performed on the rule specified by the entries in the subsequent qualifier parameters that are displayed when Enter is pressed.

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Additional parameters for *REF type Release Rule actions

The following parameters are available when *REF is selected as the Rule to release.

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Monitor code

Specify the Halcyon three letter monitor code of a rule or alert reference. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Rule group

Specifies the Rule Group name. For Message Queue, Output Queue and Job Queue rules, enter a three part qualified name comprising queue name, library name and ASP group name. For other rules, enter just the rule group name. *ESCAPE message HAL0154 is issued if the Group/Queue specified here, cannot be found.

Queue Library

If the rule group is for a Message Queue, Output Queue or Job Queue enter a qualified library name, otherwise leave this parameter blank.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The system ASP is used
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries from all ASPs in this ASP group are included in the library name

Rule number

Specifies which rules to select.

*ALL	All rules in the specified rule group are selected
*GRP	Selects the rule group itself
1-9999	Selects a specific rule number

Functions on the Release Rule action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Reset Rule Incident Count action

Selecting the Reset Rule Incident Count action allows you to reset the rule incident count for either the current or a referenced rule if an alert is triggered by this rule.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19 10:12:19

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . RSTRULE          Type, F4=Prompt
Rule to reset . . . . . *CURRENT      *CURRENT, *REF

Delay . . . . . 0                      0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel

```

Parameters on the Reset Rule Incident Count action display

The following parameters are available on this display.

Rule to reset

Specifies on which rule the Reset Rule Incident Count action is performed.

*CURRENT	The rule that invoked this action has its incident count reset
*REF	The reset incident count action is performed on the rule specified by the entries in the subsequent qualifier parameter that are displayed when Enter is pressed.

Reset scope (*CURRENT for Message Queue rules only)

Specifies the scope of the reset.

*CURRENT	Only the current series of alerts is reset. The current series of alerts is the series of alerts raised by this rule that have either the same job number (if the rule uses 'Message count *JOBnbr') or the same message data (if the rule uses 'Message data **MSGDTA')
*RULE	All alerts raised by this rule are reset

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Additional parameters for *REF type Reset Rule actions

The following parameters are available when *REF is selected as the Rule to reset.

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location name

Monitor code

Specify the Halcyon three letter monitor code of a rule or alert reference. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

Rule group

Specifies the Rule Group name. For Message Queue, Output Queue and Job Queue rules, enter a three part qualified name comprising queue name, library name and ASP group name. For other rules, enter just the rule group name.

Queue Library

If the rule group is for a Message Queue, Output Queue or Job Queue enter a qualified library name, otherwise leave this parameter blank.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*SYSBAS	The system ASP is used
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group are included in the library name

Rule number

Specifies which rules to select.

*ALL	All rules in the specified rule group are selected
*GRP	Selects the rule group itself
1-9999	Selects a specific rule number

Functions on the Reset Rule Incident Count action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Run Script action

The Run Script action is available specifically for Output Queue rules. The Run Script action runs a user defined Spooled File Manager script over one or more spooled files. The result depends on the code within the selected script.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              26/09/19  10:55:54

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . RUNSCRIPT          Type, F4=Prompt
Script . . . . .                          Name, F4=Prompt
Source file . . . . . QSCRIPTS          Name
Library . . . . . HEMMANL              Name

Spooled files . . . . . *FILE
Check files . . . . . *YES             *YES, *NO

Delay . . . . . 0                      0-86400 secs

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=Script

```

Parameters on the Run Script action display

The following parameters are available on this display.

Script

Specifies the script to be run. Use **F4=Prompt** to select from a list of available scripts.

Source File

Specifies the source file that contains the scripts.

Library

Specifies the source file library.

Spooled Files

Specifies the spooled files that are read by the script. The primary spooled file (*FILE) cannot be changed and represents the spooled file that triggered this action. Up to seven

additional spooled files may also be specified. If specified, these spooled files must be found in the same job as the primary spooled file.

NOTE: To select additional spooled files from a different job, use a COMMAND action with the Run Spooled File Script (**RUNSPLFSCR**) command.

Check Files

Specifies whether to check that spooled files exist prior to running the script.

*YES	All spooled files must exist. If not, the action fails and the script does not run
*NO	Only the primary spooled file is required to exist. Any additional spooled files are optional. Logic within the script must determine whether or not the additional spooled files exist, and process accordingly

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

NOTE: This option requires the use of the **STRSEU** command. If you do not have SEU installed, the message 'Script cannot be displayed.' is shown on screen.

Functions on the Run Script action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=Script

Use **F13=Script** to open the script so that it can be edited or displayed. In edit mode, if the script does not exist, **F13=Script** can be used to create it.

Send Message action

Selecting the Send Message action allows you to send a message to a specified message queue for any alert triggered by this rule.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19  11:33:06

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . SNDMSG          Type, F4=Prompt
Message ID . . . . . *NONE           Name, *NONE, F4=Prompt, F16=Vars
Message file . . . . .                Name, F4=Prompt, F16=Variables
  Library . . . . . *LIBL             Name, F4=Prompt, F16=Variables
  ASP Group . . . . . *SYSBAS         Name, F4=Prompt, F16=Variables
Alert text . . . . . &ALERT

-----

System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Message queue . . . . .              Name, F4=Prompt
  Library . . . . . QUSRSYS          Name
  ASP group . . . . . *SYSBAS        Name, F4=Prompt
Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins
F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Send Message action display

The following parameters are available on this display.

Message ID

Specifies the Message ID of the pre-defined message to be sent.

*NONE	No message ID is sent as part of the message. This indicates that an impromptu message is being sent
Msg ID	Specify the message ID to be sent as part of this message. Use F4=Prompt to display a list of message IDs from which a selection can be made
&varname	Specify a substitution variable that returns the message ID of the message. Use F16=List substitution variables to display a list of substitution from which a selection can be made

Message file/Library/ASP group

When the 'Message ID' parameter is entered as a specific message ID or substitution variable, these parameters specify the message file and library that contains the message

to be sent. The message file must exist on the system to which the message is being sent. Substitution variables may be used for either or both parts of the qualified name but not in the ASP group. Variable names should be prefixed with '&'. Use **F16=List substitution variables** to display a list of substitution variables from which a selection can be made.

NOTE: If using **F4=Prompt**, the search is performed on the libraries and message files within the specified ASP group so complete the entry in the ASP group parameter first.

The ASP group parameter defines the location of the selected message file and qualified library. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. The default entry is *SYSBAS.

Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location name

Time-out

If a remote system has been specified in the 'System' parameter, this entry specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Message queue /Library/ASP group

Specifies the name of the message queue and qualified library to which the message is sent. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made.

NOTE: If using **F4=Prompt**, the search is performed on the libraries and message files within the specified ASP group so complete the entry in the ASP group parameter first.

The ASP group parameter defines the location of the selected message queue and qualified library. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. The default entry is *SYSBAS.

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

This parameter is used to specify the time interval between which the Send Message action repeats until the alert is acknowledged or closed.

*NONE	The action does not repeat
1-600	The action repeats at the specified interval until the alert is acknowledged or closed

Functions on the Send Message action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Send Text Message action

Selecting the Send Text Message action allows you to send a text message to an email address, cell phone/pager or defined call structure for any alert triggered by this rule.

NOTE: You must have a GSM terminal set up as a communications resource in order to use this action functionality. See [Work with Communications Resources](#) for more information.

The method used to send the text message, if sent as an email, is controlled by the system default [HMC/EMAILMETHOD](#).

Emails that fail to be sent on the first attempt can be resent using settings within systems defaults, [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

```

HAL_MNFACT          Halcyon Message Manager          HAL720P2
MANL                Add Job Log Action              25/09/19  11:58:34

Rule group . . . . . EXAMPLE
Rule number . . . . . 20

Action type . . . . . SNDTXT          Type, F4=Prompt
Subject, if email . . . . . *AUTO
Alert text . . . . . &ALERT

-----

System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Message device . . . . .             Name, *EMAIL, *ALERTED, F4=Prompt
Message priority . . . . . *AUTO      *AUTO, *HIGH, *NORMAL, *LOW
Times to send & interval . 1 1       1-10, 1-60 mins
Alarm tones . . . . . *NONE          *NONE, *TONE1-*TONE4
Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

When sending the message as an email, the Send Text Message action uses the user specified in the system default for the User Monitor that triggered the alert. For example, if a message rule triggers an alert with an action of Send Text Message and an email is sent, the email is identified as having come from the user profile specified in the system default [HMM/MSGMONUSER](#).

If you route the email via another environment or IBMi, the default sender is not used and the user running the Primary Communications Monitor on the other environment or IBMi is used, typically QSYSOPR.

NOTE: Message Communicator cannot use the send user profile if any of the following are true when the Send Text Message action is invoked:

- The user profile does not exist
- The user profile has been disabled
- The user profile has an expired password (Password *NONE is acceptable)
- The user profile is not in the system distribution directory

In any of the previously specified scenarios, Message Communicator logs the relevant messages and then sends the email using it's own user profile.

NOTE: Message Communicator may fail on IBMi v7.1 or v7.2, when adding an attachment, with error: Not authorized to service program QTMMCUTL in QTCP. This is due to an IBM issue which requires the following IBM PTF's to be applied:

- V7R1 > SI53118
- V7R2 > SI53166

Warning message HMC0354 is added to the message log when the Primary Message Communicator is started without the required PTF being applied.

Restricted Tasks Manager support

If this action is selected as part of a Restricted State rule, Restricted Tasks Manager supports the sending of emails via an external SMTP server while in a restricted state.

Parameters on the Send Text Message Action display

The following parameters are available on the Send Text Message Action display.

Subject, if email

This specifies the subject text of the email being sent. If the message being sent is not an email then this parameter is ignored. The entry here overrides any *AUTO subject specified against the email address(es) specified in the 'Message device' parameter.

*AUTO	The first sentence of the message text is used as the subject. Specifically, this can be up to the first occurrence of a period followed by a space or a maximum of 44 characters
text	Enter the text that you want to use as the email subject. Substitution variables can be used in this parameter (see Using the Substitution Variables display for more information)

Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the Rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

The special value of *NONE can be entered in this parameter to send a tone-only message, without a follow-up SMS, to a phone. This is designed for use with land lines. Alarm tones must be specified.

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location name

Attach, if email

Specifies an optional special email attachment. If the message being sent is not an email, this parameter can be ignored. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

*NONE	No attachment is sent
*ACTJOB	Creates and attaches an active jobs report, as created by WRKACTJOB OUTPUT (*PRINT)
*JOBINF	Creates and attaches a job information report for the job associated with this alert, as created by DSPJOB OPTION(*ALL) OUTPUT(*PRINT)
*JOBLOG	Creates and attaches a job log information report for the job associated with this alert, as created by DSPJOBLOG OUTPUT (*PRINT)
*SYSSTS	Creates and attaches a system status report, as created by WRKSYSSTS OUTPUT(*PRINT)

NOTE: Message Communicator retries an email with a failed attachment and then sends the email without the attachment if all retries fail. For joblogs, Message Communicator will attempt to attach the existing joblog spooled file if the job has already ended.

Time-out

If a remote system has been specified in the 'System' parameter, this entry specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Message device

Specifies the name of the message device to which the message is sent. The message device can be one of:

- Cell phone
- Pager
- Email address
 - Specify the required email address. Substitution variables can be used in the 'Address' parameter, for example; &JOBUSER@halcyonsoftware.com.
- Call schedule
- Roster
- Broadcast group
- Escalation list

NOTE: Use the ***ALERTED** setting to specify that the message is sent to all messages devices that have already been successfully messaged by previous actions invoked in the same alert. The message text used is taken from the entry in system default [HAL/DFTCLSALTMSG](#).

Message priority

Specifies the priority used to send the message to the message device.

When a message is sent to a cell phone or pager and there is a queue of messages waiting to be sent, the priority setting is used to determine in which order the messages are sent. When a message is sent as an email, this setting specifies which distribution queue is used and also specifies the message importance.

*AUTO	The system decides the priority to use:
	HIGH* Assigned to all message inquiry alerts and other messages with a severity of 30 or greater
	NORMAL Assigned to all message alerts with a severity of 1 to 20
	LOW Assigned to all message alerts with a severity of 0 and all non-message alerts
*HIGH	The message is sent with high priority
*NORMAL	The message is sent with normal priority
*LOW	The message is sent with low priority

Times to send & interval

Specifies the number of times to send this message. The message is repeated at each interval for the number of times specifies or until the alert is closed. If a broadcast group, call schedule, rosters or escalation list is specified, this parameter applies to all selected phones and pagers. This parameter is ignored if the message is sent as an email.

Alarm tones, if phone

If the message is being sent to a cell phone, the entry in this parameter specifies whether a voice call is sent to the phone prior to the message being sent and which tone to use. If the message is being sent to any device other than a mobile phone, the entry in this parameter has no effect. In order to work, the %TONES functionality must be present in the Communications Script, otherwise this parameter has no effect.

NOTE: The %TONES functionality is automatically included in pre-supplied [Communications Script](#): TC35SND. If you have assigned a bespoke script to your Service Providers or the assigned script does not include the changes to support Call-Before SMS functionality, this feature will not work.

The tones played for *TONE1 through *TONE4 are defined within the TC35SND script. Therefore, if you want to change these you must manually update the script. The maximum number of tones that can be played within a tone set is 21.

When the Call-Before functionality is enabled, the script performs a voice call to the cell phone prior to sending the SMS. If the call is answered, a series of tones are played, the call hangs up and then the SMS message is sent. If the call is not answered, an error is returned and the SMS message is not sent. However, if retries are enabled, further attempts may be made later.

*NONE	%TONES is set to 0. Call-before functionality is not required
*TONE 1-4	%TONES is set at a value between 1 and 4. Any of these values indicate that Call-before is active. The script uses the different values to determine which series of tones to send

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

NOTE: See [Closing Alerts](#) for further information regarding using the Close action in conjunction with the Send Message Text action. If you are using a GSM terminal as a dedicated resource, and it fails (such as losing power), then it is recommended that you set the Communications Resource Retrieve interval (NET-GSM and GSM device types only) setting to *NONE until the problem is rectified. This stops unwanted messages being generated into the Message Log.

Repeat

This parameter is used to specify the time interval between which the Send Text Message action repeats until the alert is acknowledged or closed.

*NONE	The action does not repeat
1-60 mins	The action repeats at the specified interval until the alert is acknowledged or closed

Restricted Tasks Manager Limitations of the Send Text Message action

The following limitations apply when using the Send Text Message action with Restricted Tasks Manager rules:

- Message Communicator must be installed on the system on which the action is due to run (this does not have to be the local system)
- The SNTXT action can take some time to complete if the first attempt fails and retries are allowed. Use system defaults within Restricted Tasks Manager to override the normal retry settings defined by service provider
- Restricted Tasks Manager cannot receive incoming SMS
- Emails routed via the local system are not sent until the system restarts out of its restricted state. Emails routed via a remote system are sent immediately

Send SNMP Trap action

The Send SNMP Trap action is used to send the alert as an SNMP Trap via an SNMP manager.

```

HAL_MNACT          Halcyon System Event Manager          HAL720P2
MANL              Add Output Queue Action              25/09/19 14:25:22

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 905

Action type . . . . . SNMPTRAP      Type, F4=Prompt
Alert text . . . . . &ALERT

SNMP manager . . . . . *DFT

Alert type . . . . . *AUTO          *DFT, *LOCAL, host-name, ip-address
Severity . . . . . *AUTO           *AUTO, *INFO, *COMP..., F4=Prompt
MIB . . . . . *HALCYON            0-99, *SAME, *AUTO
Delay . . . . . 0                 *HALCYON, *BYTWARE
Repeat . . . . . *NONE            0-86400 secs
                                   *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=L List substitution variables

```

Parameters on the Send SNMP Trap action display

The following parameters are available on the Send SNMP Trap Action display. This action always uses the port defined in [HAL/SNMPsrcport](#) from which to send SNMP Traps.

Alert text

Specifies the message used when reporting the alert. This message may include substitution variables.

If &PRBTEXT is specified, the Alert text is compiled from the information on the IBM Problem rather than the message that triggered the Rule. If no corresponding IBM Problem exists then &PRBTEXT is treated as &ALERT.

SNMP manager

Specifies the SNMP to which the message is sent. The SNMP trap is sent using TCP/UDP. Because of the behavior of this protocol, the successful completion of this action does not guarantee that the message was received by the trap manager.

*DFT	The SNMP trap is sent using the manager specified in system default HAL/SNMPMANGER
------	--

*LOCAL	The message is sent to an SNMP manager on the local IBMi system
host or IP	Enter the host name or IP Address of the default SNMP trap manager. If a host name is used, the entry must be defined within either the TCP/IP Host table or via a domain name server

Alert type

Specifies the type of alert that is generated.

*AUTO	If this alert is being defined within an action schedule, the alert type defined for the action schedule is used, unless the Alert type defined for the action schedule is *AUTO. If this is the case or this is an independent action, this setting depends on the message severity as follows: 0 *INFO 1-29 *WARN 30-49 *ERROR 50-99 *CRITICAL
INFO	Information
COMP	Completion
CRITICAL	Critical
ERROR	Error
WARN	Warning

Severity

Specifies the console severity of the alert, i.e. the level of importance given to the SNMP Trap message when it arrives at the console.

*SAME	If the alert is caused by a message detected by Message Manager, the message severity is used as the severity. Otherwise, the security level is zero
0-99	Enter the console severity to use

MIB

Specifies which Management Information Base (MIB) to use when sending the SNMP Trap.

*BYTWARE	The Bytware MIB Structure
*HALCYON	Uses the existing Halcyon MIB structure

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

This parameter is used to specify the time interval between which the Send SNMP Trap action repeats until the alert is acknowledged or closed.

*NONE	The action does not repeat
1-60 mins	The action repeats at the specified interval until the alert is acknowledged or closed

Functions on the Send SNMP Trap action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Close Watch action template

The Close Watch action template is used to manually close a watched message instance rather than using the Not Received rule.

NOTE: This action is only available when working with message rules.

Select the Close Watch action and press **Enter** to automatically change the Action type to **COMMAND**.

The Command line is pre-defined with the Close Watch action (**CLSWATCH**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT                               Halcyon Message Manager                               HAL720P2
MARL                                     Add Message Action                               26/09/19 14:50:02

Message queue . . . . . QUSRBRM/BRMS
Rule number . . . . . 910      test
Action sequence . . . . . 10
Action type . . . . . COMMAND      Type, F4=Prompt
Command . . . . . CLSWATCH WATCHID(&JOBID) WATCHQUEUE(&MSGQLIB/&MSGQ)

-----

ASP_group . . . . . *SYSBAS      *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL      1-65533, *SYSVAL
System . . . . . *LOCAL      Name, *LOCAL, F4=Prompt

Delay . . . . . 0      0-86400 secs
Repeat . . . . . *NONE      *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Close Watch action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=Substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65533	The command is run using the specified CCSID

System

Specifies the name of the system, as listed on the [Work with Remote Locations](#) display, on which to perform the command action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location name

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The Action Monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-600	The command is run using the specified CCSID

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Close Watch action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Copy Output Queue action template

The Copy Output Queue action is available specifically for Output Queue rules. It allows all spooled files on an output queue to be duplicated onto another output queue. If required, it is possible to change several of the spooled file parameters as part of this process.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              26/09/19 08:36:28

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 915

Action type . . . . . COPYOUTQ          Type, F4=Prompt
To output queue . . . . . *SAME         Name, *SAME, F4=Prompt
Library . . . . .                      Name
ASP Group . . . . .                      Name, *SYSBAS, F4=Prompt
New owner . . . . . *SAME               Name, *SAME, F4=Prompt
Notify message queue . . . . . *NONE    Name, *NONE, F4=Prompt
Library . . . . .                      Name

Delay . . . . . 0                      0-86400 secs

F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

Parameters on the Copy Output Queue action display

The following parameters are available on this display.

To output queue / library

Specifies the output queue in which to create the new spooled files. When using **F4=Prompt** to search for queue and library, the ASP group is set first, therefore if you want to search an ASP other than *SYSBAS you must specify the ASP group name first.

*SAME	The new spooled files are created in the same output queue as the spooled files being copied
output queue	Specify the qualified name of the output queue to where the spooled files will be copied

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

New owner

Specifies the owner of the new output queue and spooled files.

*SAME	The same owner as the original setting is kept
Owner	Specify a user profile as the new owner

Notify message queue

Specifies whether a message is sent to a specific message queue informing the recipient that the output has arrived on another queue.

Name	Specify the name of the message queue to which the notification is sent
*NONE	No notification is sent

Message Queue Library

Specifies the name of the library that contains the message queue to which the notification was sent.

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Functions on the Copy Output Queue action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Delete Journal Receiver action template

The system writes entries to an object called a journal receiver. The system sends entries for all the objects associated with a particular journal to the same journal receiver.

Use the Delete Journal Receiver action to remove a journal receiver from the system .

Select the Delete Journal Receiver action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Delete Journal Receiver (**DLTJRNRCV**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Device Action                    27/09/19  15:45:00

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . DLTJRNRCV JRNRCV(&OBJLIB/&OBJECT) DLTOPT(*IGNINQMSG
)

ASP_group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE              *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Delete Journal Receiver action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Delete Journal Receiver action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Delete Spooled File action template

The Delete Spooled File action template is used to delete a specified spooled file.

NOTE: This action is only available when working with output queue rules.

Select the Delete Spooled File action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Delete Spooled File (**DLTSPLF**) command, pre-populated with substitution variables. Update these variables using **F16=List substitution variables** so that they relate to the spooled file to be deleted.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              26/09/19 15:35:34

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . DLTSPLF FILE(&FILE) JOB(&JOBNBR/&JOBUSER/&JOBNAME)
SPLNBR(&SPLFNBR) CRTDATE(&SPLFDATE &SPLFTIME)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Delete Spooled File Action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Delete Spooled File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Disconnect Job action template

Selecting the Disconnect Job action allows you to hibernate an IBMi terminal by suspending a specific job and signing off from the system. When signing back on to the system, the job is automatically restarted. If used to disconnect a job on a PC device, the job is forcibly ended and no restart is possible.

Select the Disconnect Job action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Disconnect Job (**DSCJOB**) command, pre-populated with substitution variables. Update these variables using **F16=List substitution variables** so that they relate to the job to be disconnected.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Device Action                    27/09/19 08:08:44

Rule group . . . . . EXAMPLE
Rule number . . . . . 450          test

Action type . . . . . COMMAND      Type, F4=Prompt
Command . . . . . DSCJOB JOB(&JOBNBR/&JOBUSER/&JOBNAME)

-----
ASP group . . . . . *SYSBAS        *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL           1-65533, *SYSVAL
System . . . . . *LOCAL           Name, *LOCAL, F4=Prompt

Delay . . . . . 0                 0-86400 secs
Repeat . . . . . *NONE            *NONE, 1-60 mins

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Disconnect Job Action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Disconnect Job action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Dump Object Info action template

The is action is exclusively for use with Object rule types, *DTAARA, *DTAQ, *FILE and *OBJECT. The Dump Object Info action is used to produce printed output of the detailed information relating to the selected object type.

Select the Dump Object Info action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Dump Object Info (**DSPOJBD**) command, pre-populated with substitution variables. Update these variables using **F16=List substitution variables** so that they relate to the required object type.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Object Action                    27/09/19 08:44:29

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . DSPOBJD OBJ(&OBJLIB/&OBJECT) OBJTYPE(&OBJTYPE) OUTP
UT(*PRINT)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Dump Object Info action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Dump Object Info action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

End Job action template

Selecting the End Job action allows you to forcibly end a job on a specified system which can be either an IBM i or PC device. Unlike the Disconnect Job action, there is no option to restart the job at a later point.

Select the End Job action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Dump Object Info (**ENDJOB**) command, pre-populated with substitution variables. Update these variables using **F16=List substitution variables** so that they relate to the job to be ended.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Job Queue Action                 27/09/19 09:05:35

Job queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . ENDJOB JOB(&JOBNBR/&JOBUSER/&JOBNAME)

-----

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the End Job Action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the End Job action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Hold Job Queue action template

This action is exclusively for use with Job Queue rules. The Hold Job Queue action can be used to hold all jobs on the specified job queue and prevent them from running.

Select the Hold Job Queue action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Hold Job Queue (**HLDJOBQ**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Job Queue Action                 27/09/19 09:43:26

Job queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . HLDJOBQ JOB0(&JOBQLIB/&JOB0)

-----

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Hold Job Queue action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Hold Job Queue action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Hold Output Queue action template

This action is exclusively for use with Output Queue rules. The Hold Output Queue action can be used to hold all files on the specified output queue and prevent them from running.

Select the Hold Output Queue action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Hold Output Queue (**HLDOUTQ**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 10:15:13

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . HLDOUTQ OUTQ(&OUTQLIB/&OUTQ)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Hold Output Queue Action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Hold Output Queue action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Hold Spooled File action template

The Hold Spooled File action is exclusively for use with Output Queue rules. Use the Hold Spooled File action to prevent a specific spooled file from running.

Select the Hold Spooled File action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Hold Spooled File (**HLDSPLF**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 10:27:33

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . HLDSPLF FILE(&FILE) JOB(&JOBNBR/&JOBUSER/&JOBNAME)
SPLNBR(&SPLFNBR)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Hold Spooled File action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Hold Spooled File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Lock Display action template

The Lock Display action can be used to temporarily lock the display. To restart the display from the lock action, press **Enter** and type your password when prompted.

Select the Lock Display action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Lock Display (**LCKDSP**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNACT          Halcyon System Event Manager          HAL720P2
MANL              Add Device Action                    27/09/19 16:14:51

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . LCKDSP JOB(&JOBNBR/&JOBUSER/&JOBNAME)

-----

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Lock Display action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Lock Display action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Move Jobs action template

This action is exclusively for use with Job Queue rules. This action is used to move jobs from one job queue to another.

Select the Move Jobs action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Move Jobs (**MOVEJOBS**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

NOTE: You must replace placeholder '&N' with an actual value.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Job Queue Action                27/09/19  10:59:31

Job queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . MOVEJOBS FROMJOBQ(&JOBQLIB/&JOBQ) TOJOBQ(&N/&N) JOBS(&JOBNAME &N)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Move Jobs action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Move Jobs action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Release Job Queue action template

This action is exclusively for use with Job Queue rules. The Release Job Queue action can be used to release a job queue that has previously been held by the Hold Job Queue action.

Select the Release Job Queue action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Release Job Queue (**RLSJQBQ**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Job Queue Action                27/09/19 11:30:03

Job queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . RLSJOBQ JOBQ(&JOBQLIB/&JOBQ)

-----

ASP group . . . . . *SYSBAS          *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL          1-65533, *SYSVAL
System . . . . . *LOCAL          Name, *LOCAL, F4=Prompt

Delay . . . . . 0          0-86400 secs
Repeat . . . . . *NONE          *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Release Job Queue action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Release Job Queue action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Release Output Queue action template

This action is exclusively for use with Output Queue rules. The Release Output Queue action can be used to release a job queue that has previously been held by the Hold Output Queue action.

Select the Release Output Queue action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Release Output Queue (**RLSOUTQ**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 11:39:24

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . RLSOUTQ OUTQ(&OUTQLIB/&OUTQ)

-----

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Release Output Queue action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Output Queue action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Release Spooled File action template

The Release Spooled File action is exclusively for use with Output Queue rules. Use the Release Spooled File action to release a specific spooled file that was previously held using the Hold Spooled File action.

Select the Release Spooled File action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Release Spooled File (**RLSSPLF**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTRCT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 11:56:48

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . RLSSPLF FILE(&FILE) JOB(&JOBNBR/&JOBUSER/&JOBNAME)
SPLNBR(&SPLFNBR)

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Release Spooled File action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Release Spooled File action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Reset a NetServer User action template

A print share is an output queue that is shared with PC clients on the network. You can share any output queue with the clients by using IBM i NetServer. By using IBMi NetServer securely, you can ensure that only authorized users can access IBMi NetServer resources, configuration, or shared data. The Reset NetServer User action allows you to reset an IBMi NetServer user profile.

Select the Reset a NetServer User action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Reset a NetServer User (RSTNETUSR) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 12:22:32

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . RSTNETUSR USER(&V1)

-----

ASP_group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL             1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Reset NetServer User action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Reset A NetServer User action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Send Message as SNMP Trap action template

This action allows you to send a message as an SNMP Trap.

Select the Send Message as SNMP action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Send SNMP Message (**SNDSNMPMSG**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required. This action always uses the port defined in [HAL/SNMPsrcport](#) from which to send SNMP Traps.

NOTE: You must replace placeholder '&N' with an actual value.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 12:33:32

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . SNDSNMPMSG MSG(&ALERT) HOST(&N)

-----

ASP_group . . . . . *SYSBAS          *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL          1-65533, *SYSVAL
System . . . . . *LOCAL          Name, *LOCAL, F4=Prompt

Delay . . . . . 0          0-86400 secs
Repeat . . . . . *NONE          *NONE, 1-60 mins

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Send Message as SNMP Trap action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Send Message As SNMP Trap action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Set LDA Values and Call Named Program action template

The Set LDA (**SETLDA**) command may be used to populate data for the specified message manager alert into the Local Data Area (*LDA) and then call the named user program.

Select the Set LDA action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Set LDA (**SETLDA**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

NOTE: You must replace placeholder '&N' with an actual value.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Output Queue Action              27/09/19 13:07:34

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . SETLDA ALERTID(&ALERTID) USRPGM(&N/&N)

-----

ASP_group . . . . . *SYSBAS          *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL             1-65533, *SYSVAL
System . . . . . *LOCAL             Name, *LOCAL, F4=Prompt

Delay . . . . . 0                   0-86400 secs
Repeat . . . . . *NONE              *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Set LDA Values and Call Named Program action display

The following parameters are available on this display.

Command

When **SETLDA** has either been entered as the Action type or selected using **F4=Prompt**, press **Enter** to display a command line with the **SETLDA** command and substitution variables ready for completion. The Halcyon Alert ID in the *LDA is included at position 914 for 9 characters. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

- *RULGRPASP** When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
- *ALTASP** When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
- *NONE** The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
- *SYSBAS** Same as *NONE
- name** Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Set LDA Values And Call Named Program action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Start Printer Writer action template

Select the Start Printer Writer action and press **Enter** to automatically change the Action type to **COMMAND**. The Command line is pre-defined with the Start Printer Writer (**STRPRTWTR**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTRACT          Halcyon System Event Manager          HAL720P2
MANL                 Add Output Queue Action              27/09/19 14:11:44

Output queue . . . . . QGPL/EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . STRPRTWTR DEV(&OUTQ) OUTQ(&OUTQLIB/&OUTQ)

-----

ASP group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Start Printer Writer action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Start Printer Writer action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Start Watch action template

The Start Watch action is used to start a watched message instance. This action is only available when working with message rules. Select the Start Watch action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Start Watch action (**STRWATCH**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

NOTE: You must replace placeholder '&N' with an actual value.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Message Action              27/09/19 14:33:41

Message queue . . . HA62A1/E2MSGQ
Rule number . . . . 5      test
Action sequence . . 10
Action type . . . . .COMMAND      Type, F4=Prompt
Command . . . . .STRWATCH WATCHID(&JOBID) WATCHQUEUE(&MSGQLIB/&MSGQ)
WATCHLEN(&N)

-----
ASP group . . . . . *SYSBAS      *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL      1-65533, *SYSVAL
System . . . . . *LOCAL      Name, *LOCAL, F4=Prompt

Delay . . . . . 0      0-86400 secs
Repeat . . . . . *NONE      *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Start Watch action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Start Watch action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

SYSLOG action template

The Syslog action allows the sending of the message to a syslog.

NOTE: The message is sent using the User Datagram Protocol (UDP) and therefore no verification of whether the action was successful is received.

Select the SYSLOG action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the SYSLOG (**SNDSYSLOG**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

NOTE: You must replace placeholder '&N' with an actual value.

```

HAL_MNTACT          Halcyon Message Manager          HAL720P2
MANL                Add Message Action              27/09/19 14:45:41

Message queue . . . HA62A1/E2MSGQ
Rule number . . . . 5      test
Action sequence . . 10
Action type . . . . .COMMAND      Type, F4=Prompt
Command . . . . .SNDSYSLOG HOST(&N) MSG(&ALERT) PROCESS(&MON)

ASP_group . . . . . *SYSBAS      *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL      1-65533, *SYSVAL
System . . . . . *LOCAL      Name, *LOCAL, F4=Prompt

Delay . . . . . 0      0-86400 secs
Repeat . . . . . *NONE      *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the SYSLOG action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
system	The action is performed on the system and environment defined by the specified location

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the SYSLOG action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Vary Off action template

Specifically for Device rules, the Vary Off action allows you to change the status of the IBMi device to 'Unavailable'.

When working with Device Rules, select the Vary Off action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Vary Off (VRYCFG) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Device Action                    27/09/19 14:55:02

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . VRYCFG CFGOBJ(&OBJECT) CFGTYPE(&CFGTYPE) STATUS(*OF
F)

ASP group . . . . . *SYSBAS            *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE                *NONE, 1-60 mins

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Parameters on the Vary Off action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Vary Off action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Vary On action template

Specifically for Device rules, the Vary On action allows you to change the status of the IBMi device to available.

When working with Device rules, select the Vary On action and press **Enter** to automatically change the Action type to COMMAND. The Command line is pre-defined with the Vary On (**VRYCFG**) command, pre-populated with substitution variables for this action. Use **F16=List substitution variables** to amend these variables if required.

```

HAL_MNTACT          Halcyon System Event Manager          HAL720P2
MANL                Add Device Action                    27/09/19 15:30:05

Rule group . . . . . EXAMPLE
Rule number . . . . . 450

Action type . . . . . COMMAND          Type, F4=Prompt
Command . . . . . VRYCFG CFGOBJ(&OBJECT) CFGTYPE(&CFGTYPE) STATUS(*ON
)

ASP_group . . . . . *SYSBAS           *RULGRPASP, *ALTASP, Name, F4=Prompt
CCSID . . . . . *SYSVAL              1-65533, *SYSVAL
System . . . . . *LOCAL              Name, *LOCAL, F4=Prompt

Delay . . . . . 0                    0-86400 secs
Repeat . . . . . *NONE               *NONE, 1-60 mins

F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Parameters on the Vary On action display

The following parameters are available on this display.

Command

Specifies the command that is performed if this action is triggered. With the cursor on the Command line parameter, use **F16=List substitution variables** to view a list of alternative entries for this command.

ASP Group

Specifies the name of the auxiliary storage pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*RULGRPASP	When this command action is run by a message queue, output queue or job queue rule, the ASP Group that contains the queue is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When this command is not run by a message queue, output queue or job queue rule, the current thread has no ASP group
*ALTASP	When this action is run by a message queue rule, the ASP group that contains the named message file is the ASP group to be set for the current thread when the command is run. All libraries from all ASPs in this ASP group will be included in the library name. When the command is not run by a message queue rule the command action treats it as *RULGRPASP
*NONE	The current thread has no ASP group. The library name does not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs are included in the library name
*SYSBAS	Same as *NONE
name	Specify the name of the primary ASP in the ASP group to be set for the current thread when command is run. All libraries in the system ASPs in this ASP group are included in the library name

TIP: If ASP Group is *RULGRPASP or *ALTASP, and System is *LOCAL and you enter a library-qualified command that is found in an ASP group (i.e. not in *SYSBAS), the ASP Group field is automatically set to the ASP group that contains that command. For Remote ASP commands, you must set the ASP Group field manually.

CCSID

Specifies whether to run the command using a specific coded character set identifier (CCSID). The text entered within the command/message is evaluated for the CCSID specified. If not valid, an error message is shown.

*SYSVAL	The Action monitor runs the command using the CCSID defined in the IBM system value QCCSID
1-65599	The command is run using the specified CCSID

System

Specifies the name of the system, as defined on the [Work with Remote Locations](#) display, on which to perform the action.

*LOCAL	The action is performed on the current system and in the current environment
---------------	--

system	The action is performed on the system and environment defined by the specified location
---------------	---

Time-out

If a remote system has been specified in the 'System' parameter, the entry in this parameter specifies the maximum time allowed for this action to be sent to the remote system. If the time elapses without the action being sent, the send is aborted and the action fails.

*DFT	The batch mode time-out period specified on the Work with Remote Locations display is used
1-600	Enter a specific time-out period (in seconds)

Delay

Specify the time delay, in seconds, before the action is invoked. This setting can be between 0 and 86400 (24 hours). If the alert is manually closed before the specified time elapses, the action is not performed.

Repeat

Specifies the repeat interval in minutes

*NONE	The action does not repeat
1-60	The action repeats at the specified interval until the alert is acknowledged or closed. This option is ignored if the action is in an Action Schedule invoked by the On-Close action of a rule

NOTE: If the Repeat option is used with an action in an Action Schedule, any On-Condition entries in the Action Schedule that refer to this action will only consider the first instance of this action.

Functions on the Vary On action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List Substitution Variables

If the cursor is in a field which supports substitution variables, this displays a list of substitution variables from which a selection may be made.

Changing Actions

Changing an action allows you to change the current settings or assign a different action to the rule from the one originally selected.

Type **2** against the rule action that you want to change.

```

HHM_MNTRUL          Halcyon Message Manager          HAL720P2
MANL                Change Message Queue Rule        16/11/20 13:00:34
Message queue . . . HA_CLUSTER                      (3 of 3)
Library . . . . . QUSRSYS                          Rule Held
Description . . . . HA Cluster Messages
Type options, press enter.
2=Change 3=Copy 4=Delete 8=Count/Method
Opt Sel/Omit  Msg ID  Message file      Job      User      Program  Cmp
- Select      *ALL   *ALL/*ALL      *ALL    *ALL     *ALL     No
-----
                Actions
Seq Action                      Count Delay
 2 010 ACTSCH ACTSCH(AS1)        *NOMAX   0
-----
F3=Exit  F6=Add  F7=Reorder  F11=Alt view  F12=Cancel  F24=More keys
Bottom
  
```

The current settings for the selected action are displayed.

```

HAL_MNTRUL          Halcyon Message Manager          HAL720P2
MANL                Change Message Action            16/11/20 13:27:10
Message queue . . . QUSRSYS/HA_CLUSTER
Rule number . . . . 10          All messages
Action sequence . . 10
Action type . . . . . ACTSCH      Type, F4=Prompt
Action schedule . . AS1          Name, F4=Prompt
Console alert type . *AUTO        *AUTO, *INFO, *COMP..., F4=Prompt
Console severity . . *AUTO        0-99, *SAME, *AUTO
Default alert text . &ALERT
-----
Subject, if email . . *AUTO
-----
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables
  
```

Changing the current action settings

Use the available fields and associated selection criteria on this display to amend the current action settings. If more than one action is in force on the rule you can change the Action sequence to amend the order in which the actions on the rule are performed. See [Action sequence](#) for more information.

Once the changes have been made, press **Enter** to confirm and save the updated action.

Changing the action

To change the current action for a new action, move the cursor to the **Action type** field and either overwrite the current action name with the new action or use **F4=Prompt** to open the Select Action Type window from where a new valid action can be selected.

NOTE: Some actions are only available for certain rule types.

The selection criteria changes to reflect that of the new selected action.

Complete the fields as required and press **Enter** to confirm and save the action.

The new action is applied to the rule.

Copy Actions command

The Copy Actions (**CPYACT**) command allows you to copy actions from a specific rule to all the rules in a specific rule group as ***ADD** or ***REPLACE**.

Getting there

Type **CPYACT** on the command line and press **F4**.

```

Copy Actions (CPYACT)
TYPE CHOICES, PRESS ENTER.
Product . . . . . _____ HAM, HEM, HMM, HMQ, HMX...
Monitor . . . . . _____ AUD, CST, DEV, DSQ, INA...
From rule group . . . . . _____ Name
From library . . . . . _____ Name, *NONE
From rule . . . . . _____ 1-9999
To rule group . . . . . *FROMQUEUE Name, *FROMQUEUE, *ALL
To library . . . . . *FROMLIBR Name, *FROMLIBR, *ALL
To rule . . . . . *FROMRULE 1-9999, *FROMRULE, *ALL
Option . . . . . *ADD *ADD, *REPLACE

BOTTOM
F3=EXIT F4=PROMPT F5=REFRESH F12=CANCEL F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS

```

Parameters on the Copy Action display

The following parameters are available on the Copy Action display

Product

Select the three letter Halcyon product code of the rule action that you want to copy.

Monitor

Specify the type of rule that you want to copy.

AIM	Alert Intelligence rule
AUD	Audit Journal rule
CST	Custom Monitor rule

DEV	Device rule
DSQ	Distribution Queue rule
INA	Inactivity rule
JBL	Job Log rule
JOB	Job Queue rule
JRN	Custom Journal rule
LOG	Log File rule
MMQ	Message Queue rule
OBJ	Object rule
OUT	Output Queue rule
PFM	Performance rule
RTM	Restricted Task rule
TCP	TCP/IP rule
USR	User Profile rule
XPM	Exit Point Manager rule

From rule group

Specify the name of the queue or rule group name of the rule whose actions you want to copy.

From library

If the 'From rule group' parameter specifies a queue name, enter the library name in this parameter. If the 'From rule group' parameter is a rule group, enter *NONE in this parameter.

From rule

Specify the number of the rule whose actions you want to copy.

1-9999	Copies the actions from the entered rule number
---------------	---

To rule group

Specify the name of the queue or rule group to which you want to copy the actions.

*FROMQUEUE	Uses the value specified in the 'From rule group' parameter
*ALL	The actions may be copied to all rule groups, subject to the entries in subsequent parameters
toqueue	Enter a specific message queue or rule group name

To library

If the 'To rule group' parameter specifies a queue name, enter the library name in this parameter. If the 'To rule group' parameter is a rule group, enter *FROMLIBR in this parameter.

*FROMLIBR	The entry in the 'From library' parameter is used
*ALL	The actions may be copied to all queue libraries subject to other parameters
tolibr	Enter the specific library name

To rule

Specify the number of the rule to which you want to copy the actions.

*FROMRULE	Uses the value in the 'From rule' parameter
*ALL	The actions are copied to all rules, subject to other parameters
1-9999	Enter a specific rule number

Option

Specifies how the actions are copied to each rule.

*ADD	The copied actions are added to any actions that already exist for the rule
*REPLACE	The copied actions replace any actions that already exist for the rule

Press **Enter** to copy the actions from the selected message queue/rule group/rule to the specified message queue rule group/rule.

Functions on the Copy Action Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Closing Alerts

For all actions, except the Console action, where the alerts can be monitored and closed from within the Enterprise Console, you need to add a:

```
CLOSE *CURRENT
```

action to ensure that the alert is closed.

Failure to do so can result in a large number of alerts appearing in the [Alert Log](#) that then need to be closed manually. In order that the Close action and other running actions are completed, there are two types of action completion; normal and forced, which are set automatically by the software.

Normal action	Only ever completed if the alert is open
Forced action	Completed even if the alert is closed

This means that actions defined to run at the same action sequence level and with the same delay time (message queue rules only) are forced to complete even if one of them is a Close action that is triggered first.

If a delay is specified, the forced flag is not set until the delay expires. Therefore, delayed actions are stopped if the alert is closed before the delay expires, but once the delay has expired, the actions are set to forced so that are guaranteed to complete even though the alert is now closed.

Therefore, not setting a `CLOSE *CURRENT` action also means that actions that are not forced, are canceled when the alert is manually closed.

EXAMPLE: Example One

Action Delay

```
CLOSE ALERT (*CURRENT) 0
SNDTXT SENDTO (ABMAIL) MSGTXT(&SYSNAME - &ALERT) 0
SNDTXT SENDTO (ABPHONE) MSGTXT(&SYSNAME - &ALERT) 0
```

When the alert is raised, the two SNDTXT actions are set to forced which means that they run, even if the Close action is completed first.

EXAMPLE: Example Two

Action Delay

```

SNDTXT SENDTO(ABMAIL) MSGTXT(&SYSNAME - &ALERT) 0
SNDTXT SENDTO(ABPHONE) MSGTXT(&SYSNAME - &ALERT) 0

```

In this example there is no Close action, so the actions are not set to forced. These are likely to be actioned anyway, but if there was a communications problem or a big queue of messages waiting to be sent, the SNTXT actions would be canceled if the alert was closed before they could be sent.

EXAMPLE: Example Three

Action Delay

```

SNDTXT SENDTO(ABMAIL) MSGTXT(&SYSNAME - &ALERT) 60
SNDTXT SENDTO(ABPHONE) MSGTXT(&SYSNAME - &ALERT) 60
CLOSE ALERT(*CURRENT) 600

```

This deals with multiple actions but with different delay periods. The two SNTXT actions are not forced as there is no Close action with the same delay.

The SNTXT actions are attempted and the alert is then closed nine minutes later. If the two SNTXT actions had not completed by then, they are canceled.

EXAMPLE: Example Four

Action Delay

```

SNDTXT SENDTO(ABMAIL) MSGTXT(&SYSNAME - &ALERT) 600
SNDTXT SENDTO(ABPHONE) MSGTXT(&SYSNAME - &ALERT) 600
CLOSE ALERT(*CURRENT) 600

```

This example demonstrates an important point about forcing actions. The force is only set when the delay has expired. The actions above run ten minutes after the alert is raised. If the alert is closed before the ten minutes have expired, all three actions are canceled. However, if the delay expires and the alert is still open, the two SNTXT actions are set to forced and all three actions are completed. As the SNTXT actions are set to force, they are completed even if the Close action is processed first by the Action Monitors.

Closing alerts within an Action Schedule

When using an action schedule, actions that are CLOSED are treated as the equivalent to PASS for the purpose of Condition checking. For example, in a schedule containing the following actions:

```

10 *ALL CONSOLE ENTCON

```

```

20 IF 10 *FAIL CONSOLE *LOCAL

```

30 IF 10 *PASS AND *20 *FAIL CLOSE

If action 10 is successful, Action 20 is CLOSED. Action 30 is then treated as PASSED.

Calling a user program when closing alerts

It is possible to call a user created program when a local system alert is closed. This is controlled by system default [HAL/ALTCLOSEEXITPGM](#). If set to *NONE no program is called, if set to a program the program is called every time a local system alert is closed with the following parameters passed.

*DEC 9	Alert ID of the alert that was closed
*CHAR 1	The method used to close the alert
*CHAR 20	The user who closed the alert. If the alert was closed from an IBMi system, this is the user ID of the user who closed it. If the alert was closed from a PC Enterprise Console, this is the PC logon name of the user who closed it
CHAR 8	If the alert was closed by a remote environment, this is the remote location name of that environment as defined on the local environment
*CHAR 32	If the alert was closed by a PC Enterprise Console, this is the PC name of that environment as defined on the local environment

NOTE: The program is called whenever a locally raised alert gets closed by any method. It is not called if you delete the alert using **CLRTALTLOG** with **CLOSE(*NO)** specified. Closing another environment's alerts using Halcyon [Message Console](#) does not call the program, but the remote system would call its exit program if one is defined.

Example Rules

Halcyon product suites come with pre-defined example rules that are based upon common monitoring requirements. These rules enable you to commence system monitoring with the minimum of effort and knowledge.

Example message queue rules are pre-defined by the message queue for which the rule is intended. All other rules are defined within the EXAMPLE rule group for each monitored group or queue.

All example rules are in an initial status of 'Held' and must be released in order to begin monitoring.

Each rule has an pre-determined action applied via an Action Schedule which sends an alert to the local system console.

Re-instating Example Rules

A command has been made available to re-instate the shipped Halcyon Example Rules if you have deleted or overwritten them with your own rules. This is useful if you have been using the product in a test environment or experimenting with different scenarios to generate a series of results.

To re-instate the example rules that are shipped with the product run the command:

CSTENV *EXAMPLES

WARNING: This action will overwrite any existing rules with the same group name and rule number as the example rules.

Customizations

Customizations are a series of pre-defined rules that can be used to monitor specific business-critical applications such as JDE, SAP, INFOR M3, MIDAS PLUS and MAXAVA. Each customization can be run individually to apply as many pre-defined rules as you want.

Although customization rules are usually applied immediately after installation of a Halcyon product suites, they can be applied at any time.

NOTE: Customization rules need an authorization code. Please contact: support.halcyon@fortra.com or your local reseller for details.

Installation of Customized Environment

Follow these instructions to install templates to a customized environment.

1. Log into the environment to which you want to apply the customized template, for example, HALPROD/HALCYON.
2. From the command line run **ENDMON** and press **F4**. Follow the prompts to complete the ending of the monitors.

NOTE: The installation of the customized environment fails if the monitors are not stopped.

3. From the command line type **CSTENV** and press **F4**.
4. Type the required authorization code for the template you want to apply and press **Enter**.

```

Customize Environment (CSTENV)

TYPE CHOICES, PRESS ENTER.

Customization code . . . . . _____ Character value

                                                                 BOTTOM
F3=EXIT  F4=PROMPT  F5=REFRESH  F12=CANCEL  F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS

```

The Customized environment is now installed.

- From the Halcyon main menu, select option **5=Work with Rules**. The template rules applicable to the customized environment that you installed can be found in the listed queue and rule groups. Default Action Schedules are installed and additionally, where appropriate, changes to system defaults may also be made.

Applying Customizations

It is possible to apply multiple customizations on the same environment. When you apply a customization, you do not reset any changes to rules or previously installed customizations except where there is an overlap on individual items, for example, where two separate customizations set the same rule.

Items can be customized using the Create, Change and Delete commands. However, these procedures are more complicated when creating and changing rules, rule groups, action schedules and calendars. In these instances, the data is pre-shipped in customized files from which specific items can then be copied into the products.

To facilitate this, the **CPYRULE**, **CPYRULEGRP**, **CPYACTSCH** and **CPYCAL** commands have a 'From file' parameter which allows you to copy data from the customize data files.

The following commands can be used to support customized environments:

Delete Rule

On the command line type **DLTRULE** and press **F4**. Use this command to delete a specific rule. Parameters allow you to specify the Product, Monitor, Library, Rule group and Rule.

Delete Rule Group

On the command line type **DLTRULGRP** and press **F4**. Use this command to delete a specific rule group. Parameters allow you to specify the Product, Monitor, Rule group and Library.

Copy Rule

On the command line, type **CPYRULE** and press **F4**. Use this command to copy a specific rule.

The following parameters are available on the Copy Rule display.

Product

Specify the Halcyon product code of the rule that you want to copy.

Monitor

Specify the monitor code of the rule that you want to copy.

From rule group

Specify the rule group from which the rule is copied.

From library

If the entry in the 'From rule group' parameter specifies a queue name, enter the library qualifier. If the 'From rule group' parameter specifies a rule group name, select *NONE in this parameter.

From rule

Specify the number of the rule that you want to copy.

From environment

Specify the environment that contains the rule that you want to copy.

*SAME	The rule is in the same environment in which this command is running
*FILE	The rule to copy is in the files specified in the 'From file' parameter
Name	Enter the name of the environment that contains the rule to be copied. The environment can be on the same system or on the remote system specified in the 'From sys' parameter

To rule group

Specify the name of the queue or rule group to which the rule is copied. The queue or rule group must already exist. If you specify FROMQUEUE, the value specified in the 'From queue' parameter is used as the queue or rule group name.

To library

If the entry in the 'To rule group' parameter specifies a queue name, enter the library qualifier. If the 'From rule group' parameter specifies a rule group name, select *FROMLIBR in this parameter.

To rule

Specify the number of the rule to which you want the existing rule to be copied. If you specify *FROMRULE, the Rule Number in the 'From rule' parameter is used.

Replace

Specify if the copied rule is to replace an existing rule. If the rule already exists and *NO is selected here, the copy fails with an error.

Copy Rule Group

On the command line, type **CPYRULGRP** and press **F4**. Use this command to copy an entire rule group and its contents to a new rule group.

The following parameters are available on the Copy Rule Group display.

Product

Specify the Halcyon product code of the queue or rule group that you want to copy.

Monitor

Specify the monitor code of the queue or rule group that you want to copy.

From rule group

Specify the queue name or rule group from which the rule group is copied.

From library

If the entry in the 'From rule group' parameter specifies a queue name, enter the library qualifier. If the 'From rule group' parameter specifies a rule group name, select *NONE in this parameter.

From environment

Specify the environment that contains the queue or rule group that you want to copy.

*SAME	The rule is in the same environment in which this command is running
*FILE	The rule to copy is in the files specified in the 'From file' parameter
Name	Enter the name of the environment that contains the rule to be copied. The environment can be on the same system or on the remote system specified in the 'From sys' parameter

To rule group

Specify the name of the queue or rule group that you want to create. If you specify FROMQUEUE, the value specified in the 'From queue' parameter is used as the queue or rule group name

To library

If the entry in the 'To rule group' parameter specifies a queue name, enter the library qualifier. If the 'To rule group' parameter specifies a rule group name, select *FROMLIBR in this parameter

Replace

Specify whether to replace an existing rule group and its rules.

*NO	If the 'To rule group' already exists, an error occurs and neither the rule group or its rules are copied
*YES	If the 'To rule group' already exists, it and the rules it contains are deleted and replaced with the new group and rules
*ADDRULE	If the 'To rule group' already exists it is not replaced. Rules in the 'From rule group' that do not already exist in the new rule group are copied. Rules that already exist are not copied. No rules are deleted from the new group
*ADDRULE2	The same as *ADDRULE but when message rules are copied, the global exclusions (rule 00 are included
*UPDRULE	If the 'To rule group' already exists, it is not replaced. Rules in the 'From rule group' that do not already exist in the new Rule Group are copied. Rules that already exist are also copied from the new group, replacing the current rules. No rules are deleted from the group.

Copy an Action or Call Schedule

On the command line, type **CPYACTSCH** and press **F4**. Use this command to copy an Action or Call schedule within or into the product environment in which the command is running.

The following parameters are available on the Copy Action or Call Schedule display.

From

Specify the name of the schedule that you want to copy.

To

Specify the name of the schedule that you want to create.

Schedule type

Specify whether an Action or Call schedule is to be created.

Replace

Specify whether to replace an existing schedule if necessary. If you select *NO and the schedule already exists, the command ends in an error and the existing schedule is not replaced.

Press **F10=Additional parameters** to show further parameters on this display.

From file/library

Specify the qualified name of the header file from which the schedule is copied.

*CURRENV	The schedule is copied from the files in the product environment in which this command is running
name	Enter the qualified name of the header file from which the schedule is copied. The file name must be xxxASC (where xxx is any 3 letters). In addition to the header file, a details file is also required. This file must be in the same library as the header file and have the same three letter prefix followed by ASD

In all cases the file level of each file must be the same as the corresponding file in the product environment in which this command is running.

Copy Calendar

On the command line, type **CPYCAL** and press **F4**. Use this command to copy a calendar within or into the product environment in which the command is running.

The following parameters are available on the Copy Calendar display.

From calendar

Specify the name of the calendar that you want to copy.

To

Specify the name of the calendar that you want to create.

Replace

Specify whether to replace an existing calendar if necessary. If you select *NO and the calendar already exists, the command ends in an error and the existing calendar is not replaced.

Press **F10=Additional parameters** to show further parameters on this display.

From file/library

Specify the qualified name of the header file from which the calendar is copied.

*CURRENV	The calendar is copied from the files in the product environment in which this command is running
name	Enter the qualified name of the header file from which the calendar is copied. The file name must be xxxCAD (where xxx is any 3 letters). In addition to the header file, a details file is also required. This file must be in the same library as the header file and have the same three letter prefix followed by CAL. In all cases, the file level of each file must be the same as the corresponding file in the product environment in which the command is running

Create Action Template

On the command line, type **CRTACTTPL** and press **F4** to open the Create Action Template display.

The following parameters are available on the Create Action Template display.

Name

Specify the name of the new Action Template. This cannot be the same as the name of a built-in system action.

Description

Enter a description for the new Action Template.

Command

Specify the command that is used for this Action Template. You can specify any command that is allowed to run in the *EXEC environment (normally any command that can be run from the command line). Halcyon substitution variables may be included in the command. The special variable '&N' may be used as a placeholder if the value for a command parameter may vary each time a command string is created from the template. This forces the user to replace the placeholder with another variable or fixed value.

Replace

Specify whether to replace an existing action template if necessary. If you select *NO and the Action Template already exists, the command ends in an error and the existing Action Template is not replaced.

Create Remote Location

On the command line, type **CRTRMTLOC** and press **F4** to open the Create Remote Location display. A remote location represents a specific environment on a specific system with which you want to communicate.

The following parameters are available on the Create Remote Location display.

Remote location

Specify the name of the remote location. When the remote location is an IBMi, it is recommended that you use the system name as shown by the Display Network Attributes (**DSPNETA**) command.

If you need to communicate with multiple environments on a remote system, you must create a remote location for each, with the same IP Address but a different port. In each case, the port used must match the port defined for the *SYSTEM entry in each environment.

If you need to communicate with another environment on this system, create a remote location with the IP Address and port as defined in the *SYSTEM entry in the target environment.

Description

Specify the textual description of the remote location.

*RMTLOC	The name of the remote location is used as the description
text	Enter a description for the remote location

System type

Enter the type of system to be defined.

i5	IBMi system. Use this value when defining a system installed with compatible Halcyon IBMi products
PC	PC System. Use this value when defining a system installed with Halcyon Enterprise Console

Host name or IP address

Specify the host name or IP Address used to communicate with the remote location. Host names must exist in the TCP/IP host table or via a domain name server. Use the Add TCP/IP Host Table Entry (**ADDTCPHTE**) command. To define domain name servers, use the Change TCP/IP (**CHGTCPDMN**) command. If a resolvable alias name is specified it is automatically replaced by the primary host name to which the alias is resolved.

*RMTLOC	Remote location is used as the host name
address	Enter a host name or a valid IP address

Remote port

Specify the port number which the remote system uses to receive data.

Replace

Specify whether to replace an existing remote location if necessary. If you select *NO and the remote location already exists, the command ends in an error and the existing remote location is not replaced.

Create Email Address

On the command line, type **CRTEMLADR** and press **F4** to open the Create Email Address command.

The following parameters are available when using the Create Email Address command.

Name

Specify the name by which the email address is referred to as a message device. The name must be unique amongst all existing message devices.

Description

Specify a textual description of the email address.

Email address

Enter the email address of the recipient.

Subject

Enter the subject text that will be used each time an email is sent using this message device.

Send authority

Specifies whether this email address is allowed to send messages to this system and if so what authority scheme is used.

*NONE	This email address is not allowed to send messages to this system. If any messages are sent, they are ignored but logged on the IBMi
*EMAIL	This email address is allowed to send messages to this system and Email address authority is used. See Type of authority . A valid 'From-address' is considered sufficient authority to send messages. Commands sent to the system are run by the Action monitors, usually running as QSYSOPR, using their own authority. See *EMAIL message authority
*USER	The email address is allowed to send messages to this system and *USER authority is used. In this instance, a user profile is associated with the email address and when any messages are sent to this system, the password for that user must also be sent. Commands sent to the system are run by the Action monitors, using the specified user profile. See *USER message authority

NOTE: Only the first line of an inbound email is processed.

Additional parameters available on this display are determined by the selection within the 'Send authority' parameter.

*EMAIL message authority

The following parameters are available when *EMAIL message authority is selected as the send authority.

Type of authority

Specifies the type of authority required to enable the running of commands received from this email address.

*GEN	General authority is required. This email address may run any command to which the user profile running the command has authority including private, group or special authority
*PVT	Private authority is required. The email address may only run commands to which the user profile running this command has private authority

*LIST	List authority is required. The email address may only run commands specifically authorized in the Opcodes section of this display. In addition, general authority is also required
--------------	---

Allow commands

Specifies whether this email address is allowed to send commands to be run on this system.

*YES	This email address can send commands
*NO	This email address is not allowed to send commands

Allow replies

Specifies whether this email address is allowed to send a reply to an inquiry message using the 'Reply by Alert ID (**RPLYALT**) command.

*YES	This email address can use the RPLYALT command. If 'Allow commands' is set to *NO , this command is an exception
*NO	This email address is not allowed to use the RPLYALT command

Send Acknowledgments

Specifies whether to return a text message indicating the status of a command request. If enabled, the system sends a message indicating either the successful completion or failure of the command.

*YES	Acknowledgments are sent
*NO	Acknowledgments are not sent

Command opcode

Specifies the opcode used by this email address to indicate a command in a message. This parameter defaults to the value specified by system default [HMC/SMSCMDOPCODE](#). The shipped value of this system default is **CMD**. To use an opcode in a message, type the opcode **followed immediately by a period (.)** and then the command text. For example: **ENDQPGMR.ENDSBS QPGMR *IMMED.**

The opcode is not case sensitive.

NOTE: The command fails if the opcode is not followed immediately by a period (.).

Alert reference opcode

Specifies the opcode used by this email address to indicate an alert reference in a message. This parameter defaults to the value specified by system default [HMC/SMSREFOPCODE](#). The shipped value of this system default is **REF**. To use the alert reference opcode in a message, type the opcode **followed immediately by a period (.)** and then the alert ID. The alert ID specified is then available in the **&REF** replacement variable. The opcode is not case sensitive.

NOTE: The operation fails if the opcode is not followed immediately by a period (.).

Password opcode

Specifies the opcode used by this email address to indicate a password.

Replace

Specify whether to replace an existing email address if necessary. If you select *NO and the email address already exists, the command ends in an error and the existing email address is not replaced.

*USER message authority

The following parameters are available when *USER message authority is selected as the send authority.

User name

Specifies the user name used to run commands sent from this email address when *USER authority is being used.

Type of authority

Specifies the type of authority required to enable the running of commands received from this email address.

*GEN	General authority is required. This email address may run any command to which the user profile running the command has authority including private, group or special authority
*PVT	Private authority is required. The email address may only run commands to which the user profile running this command has private authority
*LIST	List authority is required. The email address may only run commands specifically authorized in the Opcodes section of this display. In addition, general authority is also required

Allow commands

Specifies whether this email address is allowed to send commands to be run on this system.

*YES	This email address can send commands
*NO	This email address is not allowed to send commands

Allow replies

Specifies whether this email address is allowed to send a reply to an inquiry message using the 'Reply by Alert ID (**RPYALT**) command.

*YES	This email address can use the RPYALT command. If 'Allow commands' is set to *NO , this command is an exception
*NO	This email address is not allowed to use the RPYALT command

Send acknowledge

Specifies whether to return a text message indicating the status of a command request. If enabled, the system sends a message indicating either the successful completion or failure of the command.

*YES	Acknowledgments are sent
*NO	Acknowledgments are not sent

Command opcode

Specifies the opcode used by this email address to indicate a command in a message. This parameter defaults to the value specified by system default [HMC/SMSCMDOPCODE](#). The shipped value of this system default is **CMD**. To use the opcode in a message, type the opcode **followed immediately by a period (.)** and then the command text. For example: **ENDQPGMR.ENDSBS QPGMR *IMMED.**

The opcode is not case sensitive.

NOTE: The command fails if the opcode is not followed immediately by a period (.).

Alert reference opcode

Specifies the opcode used by this email address to indicate an alert reference in a message. This parameter defaults to the value specified by system default [HMC/SMSREFOPCODE](#). The shipped value of this system default is **REF**. To use

the opcode in a message, type the opcode **followed immediately by a period (.)** and then the alert id. The alert id specified is then available in the &REF replacement variable.

The opcode is not case sensitive.

NOTE: The operation fails if the opcode is not followed immediately by a period (.).

Password opcode

Specifies the opcode used by this email address to indicate a password. This must be sent when the Message send authority is set to *USER.

Create Phone

On the command line, type **CRTPHONE** and press F4 to open the Create Phone display.

The following parameters are available on the Create Phone display.

Name

Specify the name of the phone. The name must be unique amongst all existing message devices.

Description

Enter a textual description of the phone.

Phone number

Specify the actual phone number. For clarity purposes, the number may be formatted using intermediate spaces or hyphens (-), which are ignored at the time of processing.

The number may be prefixed with an IDD (International Direct Dialing) code, comprising a (+) sign and one or more digits. If no IDD prefix is typed as part of the number, the default IDD prefix as defined in the [HMC/DFTIDDPREFIX](#) system default is used if an international format number is required.

Service provider

Specify the service provider used with this phone.

*SYSDFT	The phone is set to the service provider identified in the system default HMC/DFTSVCPRVPHONES . The service provider for this phone does not change if the system default is changed at a later point
name	Enter the name of the service provider

SMS send authority

Specify whether this phone is allowed to send SMS messages to this system, and if so, what level of authority is provided.

*NONE	This phone is not allowed to send SMS messages to this system. If sent, they are ignored but logged on the IBMi
*PHONE	The phone can send SMS messages to this system. With *PHONE authority, possession of the phone is deemed as sufficient authority to be able to send messages, therefore if it is lost or stolen, you could be vulnerable to a hostile attack, until the phone can be disabled using the Work with Phones display
*USER	This phone can send SMS messages to this system. With *USER authority, a user profile is associated with the phone so that the user password must also be sent

NOTE: Additional parameters are made available on this display depending on the option selected in the 'SMS Send Authority' parameter. Please refer to [Adding a Phone](#) for more information regarding these parameters.

Replace

Specify whether to replace an existing phone if necessary. If you select *NO and the phone already exists, the command ends in an error and the existing phone is not replaced.

Create Broadcast Group

On the command line, type **CRTBRDGRP** and press **F4** to open the Create Broadcast Group display.

The following parameters are available on the Create Broadcast Group display.

Name

Specify the name by which the broadcast group is identified as a message device. This name must be unique amongst existing message devices.

Description

Enter a textual description of the broadcast group.

Device names

Specify the names of the message devices that comprise this broadcast group. Any type of message device is valid, including broadcast groups other than this one. A maximum of 32 devices may be specified. Use '+' to enter multiple values.

Replace

Specify whether to replace an existing broadcast group if necessary. If you select *NO and the broadcast group already exists, the command ends in an error and the existing broadcast group is not replaced.

Create Substitution Variable

On the command line, type **CRTSBSVAR** and press **F4** to open the Create Substitution Variable display.

Variable

Specify the name of the substitution variable. Do not begin the name with '&' otherwise it is automatically removed.

Description

Enter a textual description of the substitution variable.

Type

This specifies the type of value returned by the substitution variable.

*CHAR	Defines a character string with a maximum length of 1024
*DEC	Defines a packed decimal value with a maximum of 15 digits up to 5 of which may be decimal places
*DATE	Defines a packed decimal value of 8 digits containing a date in a yyyyymmdd format
*TIME	Defines a packed decimal value of 6 digits containing a time in hhmmss format

Length

Specifies the length of the substitution variable and the number of decimal positions.

*CHAR	Valid lengths are 1 to 1024 characters
*DEC	Valid lengths are 1 to 15
*DATE	Parameter is ignored. The default of 8 is used
*TIME	Parameter is ignored. The default of 6 is used

Decimal Positions

Only valid with the *DEC type and cannot exceed the variable length. Valid entries are between 0 and 5 places.

Operand #1

Specify the value for Operand #1 which can be a specific value or a variable name. The value must be appropriate to the selection in the 'Type' parameter.

Function

Specify the function. This parameter works in conjunction with Operand #2 when an expression is required and defines the operation to be performed. Valid entries in this parameter depend on the variable type.

*CHAR	The *CHAR functions concatenate Operand #1 and Operand #2. The resulting text is the effective value of the variable	
	*BCAT	The result is Operand #1 with trailing spaces removed followed by one space followed by Operand #2 with leading spaces removed
	*CAT	If Operand #1 is a variable, the result is Operand #1 including any trailing spaces followed by Operand #2 including any leading spaces. If Operand #1 is fixed text, the result is Operand #1 with training spaces removed followed by Operand #2 including any leading spaces
	*TCAT	The result is Operand #1 with training spaces removed followed by Operand #2 with leading spaces removed
	*DATEFMT	The result is the date in Operand #1 formatted according the format specification provided in Operand #2
	*TIMEFMT	The result is the time in Operand #1 formatted according to the format specification provided in Operand #2
*DEC	The *DEC functions perform arithmetic on Operands #1 and #2	
	*ADD	The result is Operand #1 + Operand #2
	*SUB	The result is Operand #1 - Operand #2
	*MULT	The result is Operand #1 x Operand #2
	*DIV	The result is Operand #1 / Operand #2
*DATE	Defines a packed decimal value of 8 digits containing a date in a yyyymmdd format	
	*ADDDAYS	The result is Operand #1(date) + Operand #2(days)
	*ADDMONTHS	The result is Operand #1(date) + Operand #2(months)
	*ADDYEARS	The result is Operand #1(date) + Operand #2(years)
	*SUBDAYS	The result is Operand #1(date) - Operand #2(days)
	*SUBMONTHS	The result is Operand #1(date) - Operand #2(months)
	*SUBYEARS	The result is Operand #1(date) - Operand #2(years)

*TIME	The *TIME functions modify the time specified in Operand #1 by the value specified in Operand #2. The value in Operand #2 should be a number, not a time. If midnight is crossed, the time warps. For example, 23:30:00 +1 hour = 00:30:00	
	*ADDHRS	The result is Operand #1(time) + Operand #2(hours)
	*ADDMINS	The result is Operand #1(time) + Operand #2(minutes)
	*ADDSECS	The result is Operand #1(time) + Operand #2(seconds)
	*SUBHRS	The result is Operand #1(time) - Operand #2(hours)
	*SUBMINS	The result is Operand #1(time) - Operand #2(minutes)
	*SUBSECS	The result is Operand #1(time) - Operand #2 (seconds)

Operand #2

Specify the value for Operand #2 which can be a specific value or a variable name. The value must be appropriate to the both the selection in the 'Type' parameter and 'Function' parameter.

Replace

Specify whether to replace an existing substitution variable if necessary. If you select *NO and the substitution variable already exists, the command ends in an error and the existing substitution variable is not replaced.

Notes regarding customizations

1. When a customization adds a rule group or queue that is not shipped as standard, the customize routine does not expect that group to exist. If it does exist, it is deleted and replaced by the customized data.
2. When a customization adds a rule to a rule group or queue that is shipped as standard, the customize routine expects that rule group or queue to still exist. If it has been deleted, the customization routine fails. In this instance, the rule group or queue must be manually recreated and the customization routine re-run.

For example: A customization adds rules 910, 915 and 920 to the message queue called QSYSOPR. If you delete QSYSOPR then run the customization routine, it fails. You must now manually recreate QSYSOPR then run the customization routine again.

Message Console

Overview

The Message Console is used as a central point for monitoring alerts raised by Halcyon products in both the local and connected remote systems. The Message Console allows you to view the full details of an alert and respond by closing it, or in the case of inquiry alerts, by issuing a reply.

A choice of color schemes, set by severity or system can be applied on an individual user basis. The scheme used is dependent on the view being displayed at the time. The default view is controlled by the setting in system default [HAL/CONDFTCOLORCTRL](#). For Alerts view color schemes see [F22=Alert attributes](#) and for System color schemes see [System attributes](#).

A PC based version of the Message Console, known as Enterprise Console, is also available. See the document: *Enterprise Console - User Reference* for more information.

To send alerts to either the Message Console or the Enterprise Console, specify 'Console' as one of the actions for a rule. You can also send a message using the Send Console Message (**SNDCONMSG**) command.

NOTE: See [Rule Actions](#) or [Console action](#) for more information.

IMPORTANT: To send alerts and messages to the Message Console you must specify the system as *LOCAL when configuring the action. To send alerts and messages to an Enterprise Console, you must specify the system as defined in the [Work with Remote Locations](#) display.

Getting there

Select option **10=Message Console** from the Halcyon main menu to view current alerts that have been sent to this Console.

```

HAL0040R                               Halcyon Software                               HAL720P2
MANL                                     Message Console - Alerts View          13/08/15 16:03:11
Position to date . . . . .
Position to time . . . . .                               Subsetted List
Type options, press Enter.
3=Forward 4=Delete 5=Display 7=Messages 9=Reply 10=Close 18=Acknowledge
Opt ! Status Date Time System Src Alert
_ i OPEN 13/08/15 16:00:02 *LOCAL SCH 729 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:00:13 *LOCAL SCH 730 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:00:17 *LOCAL OBJ 731 Data area HALENV in QGPL fo
_ i OPEN 13/08/15 16:00:21 *LOCAL TCP 732 TCP/IP failure: HAL720P1; N
_ i OPEN 13/08/15 16:00:22 *LOCAL TCP 733 TCP/IP: QAWN2K8A available
_ i OPEN 13/08/15 16:00:30 *LOCAL JBL 734 Message not received betwee
_ ! OPEN 13/08/15 16:01:14 *LOCAL CST 735 Custom Monitor: Rule @QA/10
_ i OPEN 13/08/15 16:01:36 *LOCAL DSQ 736 Distribution queue QSMTQPQ/*
_ i OPEN 13/08/15 16:01:37 *LOCAL DSQ 737 Distribution queue QSMTQPQ/*
_ i OPEN 13/08/15 16:02:02 *LOCAL SCH 738 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:02:02 *LOCAL PFM 739 22 active jobs found in sub
_ i OPEN 13/08/15 16:02:13 *LOCAL SCH 740 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:03:03 *LOCAL PFM 741 0 active jobs found in subs

Bottom
F3=Exit F5=Refresh F10=Systems View F11=Alternate format F24=More keys

```

Halcyon Message Console comprises three main views:

- [Message Console - Alerts view](#)
- [Message Console - Systems view](#)
- [Message Console - Sub-Consoles view](#)

Message Console - Alerts view

The Alerts view of the Message Console lists the alerts that have been sent to this Console. This is the default view unless modified in [Startup Mode](#).

Alerts appear when they are sent via a 'Console' action or by the Send Console Message (**SNDCONMSG**) command. These actions and commands can be run within the current environment, in another environment in the same system or on a remote system or partition. Alerts remain on the Console display until they are closed by any system or manually deleted.

```

HAL0040R                                     Halcyon Software                                     HAL720P2
MANL                                         Message Console - Alerts View                                     13/08/15 16:03:11
Position to date . . . . .
Position to time . . . . .                               Subsetted List
Type options, press Enter.
3=Forward 4=Delete 5=Display 7=Messages 9=Reply 10=Close 18=Acknowledge
Opt ! Status Date Time System Src Alert
_ i OPEN 13/08/15 16:00:02 *LOCAL SCH 729 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:00:13 *LOCAL SCH 730 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:00:17 *LOCAL OBJ 731 Data area HALENV in QGPL fo
_ i OPEN 13/08/15 16:00:21 *LOCAL TCP 732 TCP/IP failure: HAL720P1; N
_ i OPEN 13/08/15 16:00:22 *LOCAL TCP 733 TCP/IP: QAWN2K8A available
_ i OPEN 13/08/15 16:00:30 *LOCAL JBL 734 Message not received betwee
_ ! OPEN 13/08/15 16:01:14 *LOCAL CST 735 Custom Monitor: Rule @QA/10
_ i OPEN 13/08/15 16:01:36 *LOCAL DSQ 736 Distribution queue QSMPQ/*
_ i OPEN 13/08/15 16:01:37 *LOCAL DSQ 737 Distribution queue QSMPQ/*
_ i OPEN 13/08/15 16:02:02 *LOCAL SCH 738 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:02:02 *LOCAL PFM 739 22 active jobs found in sub
_ i OPEN 13/08/15 16:02:13 *LOCAL SCH 740 Job Scheduler group FIXEDNE
_ i OPEN 13/08/15 16:03:03 *LOCAL PFM 741 0 active jobs found in subs
Bottom
F3=Exit F5=Refresh F10=Systems View F11=Alternate format F24=More keys
    
```

Parameters on the Message Console - Alerts View display

The following parameters are shown on the Message Console - Alerts View display.

Alert type (!)

Indicates the type of alert by displaying one of the following symbols/characters:

A	Any alert that has been acknowledged
!	Critical alert
X	Error alert
W	Warning alert
?	Low severity inquiry alert

*	Completion alert
i	Informational alert

The ‘A’, ‘I’, ‘X’, and ‘W’ codes may be suffixed with ‘?’ to indicate inquiry message alerts. The ‘+’ suffix indicates an alert that requires a comment to be entered when the alert is closed.

Date

Displays the date on which the alert was received by the Message Console.

Time

Displays the time at which the alert was received by the Message Console.

System

Displays the name of the system, as defined in [Work with Remote Locations](#), that sent the alert. If *LOCAL is displayed the alert was generated by the same product environment as the one in which the Message Console is operating.

Source (Src)

Displays the source of the alert.

ADH	Indicates that the alert was generated by the Send Console Message (SNDCONMSG) command
CON	Indicates that the alert was generated by the Message Console to warn of a connectivity problem

All other Source entries indicate the monitor that raised the alert and ran a ‘Console’ action. (OUT=Output Queue Monitor and so on).

Alert

If applicable, the entry in this column displays the alert ID, which is unique to the system that raised the alert.

TIP: If there are no alerts to display the message ‘No alerts to display’ is shown in this column.

Message

Displays the first level text of the alert message. If the message is truncated use option **5=Display** to show the full message text.

Using the Message Console - Alerts view

The following options are available when working with the Message Console - Alerts view. Type the option number in the Opt column against the required selection.

Delete

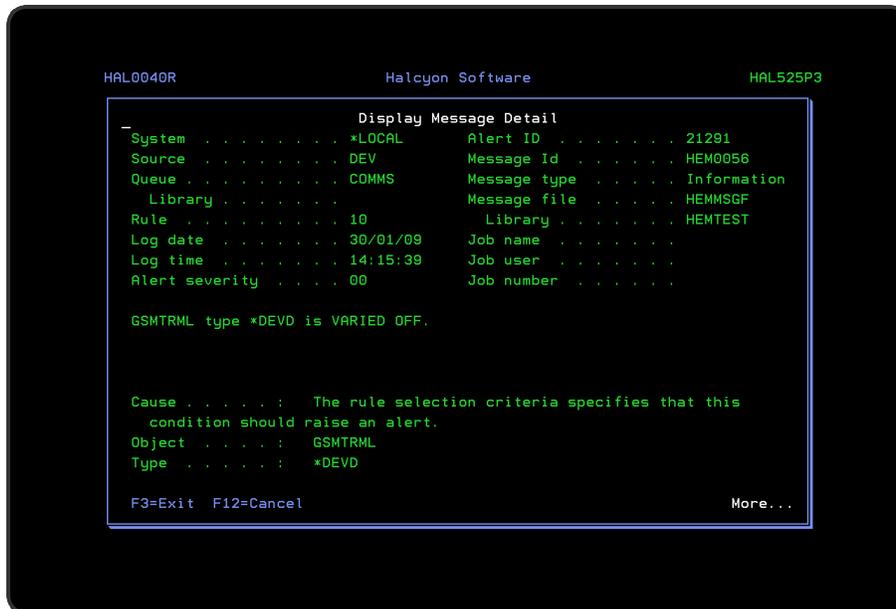
Use option **4=Delete** to open the Confirm Delete of Console Messages display. Press **Enter** to delete the selected Console messages.

IMPORTANT: Deleting a Console message removes it from view **but does not close the alert**. Once deleted, the alert can no longer be closed using this display.

NOTE: Message HAL1583 is logged to the Halcyon Message Log whenever a message is deleted.

Display

Use option **5=Display** to open the Display Message Detail display which shows additional information for the message. This option is useful if the first level text of the alert on the main console display is truncated.



```

HAL0040R                               Halcyon Software                               HAL525P3
-----
Display Message Detail
System . . . . . *LOCAL           Alert ID . . . . . 21291
Source . . . . . DEV             Message Id . . . . . HEM0056
Queue . . . . . COMMS           Message type . . . . . Information
Library . . . . .                Message file . . . . . HEMMSGF
Rule . . . . . 10                Library . . . . . HEMTEST
Log date . . . . . 30/01/09      Job name . . . . .
Log time . . . . . 14:15:39      Job user . . . . .
Alert severity . . . . . 00       Job number . . . . .

GSMTXML type *DEVD is VARIED OFF.

Cause . . . . . : The rule selection criteria specifies that this
                  condition should raise an alert.
Object . . . . . : GSMTXML
Type . . . . .   : *DEVD

F3=Exit  F12=Cancel                               More...

```

Messages (Local Alerts only)

Use option **7=Messages** to open the Display Message Log display. This is subsetting to show any messages relating to the handling of this alert or any of its actions. This option only applies to alerts originating on the local system.

Reply (Inquiry Alerts only)

Use option **9=Reply** to open the Reply to Inquiry Message display which shows additional information for the selected message and allows a reply to be entered.

When a reply is entered, it is passed to the system that originated the alert. If that system is able to successfully reply to the inquiry message using the details entered, the alert is closed and is removed from the Message Console display. If the reply is not valid, the alert remains. The response, whether it is success or failure, is recorded in the [Display Message Log](#) functionality. Use [Work with Administrator Alert Criteria](#) to audit replies to remote inquiry alerts that have been sent from the local system. The response message is HAL1134.

NOTE: See [Working with the Reply to Inquiry Message display](#) for more information on the functionality used on this display.

Close

Use option **10=Close** to open the Confirm Close of Alerts display. Press **Enter** to close the selected Console messages.

NOTE: It is not possible to close an inquiry alert without replying to it first. Closing an alert that relates to an inquiry message does not reply to the message. Once closed, the related inquiry message can no longer be replied to via Halcyon products.

Action History (Local Alerts only)

Use option **13=Action History** to open the Display Action Log display. This is subsetting to show the actions invoked by the selected alert. This option only is only available for alerts originating on the local system.

Acknowledge

Use option **18=Acknowledge** to open the Confirm Acknowledge of Alerts display. Press **Enter** on this display to acknowledge the selected alerts, or press **F12** to cancel.

Acknowledging an alert cancels all outstanding actions for the alert and changes the alert status to ACKNOWL. You can acknowledge alerts with a status of Open or Acknowledge.

Acknowledging an alert that has already been acknowledged, performs no action but is not an error. You cannot acknowledge a closed alert.

The acknowledging of alerts is optional, but is useful if you need to send an SMS message to acknowledge that the alert has been received but leaving it open pending further investigation. You can still close an open alert thereby entirely omitting the acknowledged status.

If you acknowledge an alert, the rule is suspended for the amount of time specified in the system default [HAL/ACKNSUSPTIME](#). If the rule accepts variable conditions, such as generic names or has variable types, the suspension only applies to the specific values of the alert.

Functions on the Message Console - Alerts view

The following functions are available when working with the Message Console - Alerts view:

The following parameters are available on this display.

Auto-refresh

Specifies the automatic refresh interval of the Message Console display.

*OFF	Automatic screen refresh is enabled
16-600	Specify the interval, in seconds, between each automatic screen refresh

Display size

Specifies the preferred display size.

1	Display size is 24x80
2	Display size is 27x132 (if supported by your display device)

Startup mode

Specifies the initial view when the Message Console is displayed.

1	Alerts view
2	Systems view
3	Consoles view

Color control

Specifies the method of color control used on the Message Console - Alerts View display.

*SYS	Color is controlled by the system. The color scheme can be modified by using option 2=System Attributes on Message Console - Systems View
*SEV	Color is controlled by message severity. The color scheme can be modified by using F22=Alert Attributes on Message Console - Alerts View.

NOTE: See also system default [HAL/CONDFTCOLORCTL](#).

F17=Subset

Use **F17=Subset** to display the Subset Message Console display which allows you to set or clear filter messages that restrict the messages shown on the display.



The following parameters are available on this display.

System

Enter the name of the system from which you want alerts to be displayed. Use **F4=Prompt** to display a list of valid systems from which a selection can be made.

*ALL	Alerts from all systems are displayed
*LOCAL	Alerts from the *LOCAL system only are displayed
system	Only alerts from this name system are displayed

Console

Enter the name of the console from which you want the alerts to be displayed. Use **F4=Prompt** to display a list of valid consoles from which a selection can be made.

*ALL	Alerts from all consoles are displayed
console	Only alerts from this name system are displayed

Source

Enter the name of the source from which you want the messages to be displayed.

*ALL	Messages from all sources are displayed
ADH	Only ad-hoc messages sent using the Send Console Message (SNDCONMSG) command are displayed
CON	Only messages generated by the Halcyon Message Console are displayed
Name	Only alerts from the named monitor code are displayed

Status

Enter the status of the alerts that you want to display. This value is retained when you change between sub-consoles.

OPEN	Only open alerts are displayed
CLOSED	Only closed alerts are displayed
*ALL	Both open and closed alerts are displayed

NOTE: See also system default [HAL/CONLOGLIFE](#) which controls the retention time period of closed alerts on the message console.

F18=Bottom

Use **F18=Bottom** to reposition the display at the bottom of the messages so that the most recent alerts are displayed.

F20=Work with User Defined Options

Use **F20=Work with User Defined Options** to open the Work with User Defined Options display. This display allows you to create user defined options which can be run by typing the option code in the Opt column. See [Work with System Level User Defined Options](#) for more information.

F22=Alert attributes

Use **F22=Alert attributes** to open the alert attributes window. This allows you to define the display options used for all users of the Message Severity color control scheme.



The following parameters are available on this display.

Severity

Shows the color in which both informational and inquiry alerts are displayed for each severity level within the Message Console. To change any of the current display attributes, position the cursor in the required line/column combination and press **Enter** or **F4**. The Select Display Attribute is displayed. Position the cursor on the new color attribute selection and press **Enter**.

Acknowledged/Closed

Specifies whether acknowledged and closed alerts should be controlled separately.

*SAME	Acknowledged and closed alerts are controlled by the severity settings and the independent controls for each alert type are ignored
CLOSED	Acknowledged and closed alerts are controlled separately by the Acknowledged and Closed parameters

Acknowledged

Controls how acknowledged alerts are displayed when the Acknowledged/Closed parameter is set to *CHG. To change the current attribute, position the cursor of the attribute that you want to change and press **F4**. The Select Display Attribute is displayed. Position the cursor on the new color attribute selection and press **Enter**.

Closed

Controls how closed alerts are displayed when the Acknowledged/Closed parameter is set to *CHG. To change the current attribute, position the cursor of the attribute that you want to change and press **F4**. The Select Display Attribute is displayed. Position the cursor on the new color attribute selection and press **Enter**.

NOTE: Use **F7=Reset** within the Alert Attributes panel to restore the attributes to the shipped default settings.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Message Console - Systems view

The Message Console - Systems view lists the systems that are defined in [Work with Remote Locations](#) and indicates the status of each system. This shows at-a-glance whether any alerts are pending for each system.

Getting there

To switch to the [Consoles view](#), use **F10=Consoles** to display all sub-consoles on this system. Press **F10** again to switch to the [Alerts view](#) alerts or use option **1=Display Alerts** to display only the alerts for the selected system.

TIP: You can omit systems from this display using the System Attributes window. Use **2=System Attributes** on the required system.

```

HAL0040R                                     Halcyon Software                                     HAL720P4
QA                                           Message Console - Systems View                                     3/02/15 16:24:43
Type options, press Enter.
1=Display alerts 2=System attributes 5=System information
Opt System      Status      Alerts      Description
--- *LOCAL      Alert      31          Local System
--- ASH_5P3      Ok          0           HAL525P3/ASH *AUTO
--- PROD_OP2     Alert      3           HAL520P2/PROD
--- QA_OP2       Alert      32          HAL520P2/QA
--- QA_270       Network error 32          HAL270/QA
--- QA_5P3       Alert      35          HAL525P3/QA
--- QAHRT        Ok          0           HAL525P1/QAHRT
--- ZGEN_5P1     Off-Line   0           Automated Testing on HAL525P1

Bottom
F3=Exit F5=Refresh F10=Alerts F12=Cancel F16=User options F17=Show all

```

Parameters on the Message Console - Systems View display

The following parameters are shown on the Message Console - Systems View display.

System

Displays the name of the systems as defined in Work with Remote Locations. *LOCAL indicates the local system.

Status

Displays the current system status.

OK	Indicates that there are no alerts for this system
Alert	Indicates that there are alerts pending for this system
Omit	Indicates that this system is omitted from the Systems view, except when F17=Show All is pressed
System Error	Indicates that at least one of the Primary Action Monitor, Network Send Monitor and Receive Monitor are not running on the local system. This may prevent alerts from being received or responses sent. This status applies to *LOCAL system only
Network Error	Indicates that the local system is not able to communicate with this system. Alerts cannot be received from this systems. You are unable to respond to existing alerts

Description

This displays the textual description of the system.

Using the Message Console - Systems view

The following options are available when working with the Message Console - Systems view. Type the option number in the Opt column against the required selection.

Display alerts

Use option **1=Display alerts** to switch to the Message Console - [Alerts view](#), subsetting on the selected system.

System attributes

Use option **2=System attributes** to open the System Attributes window that allows you to specify how information for the selected system is displayed.

```

HAL0040R                               Halcyon Software                               HAL720P4
QA                                     Message Console - Systems View           3/02/15 16:24:43
Type options, press Enter.
1=Display alerts 2=System attributes 5=System information
Opt System      Status      Alerts  Description
__ *LOCAL      Alert          31     Local System
__ AS
__ PR
__ QA          System Attributes
2 QA          System . . . . . QA_270
QA          Type choices, press Enter.
QA          Display . . . . . Y           Y=Yes, N=No
ZG          Color . . . . . 3           0=Green, 1=Blue..., F4=Prompt
QA          Critical . . . . . 2          0=None, 1=Underline, 2=Reversed
QA          Inquiry msgs . . . 1           0=None, 1=Underline, 2=Reversed

F3=Exit F4=Prompt F5=Refresh F12=Cancel
Bottom
F3=Exit F5=Refresh F10=Alerts F12=Cancel F16=User options F17=Show all
    
```

The following parameters are available on this display.

Display

Specifies whether the selected system is shown on the Message Console - Systems View display.

Y	This system is shown on the Message Console - Systems View display
N	This system is not shown on the Message Console - Systems View display unless F17=Show All is used. Any alerts received from this system are still shown on the Message Console - Alerts View display

Color

Specifies the color to be used for this system. The system is shown in the chosen color on the Systems view and alerts from the System are displayed in the chosen color on the Alerts view.

0	Green
1	Blue
2	White
3	Red
4	Turquoise
5	Yellow
6	Pink

Critical

Specifies the messages view display attribute to use for critical alerts when generated from this system. By default, critical alerts are message alerts where the message severity is 50 or greater, but this can be overridden when a 'Console' action is defined.

0	Normal text
1	Underlined text
2	Reverse image text

Inquiry messages

Specifies the messages view display attribute to use for inquiry messages generated from this system.

0	Normal text
1	Underlined text
2	Reverse image text

System information

Use option **5=System information** to open the Display System Information window that displays system and product information from the selected system.

TIP: This information can also be displayed using the Display System Information (DSPSYSINF) command.

Functions on the Work with Message Console - Systems view

The following functions are available when working with the Message Console - Systems view.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Alerts

Use **F10=Alerts** to switch the Console view from Systems to Alerts.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=User options

Use **F16=User options** to open the User Options display which allows user preferences to be set.

NOTE: See Message Console - Alerts View - [F16=User options](#) for more information.

F17=Show all

Use **F17=Show all** to include systems that were omitted using the Console Attributes window. You can then use option **2=Console attributes** to re-include a system if required.

Clearing Message Console Messages

It is possible to clear the Message Console of all messages by using the Clear Message Console (**CLRMSGCON**) command.

WARNING: The Clear Message Console (**CLRMSGCON**) command only deletes the messages from the Message Console. It does NOT close the corresponding alerts.

Message Console - Sub-Consoles view

Message sub-consoles are used to subdivide the alerts on systems that receive a large volume of alerts. Alerts and messages can be directed to a specific console when sent and different users can be restricted to specific sub-consoles. For example, you may set-up separate sub-consoles for the Finance, Sales and Technical departments with different alerts in each and users restricted to the alerts within the sub-console applicable to their role.

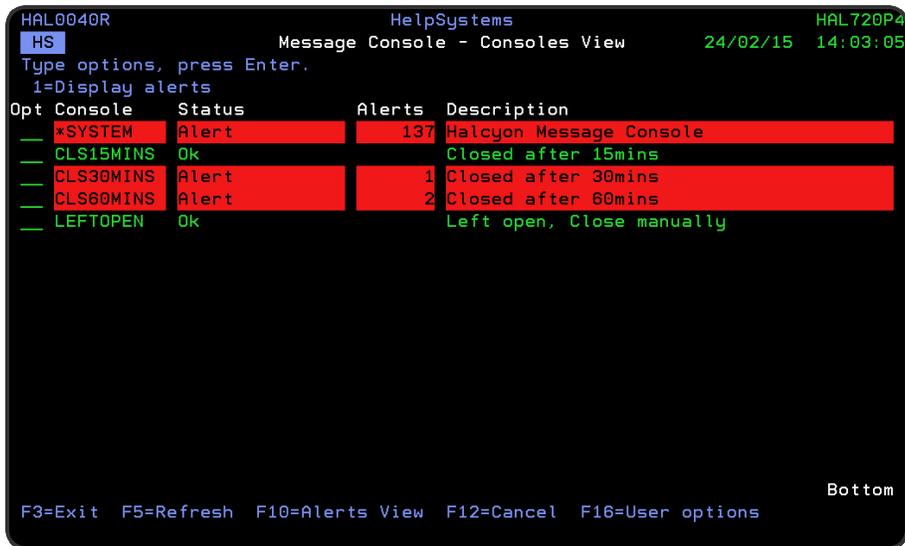
NOTE: Message sub-consoles are defined within the [Work with Message Sub-Consoles](#) option.

NOTE: [Work with User Authority](#), for HAL/CONSOLE, allows *ITEM level authority. The list of items to which user authority can be applied is taken from the consoles defined within [Work with Message Sub-Consoles](#).

The Message Console - Sub-Consoles view lists the sub-consoles that have been defined in the Work with Message Sub-Consoles display and indicates the status of each console. If no sub-consoles have been defined, only the default *SYSTEM console is shown. Each console is displayed in the color of the highest severity open alert if using *SEV color control. This allows you to see at a glance whether any alerts, and if so their severity, are pending for each console. If using *SYS color control, the image is red reverse image if any open alerts exist, otherwise it is colored green. See system default [HAL/CONDFTCOLORCTRL](#) for more information.

Getting there

To switch to the alert display, use **F10=Alerts** to display all alerts or use **1=Display Alerts** to display only the alerts for the selected console.



Parameters on the Message Console - Consoles View display

The following parameters are available on the Message Console - Consoles View display

Console

Displays the name of the console as defined in [Work with Message Sub-Consoles](#).

*SYSTEM indicates the local system.

Status

Displays the current system status:

Ok	Indicates that there are no alerts for this console
Alert	Indicates that there are alerts pending for this console

Alerts

Displays the number of open alerts for each sub-console, excluding CON alerts.

Description

Displays the textual description of the sub-console as defined in [Work with Message Sub-Consoles](#).

Using the Message Console - Sub-Consoles view

The following options are available when working with the Message Console - Systems view. Type the option number in the Opt column against the required selection.

Display alerts

Use option **1=Display alerts** to switch to the [Message Console - Alerts view](#), subsetting on the selected console.

Functions on the Message Console- Sub-Consoles view

The following functions are available when working with the Message Console - Sub-Consoles view:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Alerts

Use **F10=Alerts** to switch the Console view from Consoles to Alerts.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=User options

Use **F16=User options** to open the User Options display which allows user preferences to be set.

NOTE: See Message Console - Alerts View - [F16=User Options](#) for more information.

Reports

Overview

The Halcyon Reports functionality allows you to print the details of log files and specific aspects of your product configuration.

Getting there

Select option **40=Reports Menu** from the Halcyon main menu to open the Reports Menu display.

```
HALRPT                               Halcyon Software Ltd           HAL525P3
                                     Halcyon Software           3/02/11  14:07:36
                                     Reports Menu

Select one of the following:

  1. Print Message Log
  2. Print Alert Log

  5. Print Rules
  6. Output Rules

 10. Print System Defaults
 11. Print Network Log
 12. Print Action Log
 13. Print User Authorities
 14. Print Remote Locations
 15. Print Substitution Variables
 16. Print Action Schedules
 17. Print Calendars

                                     MORE...

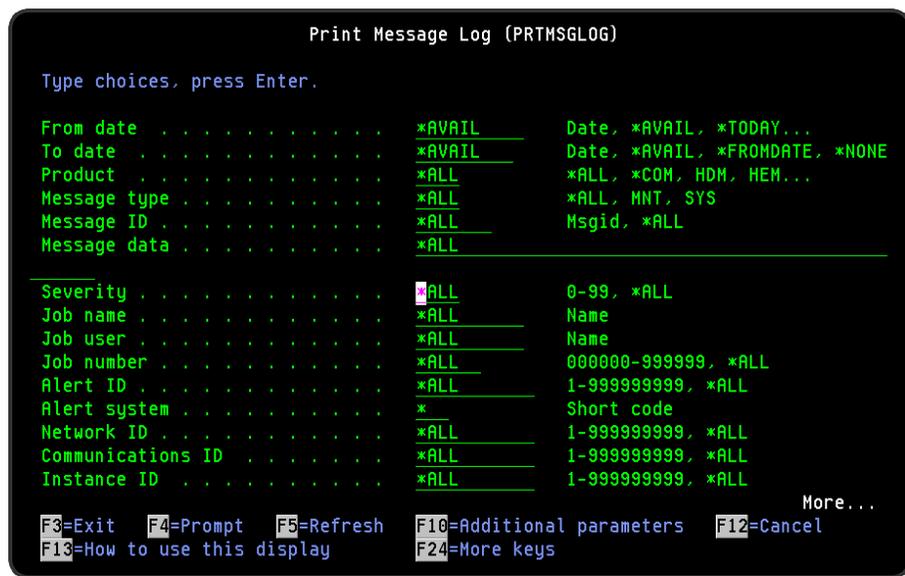
Selection or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Print Message Log

The Print Message Log (**PRTMSGLOG**) command prints a Message Log report which shows the messages logged by Halcyon products. The parameters on this command allow a subset of the messages to be printed.

Getting there

Select option **1=Print Message Log** from the Reports main menu. Alternatively, type **PRTMSGLOG** on the command line and press **F4**.



Parameters on the Print Message Log display

The following parameters are available on this display.

From date

Specifies the beginning date of the messages that you want to print.

*AVAIL	The report begins with the first available messages (earliest date)
*TODAY	The report begins with the first available messages for the current date
*YESTERDAY	The report begins with the first available messages from the previous day
date	Specify the beginning date in yyyyymmdd format

To date

Specifies the ending date of the messages that you want to print.

*AVAIL	The report ends with the last available messages (latest date)
*FROMDATE	The report ends with the last available message for the beginning date specified in the 'From date' parameter
date	Specify the end date in yyyyymmdd format
*NONE	A specific message is being specified. An end date is not required

Product

Specifies the product code of the messages that you want to print. For example, specify HMM to select only the messages sent by programs beginning with HMM (Halcyon Message Manager).

*ALL	All products
*COM	Common library
product	Specify a product code

Message type

Specifies the message type of the messages that you want to print.

*ALL	All message types
MNT	Maintenance messages
SYS	System messages

Message ID

Specifies the message ID of the messages that you want to print.

*ALL	All message IDs
msgid	Enter a specific or generic message ID

Message data

Specifies the text to be compared to all or part of the message substitution data of the messages that you want to print.

*ALL	Print messages with any message data
msgdta	Enter the text to be compared

Severity

Specifies the severity of the messages to be printed.

*ALL	Prints all messages regardless of severity
0-99	Messages with the specified severity (or higher) are printed

Job name

Specifies the name of the sending job generating the messages that you want to print.

*ALL	All job names
job	Specify a job name

Job user

Specifies the user of the sending job generating the messages that you want to print.

*ALL	All job users
user	Specify a job user

Job number

Specifies the number of the sending job generating the messages that you want to print.

*ALL	All job numbers
nbr	Specify a job number

Alert system

Indicates the system that generated the alert when a specific alert ID is specified in the 'Alert ID' parameter. Not required if 'Alert ID' is set to *ALL.

Alert ID / Network ID / Communications ID/Instance ID

Specifies a unique identifier by which a message can be traced.

*ALL	All ID numbers
1-999999999	Specify a unique ID number

Press **Page Down** to view further parameters for the Print Message Log (**PRTMSGLOG**) command

Output type

Specifies the amount of detail to include on the report.

*BASIC	The *BASIC report uses one line for each message and comprises the message type, date, time and the first line of the message (which may be truncated). In other words, a Summary report
*SECLVL	The *SECLVL report displays the full message information using as many lines as needed and comprises message type, date, time, message ID, job, user, number, program and the full first and second level message text. In other words, a Detail report

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced the status of the file is changed from WTR to SAV

Use **F10=Additional parameters** to view additional parameters for this option.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Message Log display

The following functions are available when printing Message Log reports:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTMSGLOG** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

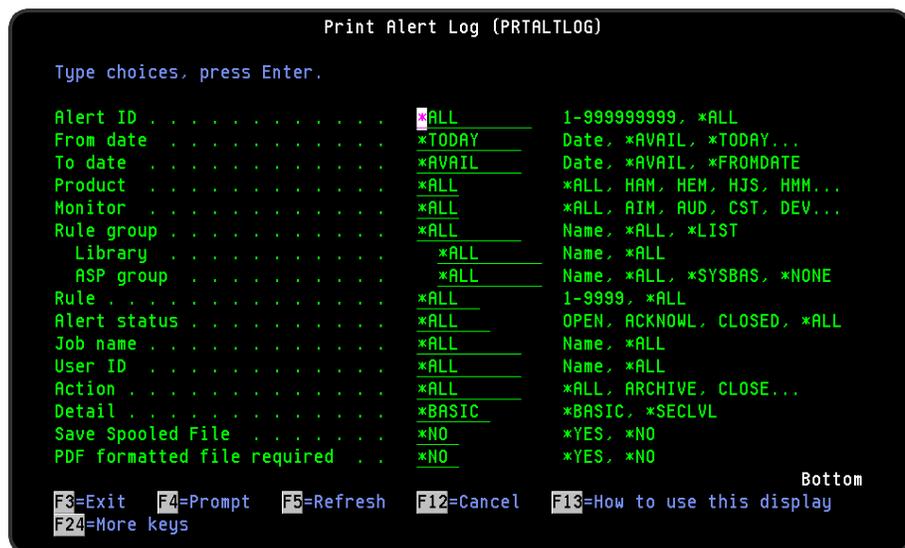
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Alert Log

The Print Alert Log (**PRTALTLOG**) command prints an Alert Log report which shows the alerts logged by Halcyon products. The parameters on this command allow a subset of the alerts to be printed.

Getting there

Select option **2=Print Alert Log** from the Reports main menu. Alternatively, type **PRTALTLOG** on the command line and press **F4**.



Parameters on the Print Alert Log display

The following parameters are available on this display.

Alert ID

If known, specify the unique id allocated to a message or *ALL for all alert ID's.

*ALL	All alerts are printed in accordance with the rest of the command parameters
1-999999999	Specify the unique alert ID of the local alert that you want to print

From date

Specifies the beginning date of the alerts that you want to print.

*AVAIL	Report begins with the first available alerts (earliest date)
*LASTWEEK	Report begins with the first available alerts for the current date minus seven days
*LASTMONTH	Report covers the previous calendar month
*TODAY	Report begins with the first available alerts for the current date
*YESTERDAY	Report begins with the first available alerts for the previous day
date	Specify the beginning date in yyyyymmdd format

To date

Specifies the ending date of the alerts that you want to print.

*AVAIL	Report ends with the last available alert (latest date)
*FROMDATE	Report ends with the last available alert for the beginning date specified in the *FROMDATE parameter
*date	Specify the end date in yyyyymmdd format

Product

Specifies the product code of the alert that you want to print. For example, specify HMM to select only the alerts raised by programs beginning with HMM (Halcyon Message Manager).

*COM	Common library
product	Specify a product code

Monitor

Specifies the monitor code of the alerts that you want to print. For example, type MSG to select only alerts raised by rules defined within the Message monitor.

NOTE: The list of monitor codes available for selection in this field are dependent on the products installed on your system.

*ALL	All monitors
*AIM	Alert Intelligence monitor
AUD	Audit Journal monitor
CST	Custom Task monitor

DEV	Device monitor
DSQ	Distribution Queue monitor
INA	Inactivity monitor
JBL	Job Log monitor
JOB	Job Queue monitor
JRN	Custom Journal monitor
LOG	Log File monitor
MMQ	MQ monitor*
MMX	HA-MX monitor*
MSG	Message monitor
OBJ	Object monitor
OUT	Output queue monitor
PFM	Performance monitor
RTM	Restricted Tasks monitor
TCP	TCP/IP monitor
USR	User monitor
XPM	Exit Point monitor*

* Additional Halcyon products which are not included as part of this product suite by default.

Rule group

Specifies the rule group of the alert that you want to print. For example, type QSYSOPR to select only the alerts raised by rules defined in the QSYSOPR queue.

*ALL	All rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
name	Specify a rule group

Library

Specifies the queue library of the alerts that you want to print. For example, type QSYS to select only the alerts raised by rules defined with a queue in the QSYS library. When a rule group name is specified for the 'Rule group' parameter, specify *ALL for this parameter.

*ALL	All queue libraries
libr	Specify a queue library

Rule

Specifies the rule number of the alerts that you want to print.

*ALL	All rules
1-9999	Specify a rule number

Alert status

Specifies the status of the alerts that you want to print.

*ALL	Selects all alerts
OPEN	Selects open alerts. This includes alerts with a status of OPEN, ACTIVE, CONSOLE, SNDTXT, PENDING or ERROR
CLOSE	Selects closed alerts
ERROR	Selects alerts in Error status

Job name

Specifies the job name associated with an alert. The job name returned depends on the monitor and rule. For example, if a message queue rule raised the alert, it is the job that sent the message. For Audit Journal rules, the job name specified depends on the audit journal entry type. Where there is no job associated with an alert, the name of the monitor job that raised the alert is used.

*ALL	Selects all job names
job	Specify an individual job name

User Id

Specifies the user name associated with an alert. The User Id returned depends on the monitor and rule. For example, if a message queue rule raised the alert, it is the User Id that sent the message. For Audit Journal rules, the User Id specified depends on the Audit Journal Entry Type. Where there is no user associated with an alert, the User Id from the monitor that raised the alert is used.

*ALL	All User Ids
user	Specify an individual User Id

Action

This parameter allows you to select alerts based on a successful action. If an action is specified, only alerts that have this action type and that completed successfully are selected. For example if 'Console' is selected as the action type, only alerts that have successfully invoked a 'Console' action are selected.

*ALL	All actions
action	Specify an action type

Detail

Specifies the amount of detail to include on the report.

*BASIC	The *BASIC report uses one line for each alert contains the Date, Time, Product, Monitor, Queue/Group, Library, Rule number, Status and Alert text
*SECLVL	The *SECLVL report displays the full alert information using as many lines as needed for the full first and second level message text

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. the file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_yyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file so as to create a unique file name if necessary
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Alert Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTALTLOG** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules for one or more products or monitors, or for a specific rule group.

Getting there

Select option **5=Print Rules** from the Reports main menu. Alternatively, type **PRTRULES** on the command line and press **F4**.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . *ALL      Valid product, *ALL
  Monitor . . . . . *ALL      MSG, TCP, ...
    + for more values
Rule group . . . . . *ALL
Save spooled file . . . . . NO  Name, *ALL, *GRPALL, *LIST
PDF formatted file required . . *NO *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors of the rules you want to print.

You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

Product

Specify the Halcyon product codes of the products of which you want to print the rules.

Monitor

Specify the monitor of the product specified in the 'Product' parameter, that you want to print or leave it blank to print the rules for all the monitors within the product specified.

IMPORTANT: You require *USE authority to the relevant rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the RULES parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the LIBR parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of this stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Rules display

The following functions are available when printing Rules reports:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTRULES** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

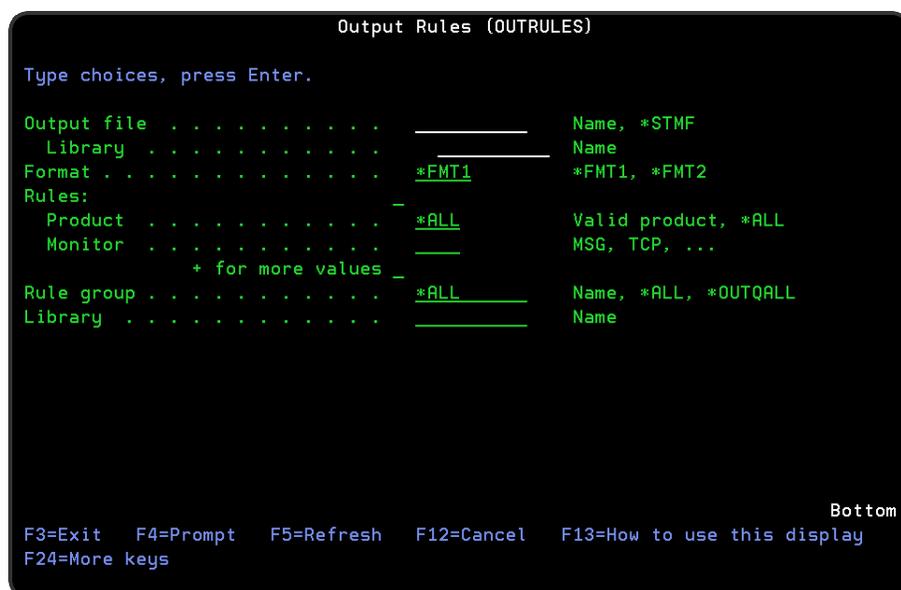
Output Rules

The Output Rule (**OUTRULES**) command outputs the selected rules to either a physical or stream file. This file can then be queried for reporting purposes or loaded into a PC based spreadsheet application.

TIP: To create a PDF formatted stream file use the [Print Rules \(PRTRULES\)](#) command.

Getting there

Select option **6=Output Rules** from the Halcyon Reports menu. Alternatively, type **OUTRULES** on the command line and press F4.



Parameters on the Output Rules display

The following parameters are available on this display.

Output file/Library

Specifies the qualified name of the physical file and library to which the output is sent. The file is created if it does not already exist.

*STMF	The output is sent to a stream file in the Integrated File System (IFS). Enter the path to the stream file using the STMF parameter
outfile	Enter the qualified name of a physical file

Format

Specifies the format of the output data.

*FMT1	Generic rule information is output
*FMT2	Generic rule information and selection criteria is output. The selection criteria is output in proprietary ZML format. With rules that support multiple selection criteria lines, a separate record is output for each criteria with the generic rule information requested

Rules

Specifies the list of products or monitors whose rules you want to include on the output. Up to 32 values can be specified for this parameter. You can either specify a product or a monitor within a product.

Single values

*ALL	All rules are output
------	----------------------

Product

Specify the product codes for the rules you want to include in the output.

Monitor

Specify the monitor of the product code that you want to output or leave as *ALL to output the rules for all of the monitors within the product code entered in the 'Product' parameter.

IMPORTANT: You require *USE authority to the relevant RULES functions to be able to output rules. If you do not have authority to some of the rules included in the report, then these rules are either omitted or an error message is displayed. This depends upon whether the rule type was referred to specifically or generically.

The monitor specified must be valid for the specified product.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this parameter can be used to select a specific rule group within that monitor. If the value in the 'Rules' parameter is for multiple monitors then this parameter must be set to *ALL.

*ALL	All rule groups or queues in the selected monitors are included on the output
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the LIBR parameter.

Once the selections have been made, press **Enter** to generate the output.

Functions on the Output Rules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **OUTRULES** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

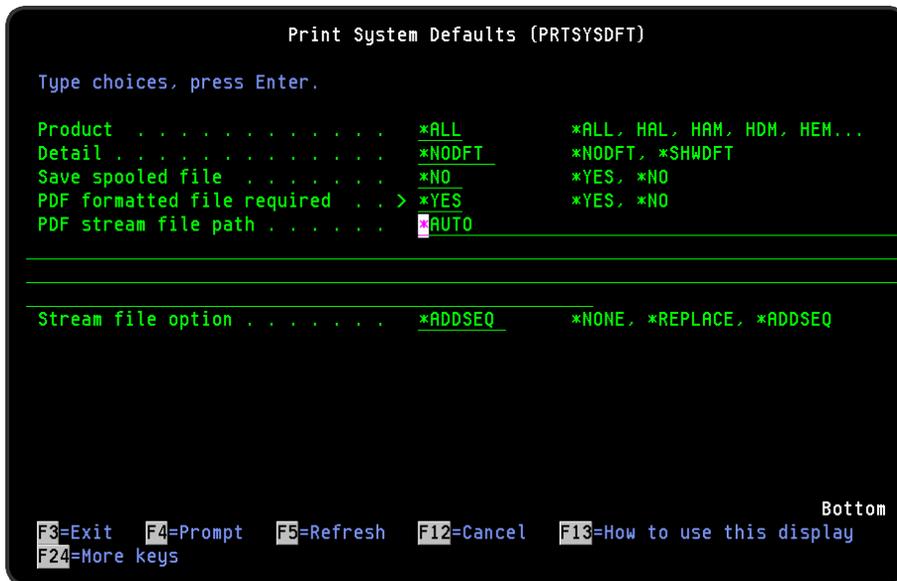
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print System Defaults

The Print System Defaults (**PRTSYSDF**) command prints a report which shows system defaults as defined by individual Halcyon products.

Getting there

Select option **10=Print System Defaults** from the Reports main menu. Alternatively, type **PRTSYSDF** on the command line and press **F4**.



Parameters on the Print System Defaults display

The following file parameters are available on this display.

Product

Specifies the product code of the messages that you want to print.

*ALL	All products
HAL	Halcyon common library system defaults
HAM	Audit Journal Manager system defaults
HDM	Disk Space Manager system defaults
HEM	System Event Manager system defaults

HJS	Advanced Job Scheduler system defaults
HMC	Message Communicator system defaults
HMM	Message Manager system defaults
HMQ	Message Queue Manager system defaults
HRP	Record and Playback system defaults
HRT	Restricted Tasks Manager system defaults
HXP	Exit Point Manager system defaults

NOTE: Not all product codes listed above may be available for selection depending on the products installed on the system.

Detail

Specifies whether the original shipped system defaults are also printed on the report.

*NODFT	The shipped system defaults are not printed
*SHWDFT	Halcyon common library system defaults

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print System Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTSYSDFT** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Network Log

The Print Network Log (**PRTNETLOG**) command prints a Network Log report which shows the network data that has been sent from and received by this system.

The report prints:

- The Log Date and Time
- Data Direction
- Receive Mode
- Remote Location
- Remote Environment
- Remote System
- Remote Product
- Status
- Local UID
- Date and Time Sent
- Number of Attempts
- Remote UID

Getting there

Select option **11=Print Network Log** from the Halcyon Reports main menu. Alternatively, type **PRTNETLOG** on the command line and press **F4**.

Print Network Log (PRTNETLOG)

Type choices, press Enter.

Local UID	<u>*ALL</u>	1-99999999, *ALL
From Date	<u>*TODAY</u>	*TODAY, *YESTERDAY, yyyyymmdd
To Date	<u>*FROMDATE</u>	*FROMDATE, yyyyymmdd
PDF Formatted File Required . . .	<u>*NO</u>	*YES, *NO

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
 F24=More keys

Parameters on the Print Network Log display

The following parameters are available on this display.

Local UID

Specifies the local UID of the data you want to display. The UID is a 9 digit number that uniquely identifies this message data on the local system.

*ALL	All network data is displayed
1-999999999	Specify a local UID. If this UID refers to send data, any related Receive type message is also printed

From date

Specifies the beginning date of the network messages that you want to print.

*TODAY	The report begins with the first available network messages for the current date
*YESTERDAY	Specify a valid date in the date specified for your job. This could be YMD (6 byte character in Year, Month, Day format), MDY (6 byte character in Month, Day, Year format), DMY (6 byte character in Day, Month, Year format) or JUL (Julian 5 byte character in yyddd format where yy is the year and ddd is the day number within the year)

To date

Specifies the ending date of the network messages that you want to print.

*AVAIL	The report ends with the last available network message (latest date)
*FROMDATE	The report ends with the last available alert for the beginning date specified in the 'From date' parameter
date	Specify a valid date in the date specified for your job. This could be YMD (6 byte character in Year, Month, Day format), MDY (6 byte character in Month, Day, Year format), DMY (6 byte character in Day, Month, Year format) or JUL (Julian 5 byte character in yyddd format where yy is the year and ddd is the day number within the year)

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where; Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Network Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All Parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command String** to display the **PRTNETLOG** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

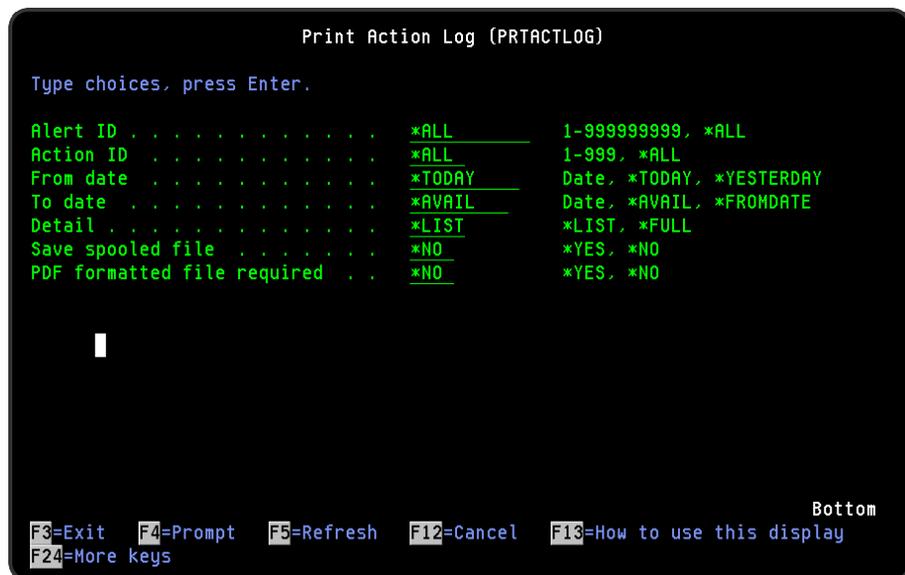
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Action Log

The Print Action Log (**PRTACTLOG**) command prints an Action Log report which shows the actions that have been invoked.

Getting there

Select option **12=Print Action Log** from the Reports main menu. Alternatively, type **PRTACTLOG** on the command line and press F4.



Parameters on the Print Action Log display

The following parameters are available on this display.

Alert ID

Specifies the Alert ID of the data you want to display. The alert ID uniquely identifies the message alert that invoked the action.

*ALL	All actions are displayed
1-9999999999	Specify the Alert ID of the action that you want to display

Action ID

Specifies the Action ID of the data that you want to print. Together, the Alert ID and Action ID uniquely identify the execution of an action.

From date

Specifies the beginning date of the messages that you want to print.

*TODAY	The report begins with the first available message for the current date
*YESTERDAY	The report begins with the first available message from the previous day
date	Specify a valid date in the date specified for your job. This could be YMD (6 byte character in Year, Month, Day format), MDY (6 byte character in Month, Day, Year format), DMY (6 byte character in Day, Month, Year format) or JUL (Julian 5 byte character in yyddd format where yy is the year and ddd is the day number within the year)

To date

Specifies the ending date of the messages that you want to print.

*AVAIL	Report ends with the last available message (latest date)
*FROMDATE	The report ends with the last available alert for the beginning date specified in the '@from date' parameter
date	Specify a valid date in the date specified for your job. This could be YMD (6 byte character in Year, Month, Day format), MDY (6 byte character in Month, Day, Year format), DMY (6 byte character in Day, Month, Year format) or JUL (Julian 5 byte character in yyddd format where yy is the year and ddd is the day number within the year)

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date base reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

TIP: Press **F9** to view additional parameters on this display.

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Status

Specify the status of the actions that you want to print.

*NONE	Actions for all statuses are selected for printing
*ERROR	Only actions with a status of 'Errored' are selected for printing.

Functions on the Print Action log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entry parameters for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTACTLOG** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

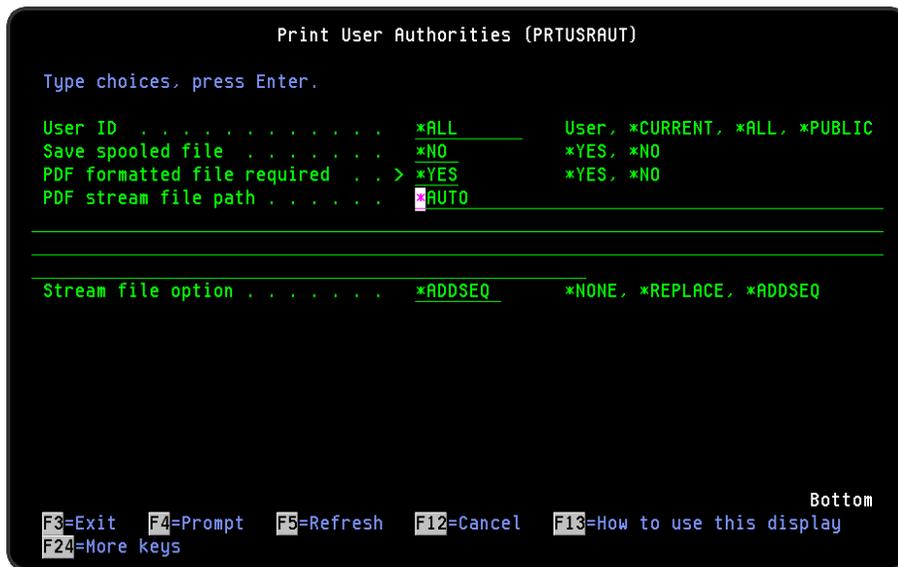
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print User Authorities

The Print User Authority (**PRTUSRAUT**) command prints a User Authority report which shows the authority level of known users to the functions contained within Halcyon products.

Getting there

Select option **13=Print User Authorities** from the Reports main menu. Alternatively, type **PRTUSRAUT** on the command line and press F4.



Parameters on the Print User Authorities display

The following parameters are available on this display.

User ID

Specifies the user whose authority you want to print.

*ALL	Prints the authority for all users
*CURRENT	Prints the authority for the user running this command
*PUBLIC	Prints the authority for *PUBLIC
name	Prints the authority for the specified user

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions when using the Print User Authorities display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt** to provide assistance in entering additional parameter values for an option or in using a command.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command String

Use **F14=Command string** to display the **PRTUSRAUT** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Remote Locations

The Print Remote Locations (**PRTREMLOC**) command prints a list of remote locations as defined on the system.

The report lists:

- Location Name
- Type
- IP Address
- Port
- Description
- Receive Wait Time-out in Milliseconds
- Socket Connect Time-out in Seconds
- Batch Mode Time-out in Minutes
- Interactive Time-out in Seconds.

Getting there

Select option **14=Print Remote Locations** from the Reports main menu. Alternatively, type **PRTREMLOC** on the command line and press F4.

```
Print Remote Locations (PRTMLOC)

Type choices, press Enter.

Save spooled file . . . . . *NO          *YES, *NO
PDF formatted file required . . > *YES    *YES, *NO
PDF stream file path . . . . . AUTO

-----

Stream file option . . . . . *ADDSEQ    *NONE, *REPLACE, *ADDSEQ

-----

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Parameters on the Print Remote Locations display

The following parameters are available on this display.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced the status of the file is changed from WTR to SAV.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions when using the Print Remote Locations display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command String

Use **F14=Command string** to display the **PRTREMLOC** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

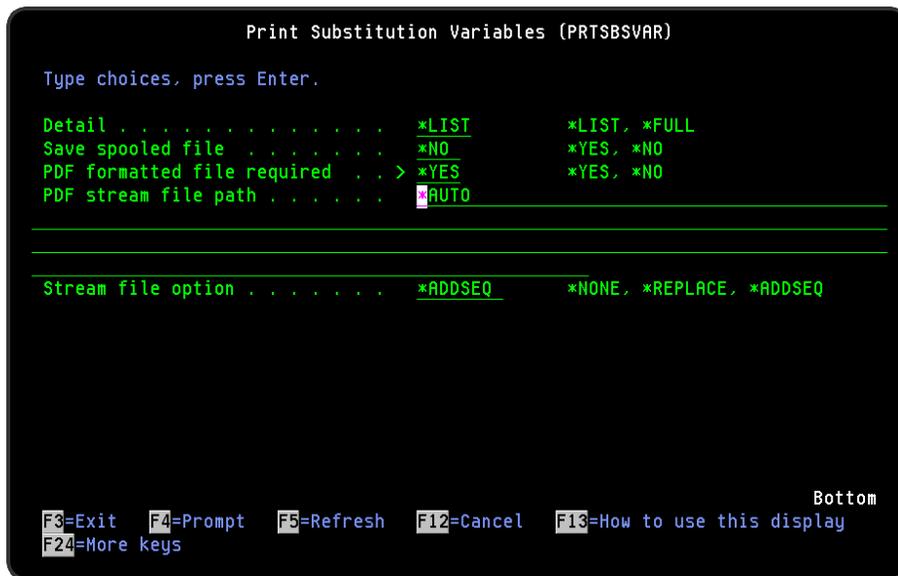
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Substitution Variables

The Print Substitution Variables (**PRTSBSVAR**) command prints a Substitution Variables report which shows the Substitution Variables (SYS) and User-defined Variables (USR) that are defined on the system.

Getting there

Select option **15=Print Substitution Variables** from the Reports main menu. Alternatively, type **PRTSBSVAR** on the command line and press F4.



Parameters on the Print Substitution Variables Report display

The following parameters are available on this display.

Detail

Specifies the amount of detail to put on the report.

*LIST	The *LIST report uses one line each Substitution Variables and consists of the Variable name, Class, Type, Attribute and Description
*FULL	The *FULL report displays the Substitution Variables operands and function used to evaluate the variable

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions when using the Print Substitution Variables display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command String

Use **F14=Command string** to display the **PRTSBSVAR** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

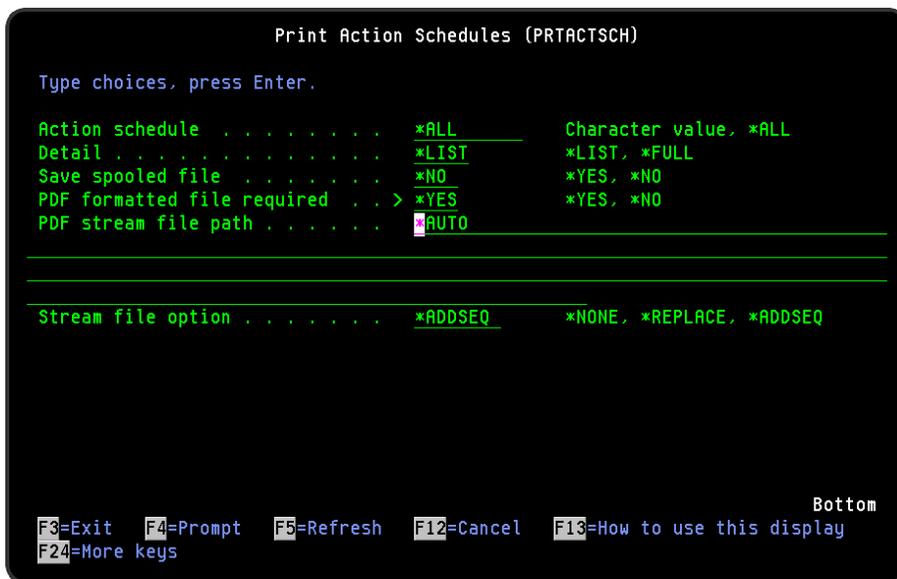
Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print Action Schedules

The Print Action Schedules (**PRACTSCH**) command prints an Action Schedule report which lists the action schedules that have been created.

Getting there

Select option **16=Print Action Schedules** from the Reports main menu. Alternatively, type **PRACTSCH** on the command line and press F4.



Parameters on the Print Action Schedules display

The following parameters are available on this display.

Action schedule

Specifies the action schedule to be printed.

*ALL	Print all action schedules
Character value	Specify the action schedule to be printed

Detail

Specifies the amount of detail to output on the report.

*LIST	The *LIST report uses one line for each Action schedule and consists of the Schedule name, Description and which action is selected
*FULL	The *FULL report displays the Action schedule sequence, Schedule description, Action to be performed, Type, Start and End times, Effective dates and effective days

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Action Schedules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTACTSCH** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

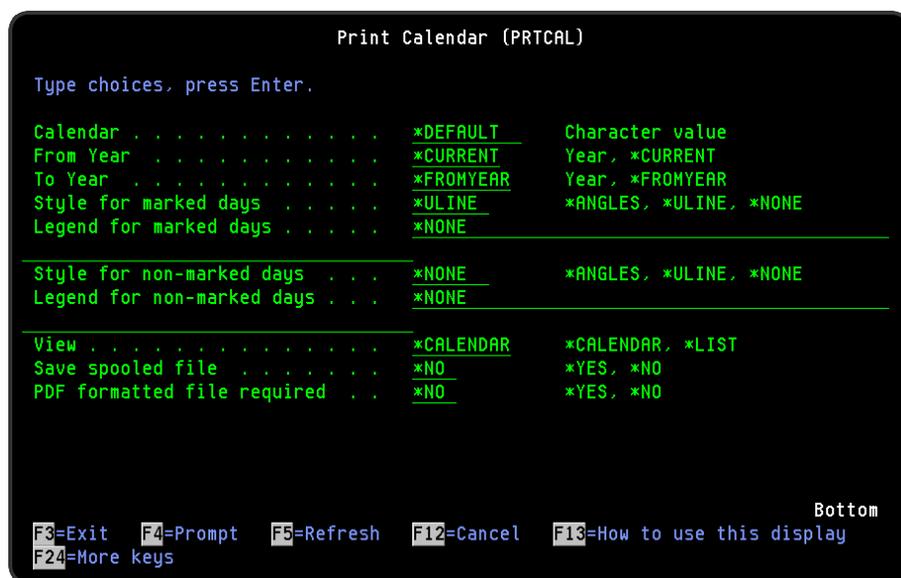
Print Calendars

The Print Calendar (**PRTCAL**) command prints one, or a range of years from a calendar. This can be printed in traditional calendar format or as a list. The List format prints the selected dates only and show the times that have been set.

For the Calendar format, you can choose to mark selected and/or non-selected days by means of underlines or angled brackets. You can also specify legend text to be printed at the bottom of the calendar to explain the meaning of the selected markings.

Getting there

Select option 17=**Print Calendars** from the Reports main menu. Alternatively, type **PRTCAL** on the command line and press **F4**.



Parameters on the Print Calendars display

The following parameters are available on this display.

Calendar

Specifies the name of the calendar to be printed.

*DEFAULT	Selects the system default calendar
Calendar	Specify the calendar name

From year

Specifies the first year to be printed.

*CURRENT	Selects the current year
year	Specify the year

To year

Specifies the last year to be printed.

*FROMYEAR	Selects the same year
year	Specify the year

Style for marked days (Style 1)

Specifies how to mark the selected days in the calendar.

*ULINE	Underlines selected days using the hyphen character
*ANGLES	Encloses selected days in less than and greater signs
*NONE	Selected days are not marked

Legend for marked days (Legend 1)

Specify the legend text to be printed on the calendar to indicate the meaning of the selected days.

*NONE	Legend text is not printed
text	Specify the legend text to be printed

Style for non-marked days (Style 2)

Specifies the style for non-marked days in the calendar.

*ULINE	Underlines non-marked days using the hyphen character
*ANGLES	Encloses non-marked days in less than and greater signs
*NONE	Non-marked days are not indicated

Legend for marked days (Legend 2)

Specify the legend text to be printed on the calendar to indicate the meaning of the non-selected days.

*NONE	Legend text is not printed
text	Specify the legend text to be printed

View

Specifies the print format of the Calendar to be printed.

*CALENDAR	Prints the calendar in traditional calendar format
*LIST	Prints the calendar in a list format, printing only selected dates and showing any times that have been entered against the dates

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Calendars display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTCAL** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Generate Subsystem Availability Report

The Print Subsystem Availability (**PRTSBSAVL**) command prints a Subsystem Availability report which shows, as a percentage, the availability of subsystems within a given period.

NOTE: This report can only be run in the default environment.

Getting there

Select option **18=Generate Subsystem Availability Report** from the Halcyon Reports menu. Alternatively, type **PRTSBSAVL** on the command line and press **F4**.

```

Print Subsystem Availability (PRTSBSAVL)

Type choices, press Enter.

Subsystem name . . . . . *ALL      Name, *ALL, F4=Prompt
Library . . . . .          Name, *LIBL
      + for more values

From date . . . . . *AVAIL      Date, *AVAIL, *TODAY...
To date . . . . . *AVAIL      Date, *AVAIL, *FROMDATE
Required up-time:
  Available start time . . . . . 0000      hhmm, *CAL
  Available end time . . . . . 2359      HHMM

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Subsystem Availability display

The following parameters are available on this display.

Subsystem name

Specify the subsystem and library (defaults to *LIBL) on which you want to report. It is possible to specify up to 64 subsystems for this parameter.

TIP: Use **F4=Prompt** on this parameter to display a list of all subsystems that have been monitored.

*ALL	All subsystems that have been monitored as active are selected for the report
Subsystem name	Specify the Ssubsystem name. Use the '+' sign to expand the parameter to allow further subsystems to be entered

Library

Specify the Library where the subsystem resides. This parameter defaults to *LIBL.

*LIBL	All Subsystems, specified in the 'Subsystem name' parameter, that have been monitored as active are selected for the report
Library name	Specify the name of the library where the subsystem specified in the 'Subsystem name' parameter reside

From date

Specify the beginning date of the subsystem monitored data that you want to print.

*AVAIL	The report begins with the first available subsystem monitored data (earliest data)
*TODAY	The report begins with the first available subsystem monitored data for the current date
*YESTERDAY	The report begins with the first available subsystem monitored data from the previous day
date	Specify the beginning date in yyyyymmdd

To date

Specify the ending date of the subsystem monitored data that you want to print.

*AVAIL	The report ends with the last available subsystem monitored data (latest data)
*FROMDATE	The report ends with the last available subsystem monitored data for the beginning date specified in the 'From date' parameter
date	Specify the ending date in yyyyymmdd format

Required uptime

Specify the start and end times that the subsystems are required to be available.

Available start time

Specify the start time from which subsystems must be available.

hhmm	Enter a time. 0000 represents the beginning of the day
*CAL	Use start and end times from a created calendar for each selected date

Available end time

Specify the time up to which subsystems must be available.

Calendar

Specify the calendar used to retrieve the required availability time.

Calendar name	Enter a valid calendar name from which to retrieve required availability time
----------------------	---

NOTE: This parameter is only available if *CAL has been specified in the 'Available start time' parameter.

Output type

Specify the amount of detail that the report contains.

*SUMMARY	The *SUMMARY report gives the percentage availability for each selected subsystem for each day selected
*DETAIL	The *DETAIL report gives the percentage availability for each selected subsystem for each day selected and also displays the actual start and stop times

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print Subsystem Availability Report display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTSBSAVL** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Print System Status

This option allows you to generate a report based upon parameters that indicate the 'general health' of the system at any given point.

Getting there

Select option **19=Print System Status** from the Reports menu. Alternatively, type **PRTSYSSTS** on the command line and press F4.

```

Print System Status (PRTSYSSTS)

Type choices, press Enter.

System information . . . . . *YES      *YES, *NO
Product PTF Levels . . . . . *YES      *YES, *NO
Network status . . . . . *YES      *YES, *NO
IP connection status . . . . .

+ for more values

System problem log . . . . . *YES      *YES, *NO
Halcyon alerts . . . . . *YES      *YES, *NO
IBM Job Scheduler status . . . . *YES      *YES, *NO
Save spooled file . . . . . *NO       *YES, *NO
PDF formatted file required . . *NO       *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print System Status display

The following parameters are available on this display.

System information

When *YES is selected, this parameter provides the following details about the system:

- System available: On the report this shows as the current 'SLA was achieved' and 'SLA performance%' values from Performance Analyzer. If Performance Analyzer is not installed, this field just shows 'Y' (Yes)
- System ASP
- % system ASP used
- % system ASP change
- Total

- Last IPL date
- Last IPL time

Product PTF Levels

Specifies whether to include the PTF Level information for each of the Halcyon products installed on this system.

Network status

Specifies whether to include network status information. This section lists each IBMi system defined on the [Work with Remote Locations](#) display together with current connection status.

*YES	A network status section is included
*NO	A network status is not included

NOTE: If this parameter is set to *YES, but no *i5 Remote Locations have been defined, a message: 'There are no *i5 Remote Locations defined' is printed on the report.

IP connection status

Specifies whether to include an IP connection status section. This section lists the systems specified in this parameter together with current connection status. Specify host names or IP addresses. You can specify up to 16 values for this parameter. Type '+' to enter additional values.

System problem log

Specifies whether to include system problem information. This information is similar to that displayed by the Work with Problem (**WRKPRB**) command.

*YES	A system problem section is included
*NO	A system problem section is not included

Halcyon alerts

Specifies whether to include alerts information. This information is similar to that displayed by the Work with Alert Log (**WRKALTLOG**) command. Only alerts raised since the beginning of the previous day are included.

*YES	An alerts section is included
*NO	An alerts section is not included

IBM Job Scheduler status

Specifies whether to include IBM Job Scheduler information. This information is similar to that displayed by the Work with Job Schedule entries (**WRKJOBSCDE**) command.

*YES	An IBM Job Scheduler section is included
*NO	An IBM Job Scheduler section is not included

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF Stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Functions on the Print System Status display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=All parameters

Use **F9=All parameters** to display entries for all parameters, including those not selected on previous parameters and those not commonly used.

F11=Keywords/Choices

Use **F11=Keywords/Choices** to toggle between the version of the prompt display that shows possible choices and the version that shows parameter keywords.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F14=Command string

Use **F14=Command string** to display the **PRTSYSSTS** command string as it would run with current parameter values entered.

F15=Error messages

Use **F15=Error messages** to display any pending error messages that derive from the command being entered.

F16=Command complete

Use **F16=Command complete** to run the command with all values entered and without showing any additional displays.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Utilities

Overview

The Utilities menu options allow you to view and interact with various functions of Halcyon products and components.

Getting there

Take option **41=Utilities Menu** from the Halcyon main menu.

```

HALUTIL          Halcyon - A division of HelpSystems
MANL            Halcyon Software
                Utilities Menu

Select one of the following:

  1. Display Network Log
  2. Display Action Log
  3. Work with Failed Syslogs

  5. Work with Journal

 10. Start Subsystem Availability Data Collection
 11. End Subsystem Availability Data Collection
 12. Add/Remove Halcyon Autostart Job Entry

 15. Start Monitor(s)
 16. End Monitor(s)

 20. Display Halcyon Statistics

Selection or command ==>
More...

F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel

```

Quick Access

From the Utilities menu you can access the following options:

Option	Function
Display Network Log	Displays the network data that has been sent from and received by this system
Display Action Log	Displays the actions that have been invoked as a result of alerts being raised from Halcyon products
Work with Journal	Allows you to manage the journal receivers created by Halcyon products
Start and End Subsystem Availability Data Collection	Used to control the times during which data is gathered for the purposes of reporting on the subsystem availability
Add/Remove Halcyon Autostart Job Entry	Allows you to add or remove an autostart job entry to the controlling subsystem

<u>Start Monitor(s)</u>	Allows you to start all or a named monitor that are/is currently released
<u>End Monitor(s)</u>	Allows you to end all or a named monitor that are/is currently active
<u>Display Halcyon Statistics</u>	Shows the statistical breakdown of events performance by Halcyon products installed on this system
<u>Dump Product Data</u>	Used to save product data to a save file which can be used for technical support purposes
<u>Send Text Message</u>	Sends a text message to a message device and ultimately, to one or more cell phones, pagers or email addresses
<u>Environment Maintenance Mode</u>	Maintenance Mode allows you preventing changes being made within an environment

Display Network Log

The Display Network Log display shows the network data that has been sent from (in green text) and received (blue text) by this system.

Getting there

Select option **1=Display Network Log** from the Halcyon Utilities menu.

```

HAL2200R                               Halcyon Software                               HAL720P4
CONS                                     Display Network Log                               15/05/15  10:33:00
Position to date . . . . .
Position to time . . . . .

Type options, press Enter.
5=Display 6=Print 7=Messages

Dta  Log      Log      --- From --- --- To ----- Remote
Opt Dir M Date  Time  Location Prd Location Prd Envir Status   Loc UID
---
RCV B 15/05/15 09:49:10 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225069
RCV B 15/05/15 09:49:33 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225070
SND 15/05/15 09:49:52 *LOCAL HAL QA_720P4 HAL QA   Sent-0k  225071
RCV B 15/05/15 09:49:53 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225072
SND 15/05/15 09:49:53 *LOCAL HAL QA_720P4 HAL QA   Sent-0k  225073
RCV B 15/05/15 09:49:53 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225074
SND 15/05/15 09:49:53 *LOCAL HAL QA_720P4 HAL QA   Sent-0k  225075
RCV B 15/05/15 09:49:54 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225076
RCV B 15/05/15 09:49:54 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225077
RCV B 15/05/15 09:49:54 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225078
RCV B 15/05/15 09:49:54 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225079
RCV B 15/05/15 09:50:00 QA_720P4 HAL *LOCAL HAL QA   Rcvd-0k  225083
More...

F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Bottom F22=Print

```

Use one of the following options to move through the network log records:

- Use the Page or Roll keys.
- Position the display by keying the date and/or time required and press Enter.
- Use **F18=Bottom** to move to the bottom of the log and most recent messages.

Parameters on the Display Network Log display

The following parameters are available on this display.

Position to date

Enter a date to which the display moves when Enter is pressed. Can be used alone or in conjunction with the 'Position to time' parameter.

Position to time

Enter a time to which the display moves when Enter is pressed. Best used in conjunction with the 'Position to date' parameter.

Data direction (Dta Dir)

Specifies the direction of the data.

SND	Outgoing data (Send)
RCV	Incoming data (Receive)

RCV mode

This is the receive mode of any data received by the system.

I	Interactive
B	Batch

Log date

Specifies the date the data was logged. For SND data, this is the date on which the data was sent. For RCV data, this is the date on which the data was received.

Log time

Specifies the time at which the data was logged. For SND data, this is the time at which the data was sent. For RCV data, this is the time at which the data was received.

Local product (Local Prod)

Specifies the Local Product code. For SND data, this is the originating product. For RCV data, this is the destination product.

Remote location

Specifies the name of the remote location as defined in [Work with Remote Locations](#). For SND data, this is the destination location. For RCV data, this is the originating location.

*SYSTEM	Indicates that data was sent to or received from the current location
----------------	---

*UNKNOWN	May be shown for received data when either: The data is malformed such that the sender's IP Address and port cannot be determined The sender's IP Address and port does not match a location on the Work with Remote Locations display. This can be prevented by setting system default HAL/NETAUTOCFG to *YES which causes previously unknown systems to be automatically added as remote locations when data is received
-----------------	--

Remote environment

Specifies the remote environment name. For SND data, this is the name of the environment to which data has been sent. The environment name is not known until the remote system acknowledges receipt of the sent data. For RCV data, this is the name of environment from which data has been received.

Remote product (Remote Prod)

Specifies the remote product code. For SND data, this is the destination product. For RCV data, this is the originating product.

Status/Network status

Specifies the current status of the data as one of the following:

Send data status	Invalid: The data is invalid and cannot be sent. Possible reasons: The remote location specified is not defined The data to be sent is longer than 32767 bytes
	Send-Pending: The data is ready to be sent but the Network Send Monitor has not attempted to send the data. Possible reasons: The Network Send Monitor is not running The Network Send Monitor is busy performing another request
	Send-Wait: The remote system is not responding. The data is sent if contact is re-established before the request times-out
	Timed-Out: The data could not be sent and has now timed out. No further attempts are made
	Sending: The data is currently being sent
	Sent: The data was successfully sent
	Sent-OK: The data was successfully sent and the request was successfully processed by the remote system
	Sent-Error: The data was successfully sent but the request could not be processed by the remote system
	Send-Abort: The send request was cancelled before the data was successfully sent
Receive data status	Rcvd: The data was successfully received Rcvd-Exec: The data was successfully received and is being processed Rcvd-OK: The data was successfully received and the request was successfully processed by the local system Rcvd-Error: The data was successfully received but the request could not be processed by the local system Rcvd-Drop: The data was received in interactive mode after the requestor had timed out

Using the Display Network Log display

The following options are available when working with the Display Network Log display. Type the option number in the Opt column against the required selection.

Display

Use option **5=Display** to display additional information for the selected log entry.

```

HAL2200R                               Halcyon Software                               HAL525P3

Display Log Detail
Direction/mode . . . . . SND                Network status . . . : Sent-Ok
Date logged . . . . . 17/05/12              Date sent . . . . . 17/05/12
Time logged . . . . . 10:29:03             Time sent . . . . . 10:29:03
Send attempts . . . . . 1                  Remote environment .
From location . . . . . *LOCAL              To location . . . . . TEST701
From product . . . . . HAL                  To product . . . . . HEC
From UID . . . . . 6987                    To UID . . . . .

<esInterface version="1"><addAlertAsXML productType="ptIBMi"><Alert vers
ion="2" remoteKey="86867"><Device><SourceDevice><DeviceHeader version="2
" address="192.168.0.20" name="HAL525P3" port="15051"/></SourceDevice></
Device><Header alertFunction="CONSOLE" alertType="Information" dateTime=
"2012-05-17T10:29:03" envCode="QA" inquiry="False" messageID="HEM0079" p
roduct="HEM" source="*PRF" status="NEW" tzBias="-60" version="2">Job 406
660/QSYSOPR/HMCCX4 statistic CPUPCT is 112.3.</Header><HTMLDetail imageI
ndex="6" style="B" text="Details" version="2"><HTMLDetail imageIndex="51

F3=Exit  F5=Refresh  F12=Cancel

```

Print

Use option **6=Print** to produce a network log report for the selected local UID.

Messages

Use option **7=Messages** to open the [Display Message Log](#) display subsetted to show only the message related to the selected network packet.

Functions on the Display Network Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Network Log display, allowing you to control which messages are displayed on the Network Log.

F18=Bottom

Use **F18=Bottom** to reposition the display at the bottom of the network messages so that the most recent messages are displayed.

F22=Print

Use **F22=Print** to prompt the Print Network Log (**PRTNETLOG**) command. This allows you to refine the selection parameters to produce the required Network Log command.

Display Action Log

The Display Action Log shows the actions that have been invoked as a result of alerts being raised from products both within any Halcyon products you may have installed.

Getting there

Select option **2=Display Action Log** from the Halcyon Utilities menu.

```

HAL1200R                               Halcyon Software                               HAL525P3
SOS                                     Display Action Log                               13/10/09 11:37:08
Position to date . . . . .
Position to time . . . . .

Type options, press Enter.
5=Display 6=Print 7=Network log 8=Communications log

Request      Action
Opt Act date Act time System  Action  System  Status  Action ref
- 09/10/09 16:40:02 *LOCAL  CONSOLE *LOCAL  Complete 3345/1
- 09/10/09 16:40:02 *LOCAL  CONSOLE *LOCAL  Complete 3346/1
- 09/10/09 16:40:03 *LOCAL  CONSOLE *LOCAL  Complete 3347/1
- 13/10/09 11:35:58 *LOCAL  CONSOLE *LOCAL  Complete 3445/1
- 13/10/09 11:35:58 *LOCAL  CONSOLE *LOCAL  Complete 3446/1
- 13/10/09 11:35:58 *LOCAL  CONSOLE *LOCAL  Complete 3447/1
- 13/10/09 11:35:59 *LOCAL  CONSOLE *LOCAL  Complete 3448/1
- 13/10/09 11:35:59 *LOCAL  CONSOLE *LOCAL  Complete 3449/1
- 13/10/09 11:36:00 *LOCAL  CONSOLE *LOCAL  Complete 3450/1
- 13/10/09 11:36:01 *LOCAL  CONSOLE *LOCAL  Complete 3451/1
- 13/10/09 11:36:02 *LOCAL  CONSOLE *LOCAL  Complete 3452/1

BOTTOM

F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Bottom F22=Print

```

Use one of the following options to move through the Action Log records:

- Use the **Page** or **Roll** keys
- Position the display by keying the date and/or time required and press **Enter**.
- Use **F18=Bottom** to move to the bottom of the log and most recent actions.

Parameters on the Display Action Log display

The following parameters are available on this display.

Position to date

Enter a date to which the display moves when **Enter** is pressed. Can be used alone or in conjunction with the 'Position to time' parameter.

Position to time

Enter a time to which the display moves when **Enter** is pressed. Best used in conjunction with the 'Position to date' parameter.

Action date (Act Date)

Specifies the date on which the action was logged.

Act time (Action Time)

Specifies the time at which the action was logged.

Request system

Specifies the name of the remote location (as defined in [Work with Remote Locations](#)) that requested the action. *LOCAL indicates that the action was requested by the local system.

Action

Specifies the type of action:

- Action Schedule
- Close Alert
- Command
- Console
- Hold Rule
- Reply
- Release Rule
- Reset Rule Incident Count
- Send Message Queue Message
- Send Text or Email Message

Action system

Specifies the name of the remote location (as defined in [Work with Remote Locations](#)) on which the action is performed. *LOCAL indicates that the action is performed on the local system.

Status

Displays the current status of the action:

Pending	The action is ready to be performed
Delayed	The action is waiting for a scheduled start time
Active	The action is currently being performed
Complete	The action completed successfully
Closed	The alert was closed before the action was fully escalated (only applies to SNDTXT action with an escalation list)
Error	The action ended in error

Action ref

A unique identification number that applies only to the execution of this action.

Using the Display Action Log display

The following options are available when working with the Action Log. Type the option number in the Opt column against the required selection.

Display

Use option **5=Display** to open the Display Log Detail display which shows additional information for the selected data.

Print

Use option **6=Print** to produce the action log report for the selected action reference.

Network log

Use option **7=Network log** to open the Display Network Log which shows the network data related to the selected action.

NOTE: This option only applies to actions performed on a remote location.

Communications log

Use option **8=Communications log** to open the Display Communications Log which shows the communication data related to the selected action.

NOTE: This option only applies to SNDTXT actions performed on the local system.

Functions on the Display Action Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Action Log display, allowing you to control which action messages are displayed on the action log.

F18=Bottom

Use **F18=Bottom** to reposition the display at the bottom of the action messages so that the most recent messages are displayed.

F22=Print

Use **F22=Print** to prompt the Print Action Log (**PRTACTLOG**) command. This allows you to refine the selection parameters to produce the required action log report.

Work with Journal

The Work with Journal display allows you to manage the journal receivers created by Halcyon products. This feature is in addition to the automatic management which occurs without any intervention using system variables `JNRRCVSIZ` and `JNRRCVLIFE`. There is a single journal called HALJRN in the common library of each environment installed. All products installed in an environment are journaled to the same common library journal.

All journal receivers are named HALRCVnnnn where nnnn is the system generated sequence.

Each journal receiver listed is comprised of two lines:

- **Line 1** Displays values which correspond with the column headings
- **Line 2** Displays the starting and ending sequence numbers of the entries within the journal receiver. Each entry may be up to 20 digits in length

The oldest journal entry is listed first. The last listed is the currently attached receiver shown in reverse image. Journal receivers are listed in chronological sequence even if the generated receiver name rolls over from 9999 to 0000, or the sequence numbers within the journal have been reset.

There may be several pages of receivers, especially if the size system default [HAL/JNRRCVSIZ](#) has been set to a low value.

Getting there

Select option **5=Work with Journal** from the Halcyon Utilities menu.

```

HAL0060R                               Halcyon Software                               HAL720P2
MANL                                   Work with Journal                               14/02/17  14:58:56

Halcyon Journal:  HALMANL/HALJRN
No of journaled files:  00182
Type options, press Enter.
4=Delete 5=Display attributes

Opt Receiver  Attached Date      Detached Date      Saved      Size(Kb)
|-----|-----|-----|-----|-----|
|  HALRCV0001  2017-02-14 06:41:45  still attached    |  18532
| Start Seq: 1 End Seq: 27768 |

Bottom
F3=Exit  F10=Force CHGJRN  F12=Cancel  F15=Attributes  F20=Start  F23=End

```

Parameters on the Work with Journal display

The following parameters are available on this display.

Journal name

Displays the name of the journal and the common library for this environment.

No of journaled files

Displays the current number of files being journaled in this environment.

Receiver

Displays the name of the journal receiver. If it is still attached to the journal it is shown in reverse image.

Attached date

Displays the date and time at which this journal receiver was attached to the journal.

Detached date

Displays the date and time at which this journal receiver was detached from the journal.

If the journal receiver is still attached, the wording 'Still Attached' is displayed.

Saved

Displays 'N' in reverse image for any receiver that has not yet been saved and 'Y' for any receiver that has been saved.

NOTE: It is recommended that receivers are not deleted until they have been saved.

Size(Kb)

Displays the current size (in Kb) of each journal receiver.

Using the Work with Journal display

The following options are available when working with the Journal display. Type the option number in the Opt column against the required selection.

Delete receiver

Use option **4=Delete receiver** to delete the selected journal receiver. The following rules apply:

The receiver cannot be attached and actively journaling objects.

The receiver cannot be within a receiver chain. The oldest receiver must be deleted first and then receivers in sequence can also be deleted.

If there are no journaled objects ('No. of journaled object' parameter = 0), it is permissible to delete the attached journal receiver.

NOTE: Using this option also deletes the journal HALJRN itself, although it is recreated when journaling is restarted.

Display attributes

Use option **5=Display attributes** to open the IBM Work with Journal Receivers display for the selected journal receiver.

NOTE: See [Working with Journal Receivers](#) for more information.

Functions on the Work with Journal display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F10=Force CHGJRN

Use **F10=Force CHGJRN** to force an immediate change journal command to generate a new receiver. A confirmation prompt appears. Press **Enter** to execute or **F12** to cancel.

By default, the first receiver created is the minimum size. To change the receiver size, change the system value `JRNRCVSI Z` to the required value. Use **F10** again to change the receiver. The new receiver is created with the size value from system value `JRNRCVSI Z`.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F15=Attributes

Use **F15=Attributes** to open the IBM Work with Journal Attributes display).

```

Work with Journal Attributes

Journal . . . . . : HALJRN      Library . . . . . : HALNEW
Attached receiver . . . : HALRCV0001  Library . . . . . : HALNEW
Text . . . . . : *BLANK

ASP . . . . . : 1
Message queue . . . . . : QSYSOPR
Library . . . . . : *LIBL
Manage receivers . . . . : *SYSTEM
Delete receivers . . . . : *NO
Journal cache . . . . . : *NO
Manage delay . . . . . : 10
Delete delay . . . . . : 10
Journal type . . . . . : *LOCAL
Journal state . . . . . : *ACTIVE
Minimize entry data . . . : *NONE

Journalled objects:
Current . . . . . : 1
Maximum . . . . . : 250000
Recovery count . . . . . : *SYSDFT
Receiver size options: *RMVINTENT
*MAXOPT2
Fixed length data . . . : *JOB
*USR
*PGM

Bottom
F3=Exit  F5=Refresh  F12=Cancel  F17=Display attached receiver attributes
F19=Display journalled objects  F24=More keys

```

F20=Start

Use **F20=Start** to start journaling. A confirmation prompt appears. Press **Enter** to continue.

This initiates journaling of all appropriate objects for all installed products.

Before attempting to start journaling it is recommended that all monitors are ended and no interactive sessions are accessing Halcyon programs. If any locks exist on objects which prevent journaling from starting, you can retry this option after ensuring that the lock has been removed.

F23=End

Use **F23=End** to end journaling. A confirmation prompt appears. Press **Enter** to continue.

This ends journaling for all currently journaled objects.

NOTE: Before attempting to end journaling it is recommended that all monitors are ended and no interactive sessions are accessing Halcyon products. If any locks exist on objects which prevent journaling from ending, you can retry this option after ensuring that the lock has been removed.

Should any objects fail to end journaling, then the 'No. of journaled objects' parameter still displays a figure greater than zero.

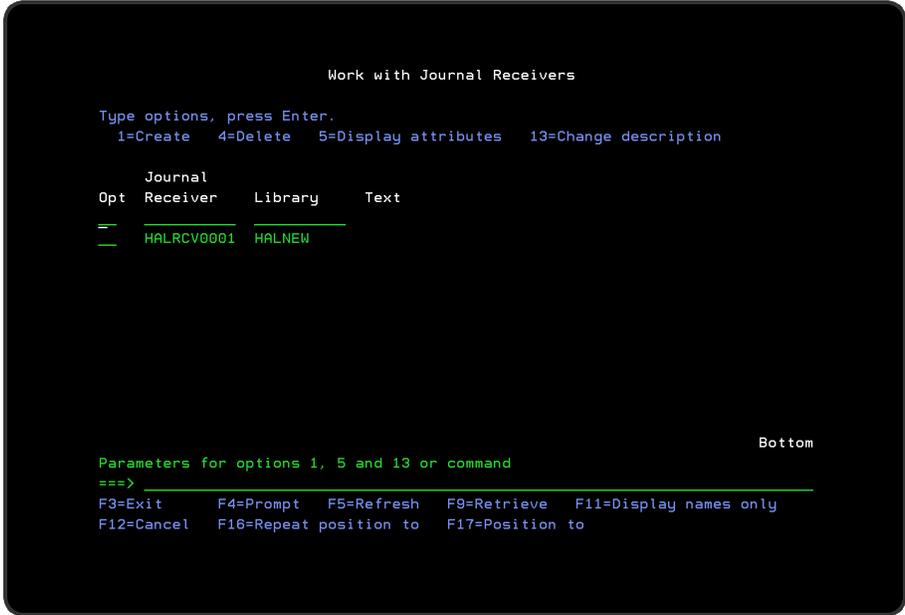
Working with Journal Receivers

The Work with Journal Receivers display allows you to create and delete journal receivers, display journal receiver attributes and change journal receiver descriptions. You must have management rights to, or ownership of, the journal receiver to delete or change the properties.

The list of journal receivers presented is based on the value you enter for the 'Journal receiver' parameter. For example, if you type 'T*' and specify library QSYS, a list of all the journal receivers starting with 'T' in library QSYS is displayed. If you know the name of the object, you can complete the top parameters that are blank with the option number, journal receiver name and library name. Press **Enter**.

Getting there

Select option **5=Display** from the Work with Journals display.



Parameters on the Work with Journal Receivers display

The following parameters are available on this display.

Journal receiver

Displays the names of the journal receivers you selected and which you are authorized to view.

Library

Displays the name of the library in which the journal receiver names are stored.

Text

Displays a textual description of the journal receiver.

Using the Work with Journal Receivers display

The following options are available when using the Work with Journal Receivers display. Type the option number in the Opt column against the required selection.

Create

Use option **1=Create** to create a new journal receiver.

NOTE: See [Creating Journal Receivers](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Delete of Journal Receiver display. Press **Enter** to confirm the deletion.

Display attributes

Use option **5=Display attributes** to open the Display Journal Receiver attributes display which provides detailed information about the selected journal receiver.

```

Display Journal Receiver Attributes

Receiver . . . . . : HALRCV0001  Library . . . . . : HALNEW
Journal . . . . . : HALJRN      Library . . . . . : HALNEW
Threshold (K) . . . : 1500000   Size (K) . . . . . : 76
Attach date . . . . : 04/12/08   Attach time . . . . : 08:55:58
Detach date . . . . : 00/00/00   Detach time . . . . : 00:00:00
Save date . . . . . : 04/12/08   Save time . . . . . : 19:22:54
Text . . . . .      : *BLANK

Auxiliary storage pool . . . . . : 1
Status . . . . .      : ATTACHED
Number of entries . . . . .      : 2
Minimized fixed length . . . . . : NO
Receiver maximums option . . . . : 2
Maximum entry specific data length . . . . . : 384
Maximum null value indicators . . . . . : 0
First sequence number . . . . . : 1
Last sequence number . . . . . : 2

More...

F3=Exit  F5=Refresh  F6=Display associated receivers
F10=Work with journal attributes  F12=Cancel

```

Change description

Use option **13=Change description** to open the Change Object Description window that allows you to change the textual description of the journal receiver.

Functions on the Work with Journal Receivers display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=Retrieve

Use **F9=Retrieve** to display the last command you entered on the command line and any parameters that were included. Pressing this key once, shows the last command you ran. Pressing the key twice, shows the penultimate command and so on.

F11=Display names only

Use **F11=Display names only** to display only the names of the objects listed.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=Repeat position to

Use the **F16=Repeat position to** option to position the list again, using your last positioning specifications.

F17=Position to

Use the **F17=Position to** option to display a panel on which you can specify an object in the list. That object appears on the second line of the displayed part of the list.

Creating Journal Receivers

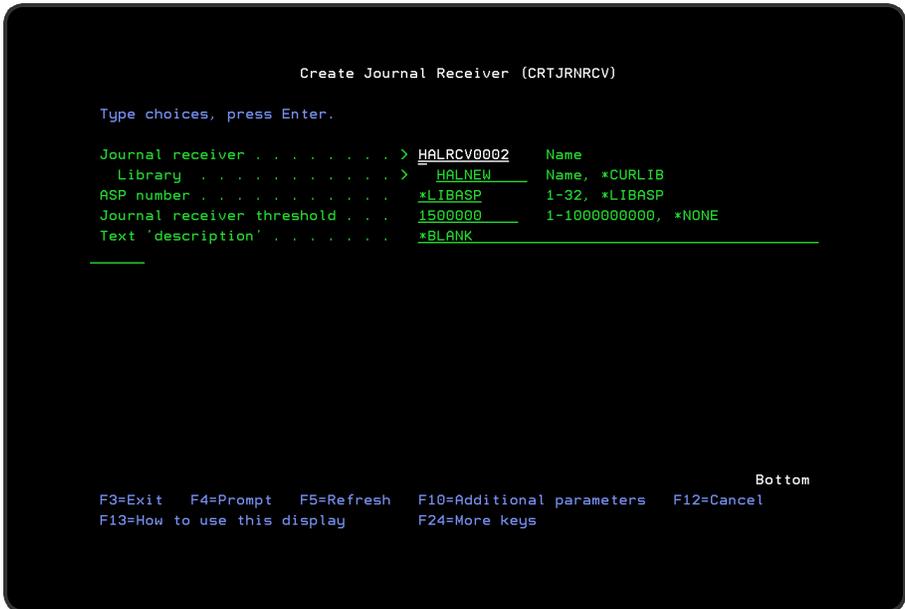
Once a journal receiver is attached to a journal (with the Create Journal (**CRTJRN**) or Change Journal (**CHGJRN**) command), it can accept journal entries. A preferred Auxiliary Storage Pool (ASP) and a storage space threshold value can be specified for the journal receiver.

Restrictions

- A journal receiver cannot be created in library QTEMP
- This command cannot be used to create a journal receiver for a remote journal
- If the library to contain the journal receiver is on an independent ASP then ASP (*LIBASP) must be specified

Getting there

Use option **1=Create** on the Work with Journal Receiver display to open the Create Journal Receiver display.



Parameters on the Create Journal Receiver display

The following parameters are available on this display.

Journal receiver

Specifies the name of the journal receiver that is being created. This is a required parameter.

Library

Specifies the library name in which the journal receiver is being created.

*CURLIB	The journal receiver is created in the current library. If no library is specified as the current library for the job, QGPL is used.
library-name	Specify the library where the journal receiver is to be created

ASP number(ASP)

Specifies the auxiliary storage pool (ASP) from which the system allocates storage for the journal receiver.

*LIBASP	The storage space for the journal receiver is allocated from the same auxiliary storage pool as the storage space of the journal receiver's library
ASP identifier	Specify a value ranging from 1 through to 32 to specify the identifier of the ASP from which the storage space of the journal receiver is allocated. Valid values depend on how ASPs are defined on the system

NOTE: The value of 1 is the system ASP, any other value indicates a user ASP.

Journal receiver threshold

Specifies a storage space threshold value (in KB) for the journal receiver. If the threshold value is exceeded during journaling, one of the following actions occurs:

The message CPF7099 is sent to the journal message queue if the journal has the MNGRCV (*USER) attribute. The system attempts to create and attach a new receiver if the journal has the MNGRCV (*SYSTEM) attribute. When the old receiver is detached, the message CPF7020 is sent to the journal message queue.

If the attempt fails due to lock conflicts, the system sends the message CPI70E5 and then tries again every 10 minutes or as often as requested via the MNGRCVDLY parameter) until the change journal operation is successful.

When the system cannot determine if the journal has the MNGRCV (*SYSTEM) attribute, or if the attempt to create an attach a new journal receiver fails because of something other than a lock conflict, the message CPI70E3 is sent.

The journal message queue is specified on the Create Journal (**CRTJRN**) or Change Journal (**CHGJRN**) command.

NOTE: The value for the MNGRCV parameter is specified for the journal on the **CRTCJN** or **CHGJRN** command. If you have not specified MNGRCV (*SYSTEM), and the threshold value is exceeded, you may want to take an action, such as issuing a **CHGJRN** command.

NOTE: If RCVSIZOPT(*RMVINTENT) is specified for the journal, the internal space occupied by the internal entries applies toward the receiver threshold. Sometime after the journal receiver is detached, the space for the internal entries will be freed. At that time the size of the journal receiver will be less than the specified threshold value.

15000	This is the default threshold value. Each 1000Kb specifies 1,024,000 bytes of storage space
*NONE	No threshold value is specified. The message CPF7099 is not sent and MNGRCV(*SYSTEM) cannot be specified when attaching this receiver to a journal

1-1000000000	Specify the journal receiver threshold value in kilobytes (KB) of storage. Each 1000KB specifies 1,024, 000 bytes of storage space. When the size of the space for the journal receiver is larger than the size specified by this value, a message is sent to the identified message queue if appropriate and journaling continues
--------------	--

NOTE: If you plan to attach this journal receiver to a journal that does not have one of the *MAXOPT values specified, the maximum threshold you should specify is 1,919,999 kilobytes.

NOTE: If you specify a value less than 100,000, the value is automatically reset to 100,000. Otherwise you may see the threshold exceeded message too frequently. Also, if the threshold value is too small, the threshold exceeded message may occur when the journal receiver is attached to a journal either with the Create Journal (**CRTJRN**) or Change Journal (**CHGJRN**) commands.

Text 'description'

Specifies the text that briefly describes the object.

*BLANK	No text is specified
'description'	Specify no more than 50 characters of text, enclosed in apostrophes

Additional parameters

Use F10=Additional parameters to display the following parameters.

Preferred storage unit

This parameter is no longer supported.

Authority

Specifies the authority to be applied to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have any specific authority for the object.

*LIBCRTAUT	The system determines the authority for the object by using the value specified for the Create Authority parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the Create Authority parameter is changed, the new value does not affect any existing objects
------------	--

*CHANGE	The user can perform all operations on the object except those limited to the owner or controlled by object existence (*OBJEXIST) and object management (*OBJMGT) authorities. The user can change and perform basic functions on the object. *CHANGE authority provides object operational (*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change or remove users
*ALL	The user can perform all operations except those limited to the owner or controlled by authorization list management (*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object and perform basic functions on the object. The user can also change ownership of the object
*USE	The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (*USE) authority provides object operational (*OBJOPR), read (*READ) and execute (*EXECUTE) authorities
*EXCLUDE	The user cannot access the object
name	Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created

Functions

The following functions are available on this display.

TIP: Some functions may not be visible until you use **F24=More keys**.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

NOTE: See [Additional parameters](#) for more details.

F11=Display names only

Use **F11=Display names only** to display only the names of the objects listed.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Start and End Subsystem Availability Data Collection

Options **10=Start Subsystem Availability Data Collection** and **11=End Subsystem Availability Data Collection**, on the Utilities menu, are used to control the times during which data is gathered for the purposes of reporting on the subsystem availability.

The report is accessed from option **18=Generate Subsystem Availability Report** on the [Reports](#) menu.

NOTE: The collection of subsystem availability data can only be run in the default environment. See [Generate Subsystem Availability Report](#) for more information.

Add/Remove Halcyon Autostart Job Entry

This feature allows you to add or remove an autostart job entry to the controlling subsystem, usually QBASE. The controlling subsystem is the subsystem that starts first when the system powers up and an autostart job entry is an entry that automatically starts a specified job when a subsystem starts.

If you take this option, select *ADD and press **Enter** when prompted, the autostart job added is a job that automatically starts up the Halcyon monitors. Therefore by adding it you don't have to remember to manually start the Halcyon monitors after an IPL.

If you want to remove this option at a later date type *RMV when prompted and press **Enter** to delete the autostart entry.

Getting there

Select option 12=Add/Remove Halcyon Autostart Job Entry on the Halcyon Utilities menu.

```

Halcyon Autostart Job Entry (HALAJE)
Type choices, press Enter.
Option . . . . . _____ *ADD, *RMV

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Start Monitor(s)

The Start Monitors (**STRMON**) command starts Halcyon monitors in the environment in which the command is running. This command also starts the Halcyon subsystem if it is not already active.

```

Start Monitors (STRMON)
Type choices, press Enter.
Monitors:
  Product . . . . . *ALL      HAL, HAM, HEM, HJS, HMC...
  Monitor . . . . .          ACT, AUD, COM, CTL, DEV...
    + for more values _
Start supervisor . . . . . *AUTO   *AUTO, *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Monitors

Specifies the product and monitor names of the monitors you want to start. You can specify up to 32 values for this parameter.

Product

*ALL	All currently released monitors are started
*NONE	No monitors are started. Use this value if you want to start the Supervisor without starting any additional monitors
Product	Specify the product codes of the products whose monitors you want to start

Monitor

Specify the monitor of the specified product that you want to start, or leave blank to start all released monitors within the specified product.

Start Supervisor

Specifies whether to start the Supervisor. Supervisor is a special monitor that may be run to supervise the status of selected regular monitors. By default, Supervisor runs in subsystem QBASE. This can be changed by changing job description STRSUPER. To control which monitors are supervised, use options **8=Supervise** and **9=Stop supervising** on the Work with Monitors display.

When a monitor is supervised:

- It cannot be ended using the Work with Monitors display.
- If ended using the End Monitors (ENDMON), End Job (ENDJOB) or End Subsystem (ENDSBS) command, Supervisor will restart it.
- If the monitor fails and begins waiting for an inquiry message reply (MSGW status), Supervisor will reply to the message using reply D, or if D is not valid, using the default reply.

*AUTO	Starts the Supervisor if MONITOR(*ALL) is specified
*YES	Start the Supervisor
*NO	Do not start the Supervisor

End Monitor(s)

The End Monitors (**ENDMON**) command ends Halcyon monitors and optionally the subsystem for the environment in which the command is running.

```

End Monitors (ENDMON)
Type choices, press Enter.
Monitors:
  Product . . . . . *ALL      HAL, HAM, HEM, HJS, HMC...
  Monitor . . . . .          ACT, AUD, COM, CTL, DEV...
+ for more values
Stop supervisor . . . . . *AUTO    *AUTO, *YES, *NO
End subsystem . . . . . *AUTO    *AUTO, *NO
Subsystem end time-out . . . . . 3002    60-99999
Wait . . . . . *20      *YES, *NO
  
```

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

Monitors

Specifies the product and monitor names of the monitors you want to end. You can specify up to 32 values for this parameter.

Product

*ALL	All currently active monitors are ended
*NONE	No monitors are ended. Use this value if you want to end the Supervisor without ending any additional monitors
Product	Specify the product codes of the products whose monitors you want to end

Monitor

Specify the monitor of the specified product that you want to end, or leave blank to end all released monitors within the specified product.

Stop Supervisor

Specifies whether to end the Supervisor.

*AUTO	Ends the Supervisor if MONITOR(*ALL) is specified
*YES	The Supervisor is ended
*NO	The Supervisor is not ended

IMPORTANT: If all supervised monitors are ended, the Supervisor also ends, even if not specifically ended by this parameter.

TIP: Press **F9** to see additional parameters

End Subsystem

When all monitors are being ended, specifies whether to also end the Halcyon subsystem for the environment in which this command is running. This parameter is ignored if MONITOR(*ALL) is not specified.

*AUTO	Ends the subsystem if MONITOR(*ALL) is specified
*NO	The subsystem is not ended

Subsystem End Time-Out

Specifies the amount of time (in seconds) that is allowed to complete the controlled subsystem end operation. If this amount of time is exceeded and the end operation is not complete, any jobs still being processed in the subsystem are ended immediately. Specify a value in the range 60-99999.

WARNING: Be aware that Disk Space Manager builds and Advanced Job Scheduler jobs and other batch tasks run in the Halcyon subsystem by default. Be sure to allow sufficient time for any such jobs to end normally.

Wait

Specifies whether to wait for the subsystem and/or supervisor to end.

*YES	If this command instructs the subsystem and/or supervisor to end, it does not return until the subsystem and/or supervisor have actually ended
*NO	If this command instructs the subsystem and/or supervisor to end, it returns immediately while the subsystem and/or supervisor are still ending

Display Halcyon Statistics

The default display shows the statistical breakdown of events performance by Halcyon products installed on this Power/system i. Results can also be displayed in graphical format if required.

Getting there

Select option **20 = Display Halcyon Statistics** from the Utilities menu or use the Display Halcyon Statistics (DSPHALSTAT) command to open the Display Halcyon Statistics display.

```

HAL1680R                               Halcyon Software                               HAL525P1
                                Display Halcyon Statistics                               6/05/09  15:46:02

Monitor . . . . . : *ALL_    All events
Date . . . . .   : 23/02/09
Detail . . . . . : *WEEKS
Local Event      23/02 02/03 09/03 16/03 23/03 30/03 06/04 13/04 20/04 27/04
Action Schedule  - - - - -
Close Alert      1650  54   1   8  103  - - - 272 351  82
Run Command      18   -   3   -  15   4 - - - 2 - -
Console Alert    825  991  762 1852 28523 309 65 2105 1218 40
Hold Rule        - - - - -
Reply INQ Message - - - - -
Release Rule     - - - - - 6 - - - -
Reset Rule       - - - - - 1 1 - - -
Send Message     1144  54  303  15  124 - 4 123  41  7
Send Text Message 264  41  1   3   4 - 4 9 812  92
Alert raised     1550 1050 934 30088 942 298 65 3006 1722 126
Alert closed     2291 121 1239 10  113  17 4 306  377  91
Phone message    6   37  5 - - - - -
Pager message    - - - - -
More...
F3=Exit F4=Prompt F5=Refresh F7=Left F8=Right F9=Zoom in F24=More keys

```

The display can be manipulated by using **F10=Zoom out** to change the detail from *HOURS to *DAYS, *WEEKS and *MONTHS. **F9=Zoom in** reverses the detail level.

Statistics are generated for the following events:

- Alerts raised
- Alerts acknowledged
- Alerts closed
- Phone messages sent
- Pager messages sent
- Email messages sent
- Messages replied to

- SMS commands OK
- SMS commands failed
- ACTSCH actions
- ARCHIVE actions
- CLOSE actions
- COMMAND actions
- CONSOLE actions
- CPYOUTQ actions
- CPYSPLF actions
- CPYTOSTMF actions
- EMAILSPLF actions
- EMAILSTMF actions
- EXPORT actions
- HLDRULE actions
- REPLY actions
- RLSRULE actions
- RSTRULE actions
- RUNSCRIPT actions
- SNDMSG actions
- SNDTXT actions

Parameters on the Display Halcyon Statistics display

The following parameters are available on this display.

Monitor

Specifies the monitor to which the displayed event data applies. The default setting is *ALL which shows all events performed (even if not generated by a specific monitor). *NOMON only displays events performed by Halcyon products not generated through a specific monitor.

Use **F4=Prompt** to display a pop-up window allowing you to select a monitor for which the data is then shown.

NOTE: Not all monitors perform all events.

Date

Specifies the starting date of the statistics data shown in the left hand column. At higher detail levels (those showing less than a day), changing the date shows the performance details over the same period and at the same level but for the date you have entered.

The 'Date' parameter may automatically be adjusted when moving left or right through the data or when using the zoom in/out functionality.

Where the detail level is changed to less than a day, for example 1 week, and the date is not the first day for that detail level, the date is automatically changed to show the first day of that detail level.

Detail

Specifies the detail level of the displayed statistics data. To change the level of detail, either use **F9=Zoom in**, **F10=Zoom out**, **F4=Prompt** to display a pop-up window from which a choice can be made or simply over type the current entry.

Headings

The column headings are dependent on the level of detail being displayed and show either a date or a time. The heading represents the starting point for the displayed data.

For example, if the detail level is *HOURS, the column headings may read:

08:00 09:00 10:00 11:00

The data shown under the 08:00 column represents 60 minutes worth of events counted from 08:00 up to (but not including) 09:00.

NOTE: Where a detail level is not yet completed, the quantity of events in that column are from the time shown on the column heading up to the current time.
If the detail level is *WEEKS and you are part way through a week, the column representing this shows this week up to the current date and time.

Values

The numbers for each row represent the values of the events shown in the time related columns.

Events

This column specifies the events which have occurred through Halcyon products. The values in the time related columns represents the occurrence of the event in the detail time interval.

NOTE: Not all monitors generate all events but all events are shown. Some events are not monitor specific, but are raised through non-monitor actions.

Functions on the Display Halcyon Statistics display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F7=Left

Use **F7=Left** to show the statistical data or graph which is to the left (earlier) of the current display.

By positioning the cursor in a column and pressing **F7**, that column is moved to the right-hand side of the screen showing earlier data to the left. If the cursor is positioned in the far right-hand column when **F7** is pressed, the data is moved by a single column only.

F8=Right

Use **F8=Right** to show the statistical data or graph which is to the right (later of the current display).

By positioning the cursor in a column and pressing **F8**, that column is moved to the left-hand side of the screen showing earlier data to the left. If the cursor is positioned in the far left-hand column when **F8** is pressed, the data is moved by a single column only.

F9=Zoom in

Use **F9=Zoom in** to show the statistical information in more detail (if available). By default, the column in the centre of the screen is the focus of the zoom.

To 'Zoom in' on a specific column, position the cursor into that column and press **F9**. This places the selected column into the centre of the screen and shows more detail around that point, by reducing the time detail period to the next available detail interval.

F10=Zoom out

Use **F10=Zoom out** to show the statistical information in less detail (if available). By default, less detail is shown starting from the column on the left-hand side of the screen.

If the cursor is positioned on a detail column when **F10** is pressed, then less detail is shown using that column as the starting point, with less detail being shown either side of that column.

F12=Previous

Use **F12=Previous** to take you back to the screen prior to the one that you are currently viewing. Every (valid) action taken on the Display Halcyon Statistics display is remembered (up to a maximum of the last 50 actions taken).

F12=Previous works for zoom in, zoom out, left, right, switching in or out of graph mode or changing the information displayed. Changing user options is not remembered so **F12** does not undo any of the changes made in that popup window.

F13=Graph/Values

Use **F13=Graph/Values** to switch between showing the values display and graph mode.

When switching to graph mode, the values from the first row of the statistical values are plotted as a bar graph. If the cursor is positioned on a different row of values on the display when **F13** is pressed, that row is then shown as a graph.



As with the values display, it is possible to select individual monitors or *NOMON (no specific monitor) and view different detail levels and events.

F16=User options

Use **F16=User options** to open a pop-up window that allows you to set the default screen size. The value set using **F16** is retained and the screen resolution changed to the setting selected.

F22=Print

Use **F22=Print** to open the Print Halcyon Statistics display, from where you can print a report showing the events that have been logged by the Halcyon monitors. The report can be printed as either a detailed list or in graph format.

```

Print Halcyon Statistics (PRTHALSTAT)

TYPE CHOICES, PRESS ENTER.

Monitor . . . . . > *ALL          *ALL, *NOMON, HALAAA...
Detail level . . . . . > *HOURS      *HOURS, *DAYS, *WEEKS, *MONTHS
Start date . . . . . > '26/05/10'    Date
Start Time . . . . . > 000001       Time
Graph Action . . . . . > *NONE       *NONE, ALERTOPEN, SNDTXT...
PDF formatted file required . . . > *NO          *YES, *NO

                                     BOTTOM
F3=EXIT  F4=PROMPT  F5=REFRESH  F12=CANCEL  F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS

```

Monitor

Select the monitor for the event data that you want to include on the report. The default setting in this parameter is *ALL, which selects all events performed by the software (even if not generated by a specific monitor). *NOMON only displays events performed by the software that have not been generated through a monitor.

NOTE: Not all monitors perform all events.

*ALL	Report contains events handled by all Halcyon product monitors
*NOMON	Report contains events handled by Halcyon products but not generated through the monitors
HALAAA	Report contains events generated by the Monitor Supervisor
HALACT	Report contains events generated by the Primary Action Monitor
HALRCV	Report contains events generated by the Network Receive Monitor
HALSND	Report contains events generated by the Network Send Monitor
HAMAUD	Report contains events generated by the Audit Journal Monitor
HEMDEV	Report contains events generated by the Device Monitor
HAMDSQ	Report contains events generated by the Distribution Queue Monitor
HEMINA	Report contains events generated by the Inactivity Monitor

HEMJOB	Report contains events generated by the Job Queue Monitor
HEMOBJ	Report contains events generated by the Object Monitor
HEMOUT	Report contains events generated by the Output Queue Monitor
HEMPFM	Report contains events generated by the Performance Monitor
HEMUSR	Report contains events generated by the User Profile Monitor
HJSCTL	Report contains events generated by the Scheduler Control Monitor
HJSRPY	Report contains events generated by the Job Scheduler Reply Monitor
HMCCOM	Report contains events generated by the Primary Communications Monitor
HMMMSG	Report contains events generated by the Message Manager Monitor
HMMTCP	Report contains events generated by the TCP/IP Monitor

Detail level

The entry in this parameter specifies the level of detail to be included on the report.

*HOURS	The report contains data retrieved on an hourly basis
*DAYS	The report contains data retrieved on a daily basis
*WEEKS	The report contains data retrieved on a weekly basis
*MONTHS	The report contains data retrieved on a monthly basis

Start date

Specifies the start date of the report. Enter the date in 6 character format either with or without separators. Today's date is selected by default.

Start time

Specifies the start time of the report. Enter the time in 6 character format, either with or without separators. 000001 is selected by default.

Graph action

Specifies whether a graphical or tabular format report is generated for the named action. If *NONE is selected, the standard tabular format report is printed. For all other options, a graphical representation of the number of actions performed for the selected action is printed. Select from the following actions:

- Action Schedule
- Close Alert
- Command
- Console
- Hold Rule
- Reply
- Release Rule
- Reset Rule Incident Count
- Send Message Queue Message
- Send Text or Email Message
- Phone
- Pager
- Email

You can also select from the following alternatives:

ALERTOPEN	Prints a graphical representation of the number of open alerts
ALERTCLOSE	Prints a graphical representation of the number of closed alerts
SMSOK	Prints a graphical representation of the number of SMS actions that completed normally
SMSFAIL	Prints a graphical representation of the number of SMS actions that failed to complete normally

PDF formatted file required

Specify whether a PDF formatted file is created for the report, which can then be viewed as a PDF document.

*NO	A PDF formatted file is not created for the report
*YES	A PDF formatted file is created for the report

PDF path

Specifies the path of the PDF file that is created

*AUTO	The path of the PDF file is automatically set. The directory used is specified by the HAL/DFTDIR system default. The file name is in the format of reportname_yyy-mm-dd.pdf where 'reportname' is the name of the report and 'yyy-mm-dd' is the date the report is created
path	Specify the full path of the PDF file to create

PDF file option

Specifies the checking options to perform for the created PDF file, if a PDF file with the same name already exists in the specified/generated path.

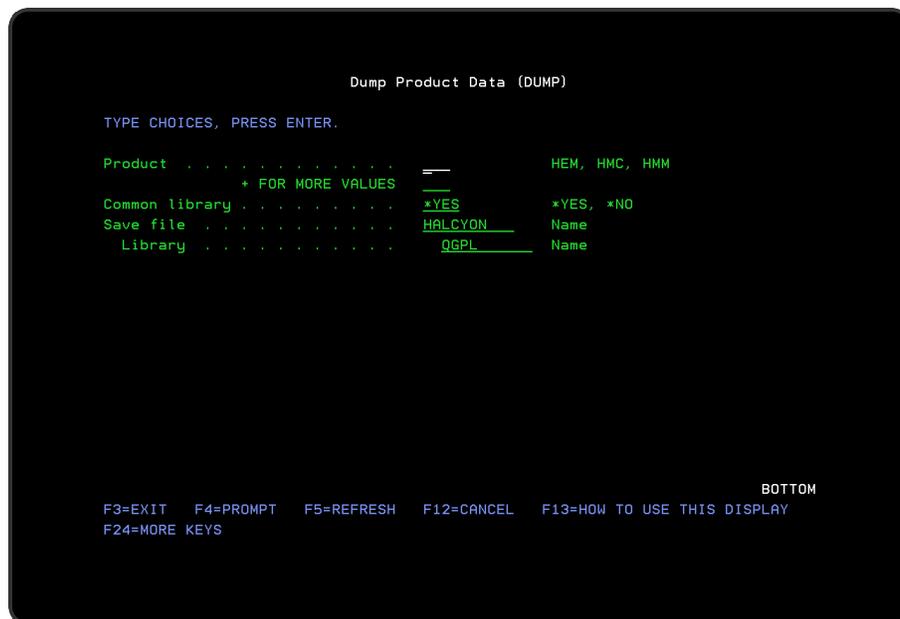
*ADDSEQ	The specified/generated PDF name is modified to create a unique file name. A suffix of '_nnn' is added at the end of the file prior to the .pdf extension, which represents a number in the range 000 to 999
*NONE	The file is not copied and the command fails
*REPLACE	The data in the file is replaced with new data

Dump Product Data

This option is used to save product data to a save file so it can then be sent to our technical support team who can then use this data to carry out an in depth investigation to assist in any problem resolution.

Getting there

Select option **30=Dump Product Data** on the Halcyon Utilities menu.



Parameters on the Dump Product Data Display

The following parameters are available on this display.

Product

Specify the Halcyon product code for which data is to be saved.

HEM	System Event Manager
HMM	Message Manager
HMC	Message Communicator
HPM	Performance Analyzer
HAM	Audit Journal Manager

HDM	Disk Space Manager
HMX	HA-MX Monitor
HJS	Advanced Job Scheduler
HMQ	MQ Manager
HRP	Record and Playback
HRM	Restricted Tasks Manager

NOTE: The products displayed for this parameter depend on the Halcyon products you have installed on the IBMi.

Common library

Specify whether or not to also dump the common library.

*YES	Dump the common library
*NO	Do not dump the common library

Save file/Library

Specify the name of the save file to use and, if appropriate, the name of the library in which the save file is held.

Data to dump

Specifies the type of product data to dump.

*ALL	All product data is dumped except data defined as *EXCLUDE
*CONFIG	Configuration data is dumped. This data includes rules, calendars, phones and the like.
*NONSYS	Non-system data is dumped. This data includes the alert log, message log, performance data and the like
*SYS	System data is dumped. This is data that ships with the system and does not change, such as menu files and function lists

NOTE: System data is data stored in files that do not change, except when upgrading to a new version or PTF. Examples of system files are menu option files, lists of constants and so on.

Additional Parameters

Press **F9** to view additional parameters that are available on this display.

Save file OS level

Specifies the OS level to be used when saving the data to the save file. This value cannot be set to an OS level greater than the system running the command.

*AUTO	The command chooses the earliest available OS level based on the existence of previous OS level libraries (for example; SYSVnRnMO). If no previous OS libraries exist, the current OS level is used
*CURRENT	The save file contents will be saved for the current OS level of the remote system
*PRV	The save file contents will be saved for the previous OS level of the remote system
VnRnMn	The save file contents are saved for the specified OS level

WARNING: If you set this parameter to a value that is incompatible with the OS level of the system running this command the data will not be saved and the command will fail.

Press **Enter** to generate the save file data.

Sending the saved Data

After creating the save file, you can email the data to our technical support team as follows:

1. Using a PC, click **Start| Run**.
2. Type **FTP** followed by your IBM i Device Name, or IP Address and press **Enter**.
3. Sign-on with a **user ID** and **Password** valid on that system.
4. Type 'bin' and press **Enter**.
5. Type 'get qqpl/halcyon c:\halcyon.savf' and press **Enter** to retrieve the save file.
6. Create an email message and attach the file c:\halcyon.savf.
7. Send the email to: support.halcyon@fortra.com

Functions on the Dump Product Data display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Send Text Message

The Send Text Message (**SNDTXTMSG**) command sends a text message to a message device, and ultimately, to one or more cell phones, pagers or email addresses.

WARNING: The Message Communicator monitor runs as QSECOFR adopted authority when sending job logs as email attachments

IMPORTANT: This command requires [Message Communicator](#) to be installed on the specified location.

The method used to send the text message, if sent as an email, is controlled by the system default [HMC/EMAILMETHOD](#).

NOTE: Emails that fail to be sent on the first attempt can be resent using settings within systems defaults, [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

Getting there

Select option **31=Send Text Message** from the Utilities menu.

```

HAL1365R                               Halcyon Software                               HAL525P3
Send Text Message                       21/02/11  11:47:53

Subject, if email . . . . . *AUTO
Message text . . . . .
_____
_____
_____
_____

From location . . . . . *LOCAL_           Name, F4=Prompt
To message device . . . . . _____     Name, F4=Prompt

Message priority . . . . . *LOW_           *HIGH, *NORMAL, *LOW, F4=Prompt
Alarm tones, if phone . . *TONE1        *NONE, *TONE1-4

F3=Exit  F4=Prompt  F10=Send message  F12=Cancel

```

Restricted Tasks Manager support

Restricted Tasks Manager supports the sending of emails via an external SMTP server while in a restricted state using this command but you **MUST** manually start TCP/IP first, as part of the Task Group for example.

Parameters on the Send Text Message display

The following parameters are available on this display.

Subject, if email

Specifies the subject if the message is being sent by email. If not being sent by email, this parameter is ignored.

*AUTO	The subject is set to the first sentence of the message
text	Enter the text to be used

NOTE: The maximum subject length after any substitution variables have been resolved is 44 characters when using distribution services and 80 characters when using mail server framework. The email method used is set by the [HMC/EMAILMETHOD](#) system default.

Message text

Specifies the text of the message that is being sent. The text must be enclosed in apostrophes if it contains blanks or other special characters.

A maximum of 1024 characters can be specified for this parameter. However, the actual maximum length that can be sent may be shorter, depending on the actual device to which the message is being sent. Substitution variables may be used in the message text.

From location

Specifies the name of the location (as specified on the [Work with Remote Locations](#) display) from which the message is to be sent.

*LOCAL	Specifies that the message is sent from the local system
location	The message is sent from the location specified

To message device

Specifies the name of the message device to which the message is to be sent, or specifies that the message is being sent to an Ad-Hoc phone number or email address.

The message device may be the name of a specific cell phone, pager or email address or it may be the name of a broadcast group, call schedule, roster or escalation list. If an escalation list is specified, the message is only sent to the first message device in the escalation list and no escalation occurs, as there is no associated alert.

msgdev	Specify the name of the message device
*PHONE	Specifies that the message is sent to the Ad-hoc phone number specified in the 'Phone number' parameter
*EMAIL	Specifies that the message is sent to the Ad-hoc email address specified in the 'Email address' parameter

Message priority

Specifies the priority used to send the message to the message device. When a message is sent to a cell phone or pager and there is a queue of messages waiting to be sent, message priority is used to determine the order in which messages are sent. When a message is sent as an email, message priority specifies which distribution queue is used and also specifies the message importance.

*HIGH	The message is sent with High priority. Emails are set to high importance
*NORMAL	The message is sent with Normal priority. Emails are set to normal importance
*LOW	The message is sent with Low priority. Emails are set to low importance

Wait for completion

When `LOCATION (*LOCAL)` is not specified, this setting determines whether to wait for completion of the request.

*YES	The command waits for the remote system to return the result of the request If the remote system indicates a successful request, the command returns If the remote system indicates the request is invalid (for example, because the message device does not exist on the remote system), an escape message is issued If no response is received from the remote system within the time specified for the interactive time-out on the Work with Remote Locations display, an escape message is issued
*NO	The command returns immediately without waiting for the remote system to return the result of the request

NOTE: If the remote system indicates a successful request, this means the remote system has accepted the request as valid and attempts to send the message. A successful request does not indicate that the message has actually been sent.

Alarm Tones, if phone

If the message is being sent to a cell phone, the entry in this parameter specifies whether a voice call is sent to the phone prior to the message being sent and which tone to use. If the message is being sent to any device other than a mobile phone, the entry in this parameter has no effect. In order to work, the `%TONES` functionality must be present in the Communications Script, otherwise this parameter has no effect.

NOTE: The %TONES functionality is automatically included in the pre-supplied Communications Script; TC35SND. If you have assigned a bespoke script to your Service Providers or the assigned script does not include the changes to support Call-Before SMS functionality, this feature will not work.

The tones played for *TONE1 through *TONE4 are defined within the TC35SND script. Therefore, if you want to change these you must manually update the script. The maximum number of tones that can be played within a tone set is 21.

When the Call-Before functionality is enabled, the script performs a voice call to the cell phone prior to sending the SMS. If the call is answered, a series of tones are played, the call hangs up and then the SMS message is sent. If the call is not answered, an error is returned and the SMS message is not sent. However, if retries are enabled, further attempts may be made later.

*NONE	%TONES is set to 0. Call-Before functionality is not required
*TONE 1-4	%TONES is set at a value between 1 and 4. Any of these values indicate that Call-Before is active. The script uses the different values to determine which series of tones to send

Press **F10** to send the text message.

Functions on the Send Text Message display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F10=Send message

Use **F10=Send message** to send the text message.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Environment Maintenance Mode

Maintenance Mode allows you to prevent changes within an Environment. Maintenance Mode is switched on and off via the 'Set Maintenance Mode' (**SETMNTMDE**) command within the HALPROD library (where PROD is the name of your environment).

If you try to access an environment that is currently operating in Maintenance Mode the following warning message is displayed:

```

MAIN                               I5/OS MAIN MENU                               SYSTEM:  HAL525P3
SELECT ONE OF THE FOLLOWING:

1. USER TASKS
2. OFFICE TASKS
3. GENERAL SYSTEM TASKS
4. FILES, LIBRARIES, AND FOLDERS
5. PROGRAMMING
6.
7.
8.
9.
10.
11.
90. SIGN OFF

SELECTION OR COMMAND
==> go halzauto

Halcyon Software - Maintenance mode
Halcyon environment ZAUTO is now in maintenance mode.
Some functionality and operations are restricted.
Please try again later.
F2=Continue F3=Exit

F3=EXIT F4=PROMPT F9=RETRIEVE F12=CANCEL F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU

```

When activated, the 'Set Maintenance Mode' (**SETMNTMDE**) command has a parameter to allow you to end the Halcyon monitors. The options are as follows:

*MNT	End all monitors EXCEPT the Action, Network Receive and Network Send monitors
*ALL	End ALL monitors
*NONE	Do not end any monitors

When Maintenance Mode is active, a reverse image red 'Maint Mode' is shown on the right hand side of Halcyon menus. No changes are allowed within the Environment other than by 'Import Environment' (**IMPENV**) and exports from other systems and environments. As such you are only allowed to start the Network and Action monitors - all other monitors are prevented from starting.

Send Syslog (SNDSYSLOG) Command

The Send Syslog Message (SNDSYSLOG) command sends a SYSLOG message to a host name or IP address via UDP.

Syslog is a standard for logging program messages. It allows separation of the software that generates messages from the system that stores them and the software that reports and analyzes them. It also provides devices, which would otherwise be unable to communicate, a means to notify administrators of problems or performance.

Syslog can be used for computer system management and security auditing as well a generalized informational, analysis and debugging messages. It is supported by a wide variety of devices (like printers and routers) and receivers across multiple platforms. Because of this, syslog can be used to integrate log data from many different types of systems into a central repository.

```

Send Syslog Message (SNDSYSLOG)
TYPE CHOICES, PRESS ENTER.
Host name or IP address . . . . .
Message text . . . . .
Process ID . . . . . HALCYON
Facility . . . . . *USER          0-23, *KERNEL, *USER...
Severity . . . . . *INFO           0-7, *ALERT, *CRITICAL...
Port . . . . . 514                1-65535

```

BOTTOM

F3=EXIT F4=PROMPT F5=REFRESH F12=CANCEL F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS

Host name or IP Address

This is the host name or IP address to which the message is sent.

If a host name is typed, the host name must be defined either in the TCP/IP Host Table or via a domain name server. To define the host in the TCP/IP Host Table use the Add TCP/IP Host Table Entry (**ADDTCPHTE**) command.

To define domain name servers, use the Change TCP/IP Domain (**CHGTCPDMN**) command.

Message text

Specifies the text of the alert to send.

The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 1000 characters can be specified for this parameter. [Substitution variables](#) may be used in the message text.

Process ID

Specifies the process ID of the alert. The process ID comprises up to 32 characters. All characters must be alphanumeric (A-Z and 0-9).

Facility

Specifies the facility to which this message refers.

*USER	User level message
*KERNEL	Kernel message
*MAIL	Mail system message
*SYSTEM	System daemon message
*SECURITY	Security or authorization message
*INTERNAL	Internal message generated by syslogd
*PRINTER	Line printer subsystem message
*NEWS	Network news subsystem message
*UUCP	UUCP subsystem message
*CLOCK	Clock daemon message
*SECURITY2	Security or authorization message
*FTP	FTP daemon message
*NTP	NTP subsystem message
*LOGAUDIT	Log audit message
*LOGALERT	Log alert message
*CLOCK2	Clock daemon message
*LOCAL0-7	Local use messages

Severity

Specifies the message severity.

*INFO	Informational message, no action is required
*ALERT	Alert messages. A problem requires remedial action
*CRITICAL	Critical messages. A major problem requires remedial action
*DEBUG	Debug messages. Information useful to developers for diagnosing problems. Not useful during operations
*EMERGENCY	Emergency messages. A severe problem requires remedial action
*ERROR	Error messages. Non-urgent problem. These should be resolved within a given time
*NOTICE	Notice messages. Events that are unusual but not error conditions. No immediate action required
*WARNING	Warning messages. Not an error, but an indication that an error could occur if action is not taken

Port

Specifies the port on which the server is listening. The most common port for syslog messages sent via UDP is 514.

Complete the options as required and press **Enter** to send the SYSLOG message.

Send Syslog2 (SNDSYSLOG2) Command

The Send Syslog Message (**SNDSYSLOG2**) command sends a SYSLOG message to a host name or IP address via UDP or TCP.

Syslog is a standard for logging program messages. It allows separation of the software that generates messages from the system that stores them and the software that reports and analyzes them. It also provides devices, which would otherwise be unable to communicate, a means to notify administrators of problems or performance.

Syslog can be used for computer system management and security auditing as well a generalized informational, analysis and debugging messages. It is supported by a wide variety of devices (like printers and routers) and receivers across multiple platforms. Because of this, syslog can be used to integrate log data from many different types of systems into a central repository.

IMPORTANT: If you want to use the secure TCP option you will need relevant certificates applied on the IBM i and receiver. Also, the user running the Action Monitors must have *USE authority to the certificate store.

WARNING: Sending Syslog via TCP requires an acknowledgement from the receiving machine so if that machine is not responding then the Action Monitors can quickly become overwhelmed waiting for the time-out for each Syslog message.

```

Send Long Syslog Message (SNDSYSLOG2)
Type choices, press Enter.
Host name or IP address . . . . .
Message text . . . . .
Syslog Format . . . . . *SYSDFT *SYSDFT, RFC3164, RFC5424...
Process ID . . . . . HALCYON
Alert ID . . . . . *NONE Number, *NONE
Send method . . . . . *UDP *UDP, *TCP
Facility . . . . . *USER 0-23, *KERNEL, *USER...
Severity . . . . . *INFO 0-7, *ALERT, *CRITICAL...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
Parameter HOST required.

```

Host name or IP Address

This is the host name or IP address to which the message is sent.

If a host name is typed, the host name must be defined either in the TCP/IP Host Table or via a domain name server. To define the host in the TCP/IP Host Table use the Add TCP/IP Host Table Entry (**ADDTCPHTE**) command.

To define domain name servers, use the Change TCP/IP Domain (**CHGTCPDMN**) command.

NOTE: The Halcyon Enterprise Console is unable to receive the additional data available via this command. The Enterprise Console remains limited to 1024 characters per message and must be sent using *UDP as any additional data sent by this command will be lost.

Message text

Specifies the text of the alert to send.

The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 3000 characters can be specified for this parameter. [Substitution variables](#) may be used in the message text.

Additional data associated with the SYSLOG message may be appended by specifying the appropriate Process ID and Halcyon Alert ID.

Syslog Format

Specifies the format to be used for the syslog message.

*SYSDFT	The value in system default HAL/SYSLOGFMT is used
RFC3164	The RFC3164 standard is used
CEF	The CEFstandard format is used
LEEF	The LEEF standard format is used

Process ID

Specifies the process ID of the alert. The process ID comprises up to 32 characters. All characters must be alphanumeric (A-Z and 0-9). The process ID is used by Halcyon to identify specific SYSLOG messages which require additional data to be appended.

HALCYON	Standard SYSLOG message - no added data
AUD	Standard SYSLOG message - no added data
HAMAUD	Standard SYSLOG message - plus audit journal entry data

any other 32 character value	Standard SYSLOG message - no added data
------------------------------	---

Alert ID

Specifies the alert ID associated with this SYSLOG message, or *NONE.

Send method

Specifies the method to use when sending this SYSLOG message.

*UDP	Send SYSLOG message using UDP
*TCP	Send SYSLOG message using TCP

Facility

Specifies the facility to which this message refers.

*USER	User level message
*KERNEL	Kernel message
*MAIL	Mail system message
*SYSTEM	System daemon message
*SECURITY	Security or authorization message
*INTERNAL	Internal message generated by syslogd
*PRINTER	Line printer subsystem message
*NEWS	Network news subsystem message
*UUCP	UUCP subsystem message
*CLOCK	Clock daemon message
*SECURITY2	Security or authorization message
*FTP	FTP daemon message
*NTP	NTP subsystem message
*LOGAUDIT	Log audit message
*LOGALERT	Log alert message
*CLOCK2	Clock daemon message
*LOCAL0-7	Local use messages

Severity

Specifies the message severity.

*INFO	Informational message, no action is required
*ALERT	Alert messages. A problem requires remedial action
*CRITICAL	Critical messages. A major problem requires remedial action
*DEBUG	Debug messages. Information useful to developers for diagnosing problems. Not useful during operations
*EMERGENCY	Emergency messages. A severe problem requires remedial action
*ERROR	Error messages. Non-urgent problem. These should be resolved within a given time
*NOTICE	Notice messages. Events that are unusual but not error conditions. No immediate action required
*WARNING	Warning messages. Not an error, but an indication that an error could occur if action is not taken

Port

Specifies the port on which the server is listening. The most common port for syslog messages sent via UDP is 514.

Complete the options as required and press **Enter** to send the long SYSLOG message.

Configuration

Overview

The Configuration Menu option allows you to set system-wide parameters that are then used throughout Halcyon products.

Getting there

Select option **42=Configuration Menu** from the Halcyon main menu.

```

HALCFG QA Environment HAL720P4
QA Halcyon Software 13/02/15 13:56:33
Configuration Menu

Select one of the following:

1. Work with Authorization Codes
2. Work with User Authority
3. Work with Environments
4. Work with Remote Locations
5. Work with Remote Location Groups
6. Work with IP Address Mappings
7. Work with System Defaults
8. Work with Calendars
9. Work with Substitution Variables
10. Work with Action Schedules
11. Work with Action Templates
12. Work with Admin Alert Criteria
13. Work with Exit Point Handlers
14. Work with User Lists

More...

Selection or command
====>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel

```

Quick access

From the Configuration menu you can access the following options:

Option	Function
Work with Authorization Codes	Allows the addition and maintenance of license codes for Halcyon products
Work with User Authority	Allows the setting and maintenance of access to Halcyon product functions for both specific and generic user profiles on this system
Work with Environments	Allows you the addition and maintenance of environments (additional installations of Halcyon products on this system)

<u>Work with Remote Locations</u>	Allows the addition and maintenance of remote locations (additional IBMi or PC devices) so that they can interact with this system
<u>Work with Remote Location Groups</u>	Allows the addition and maintenance of groups of remote locations. A remote location group enables a single command to be applied across multiple locations simultaneously
<u>Work with IP Address Mappings</u>	Allows data received from an IP address to be treated as being received from a different IP address
<u>Work with System Defaults</u>	Allows the maintenance of system defaults that control the default configuration under which the software operates
<u>Work with Calendars</u>	Allows the addition and maintenance of calendars that are used for scheduling events and rules with Halcyon products
<u>Work with Substitution Variables</u>	Allows the addition and maintenance of substitution variables, used throughout Halcyon products as placement markers for the effective value in a command or message
<u>Work with Action Schedules</u>	Allows the addition and maintenance of action schedules which allow different actions to be invoked on different dates and times
<u>Work with Action Templates</u>	Allows the addition and maintenance of action templates. Action templates are used to create additional, user-defined actions
<u>Work with Administrator Alert Criteria</u>	Allows the definition of messages that might otherwise have been missed by system administrators
<u>Work with Exit Point Handlers</u>	Allow the definition of exit points where control is passed over to one or more exit programs to perform a specific function
<u>Work with User Lists</u>	Allows the addition and maintenance of user lists. User lists are a group of users which can be used instead of individual user profiles
<u>Work with Message Sub-Consoles</u>	Allows the addition and maintenance of message sub-consoles which are used to sub-divide the alerts on systems that receive a large volume of alerts
<u>Work with System Level User Defined Options</u>	Allows the addition and maintenance of user-defined options for the current user

Work with Authorization Codes

Authorization codes define your rights to use Halcyon products.

The Work with Authorization Codes display lists the current authorization codes for Halcyon products that you are using and provides functionality for adding new and deleting existing codes. Contact details for the product supplier or reseller are also displayed on this screen.

How Authorization Codes operate

Halcyon authorization codes include the number of activated cores (CPUs) for a machine. If the number of activated cores on the machine exceeds the number on the authorization code, a 45 day grace period is started. A new authorization code for the higher limit or the number of activated cores lowered to the limit on the existing authorization code must be applied within the 45 day period.

The start date of the 45 day grace period is fixed, by authorization code, and cannot be reset.

For example, you increase the number of activated cores above the authorization code limit for 5 days. You then lower the number of activated cores to the limit on the authorization code.

The authorization code is still counting the 45 day grace period even though you have reduced the number of activated cores to the limit on the authorization code.

If you increase the number of activated cores from 45 days after the initial 'breach', the authorization code immediately becomes invalid - even though, in effect, you breached the limit for only 5 days of the 45 day grace period.

NOTE: The number of activated cores is checked for the machine, not partition. You are therefore still able to re-allocate CPU resource across partitions without invoking the grace period. The grace period is only invoked if the number of cores activated on the machine is increased above the limit on the authorization code.

If you enter an authorization code that is not valid on the local system but may be valid on a remote system, the following message is displayed:

```
'Authority code not valid on this system but may be valid on a remote system'.
```

The license code is not recognized against this local system and it is therefore added as a remote code. Remote codes can be added for replication purposes and are displayed on the local system as *INVALID status for system *RMT.

There is no limit to the number of authorization codes you are allowed and each valid code can authorize any number of products. If multiple codes are displayed you are authorized to use any of the products that have a *VALID status.

There are two types of authorization code:

Temporary (*TEMP)

Temporary codes grant authority to use selected products until a specific date, known as the expiry date, is reached. After that date, the product authority is revoked and the products no longer function unless you have authority via another code.

Permanent (*PERM)

Permanent codes grant permanent authority to use selected products. This authority never expires.

Permanent codes also give maintenance cover until a specific date (shown as an expiry date). Maintenance cover provides access to free upgrades and technical support.

When maintenance cover expires, the product still functions but you are no longer entitled to upgrades or technical support.

IMPORTANT: You may still upgrade to product versions that were released prior to the maintenance expiry date but later releases will not function.

TIP: You can delete Permanent Product License Codes that have no Maintenance (*NOMAINT) and keep alternative Product License Codes available that do have Maintenance by using system default [HAL/CODEAUTODELETE](#).

Getting there

Select option **1=Work with Authorization Codes** from the Halcyon Configuration menu.

```
HAL0004R                               Halcyon Software                               HAL720P2
MANL                                     Work with Authorization Codes          8/07/19  11:14:27
Type options, press Enter.
4=Delete 5=Display
Date
Opt added  Authorization code           Type Expiry CPU Status System
_ 21/12/18 RSW17QX8JIWZJSFC5IT03KPZD0 *TEMP 31/12/20 99 *VALID *LCL
_ 12/02/18 W6QRQYT9BMQ0B6JU4M3D2FV0Z  *TEMP 31/12/20  *VALID *LCL

Bottom

Contact: Halcyon (A division of HelpSystems)

USA:      800-328-1000
EMEA:    +44 (0) 870 120 3148
APAC:    +61 (0) 3 9558 6366

Support:  support.halcyon@helpsystems.com
Sales:    info.halcyon@helpsystems.com

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

Parameters on the Work with Authorization Codes display

The following parameters are available on this display.

Date added

Displays the date on which the authorization code was added.

Authorization code

Displays the characters of the authorization code. If the code appears truncated (shown as ... after the initial characters) use option **5=Display** against the code to display it in full.

Type

Displays the authorization code type. See [Temporary](#) or [Permanent](#) code expiry options for descriptions.

Expiry

The entry in this parameter has a different meaning depending on the authorization code type:

Temporary	(*TEMP) - The date on which the authorization code expires
Permanent	(*PERM) - The date on which the maintenance cover expires

Status

Displays the current status of the authorization code.

*EXPIRED	A temporary authorization code has expired
*INVALID	An invalid code has been entered
*NOMAIN	A permanent code with expired maintenance cover
*VALID	A valid code is in force

System

Displays whether the code is (or was) valid on the local system.

*LOCAL	The code is tied to the local system by system name, LPAR or serial number
*REMOTE	Indicates a code that is tied to another system by system name, LPAR or serial number. You can add codes that are only valid on a remote system. This is useful in HA environments if you intend to replicate this environment onto another system
*ANY	A code that works on any system

Using the Work with Authorization Codes display

The following options are available when working with the authorization codes. Type the option number in the Opt column against the required selection.

Delete

Use option **4=Delete** to open the Confirm Delete of Authorization Codes display. Message HAL0016, is sent to the Admin Message Queue, as specified in system default [HAL/ADMINMSGQ](#), when an Authorization Code is deleted and includes the name of the environment.

Press **Enter** on this display to confirm the deletion of the selected authorization code.

Display

Use option **5=Display** to open the Display Authorization Code display which shows the authorization code in full as well as detailing the products authorized by the code.

Functions on the Work with Authorization Codes display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Authorization Code display which allows you to enter the details of a new authorization code.

TIP: Use this option when updating expired authorization codes.

It is possible to add codes that are used by another remote location. The code must still be valid, but is accepted if it is tied to another system by system name, serial number or LPAR. Authorization Codes that are tied to a remote system are shown last and in blue text on the Work with Authorization Codes display.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with User Authority

Work with User Authority governs user access and permission rights when using Halcyon products.

The effective authority that a user has to a product function is determined by system default [HAL/AUTHMODE](#). This can be set to either '1' or '0'.

- Using the installed default setting of '1', users with *ALLOBJ special authority automatically have *ALL authority to all Halcyon products and functions, overriding any function authority that has been defined.
- If the system default setting is changed to '0', users with *ALLOBJ special authority do not automatically have *ALL authority to all Halcyon products and functions. Authority is derived from function authority in the normal way.

Authority entries are checked in the following order:

1. Entry for the user.
2. Entry for the user's group profile.
3. Entries for each of the user's supplemental groups, in the order in which they are defined in the user profile.
4. Entry for *PUBLIC authority.

The first authority found that is not *UNDEF is the effective authority for the user.

Important Security Notes regarding User Authority when using Halcyon products

- All Halcyon Product Libraries now have *PUBLIC *USE authority.

WARNING: This should not be changed as it may allow users authorized to Halcyon to change and/or delete objects within the Product Libraries.

- Objects within the Product Libraries are secured by an Authorization List (*AUTL) of the same name as the Library for the Product.
- User permissions on the Authorization Lists (*AUTL) display are now limited to 'Object Opr', 'Object Mgt' plus all 'Data' permissions.

WARNING: This should not be changed as it may allow users authorized to Halcyon to change and/or delete objects within the Product Libraries.

Getting there

Select option **2=Work with User Authority** from the Halcyon Configuration menu to view and edit User Authorities.

The body area of this screen shows all users and the authority that each has to the given Halcyon product codes (listed vertically in columns).

```

HAL9000R                               Halcyon Software                               HAL720P2
MANL                                     Work with User Authority                               17/02/20 09:53:14
Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display
Y=All C=Change U=Use P=Partial N=None X=Exclude
----- Product Codes -----
User      H I H H H H H H H H H H H
Opt Profile L S M M M S C M Q X P T P
-----
*PUBLIC   X X X X X X X X X X X X X
ANDY      Y Y Y Y Y Y Y Y Y Y Y Y Y
EXPORT    N Y N N N N N N N N N N N
PRATCHFORD Y Y Y Y Y Y Y Y Y Y Y Y Y
QMOM      P N N N N N N N N P N N N
QMOMADH   P N N N N N N N N P N N N
QMSF      P Y N N N N N N N N N N N
QSECOFR   P Y P P P P P P P P P P
QSYSOPR   Y Y Y Y Y Y Y Y Y Y Y Y Y
QTCP      P Y N N N N N N N N N N N
QUSER     P Y N N N N N N N N N N N
-----
F3=Exit  F5=Refresh  F6=Add    F12=Cancel  F22=Print
More...
    
```

Parameters on the Work with User Authority display

The following parameters are available on this display.

User profile

Displays the name of the authorized profile. The profile can be a user profile, a group profile or the special value *PUBLIC.

Product codes

Displays the 3 letter product codes of installed Halcyon products. The value shown at the intersection of user and product code summarizes the authority of the user to that product. One of the following summary values is shown:

Y	User has a least *CHANGE authority to all functions of this product
P	User has some authority but does not have *CHANGE authority to al functions of this product

X	User has *EXCL authority to all functions of this product
blank	User has no defined authority to this product. Therefore the effective authority is derived from group membership or public authority

Using the Work with User Authority display

The following options are available when working with user authority.

NOTE: Options on the Work with User Authority display work in a slightly different manner than they do on other screens in Halcyon products.

TIP: The **RVKUSRAUT** command can be used to revoke *ALL authority for a user to use Halcyon product functions.

Options may be typed in the Opt column as usual or in the intersecting parameters. Options typed into the Opt column effect **ALL** intersecting parameters for that user. An option typed in an intersecting parameter applies only to that user and product.

Change

Use option **2=Change** to alter the current user authority settings via the Work with Function Authority display.

```

_HAL9000R                               Halcyon Software                               HAL525P3
                                           Work with Function Authority           30/01/09 15:35:17
Product . . . . . Halcyon Software
User profile . . . . . *PUBLIC
Description . . . . .

Func   Description                               Auth
GENERAL General product use                       *EXCL
ACTLOG Action Log                               *EXCL
ACTSCH Action Schedules                         *EXCL
CALENDAR Calendars                             *EXCL
CMDTPL Command templates                       *EXCL
CONSOLE Message Console                       *EXCL
CTLMON Control Monitors                       *EXCL
HALSTAT Halcyon statistics                     *EXCL
JRNRCV Journal Control                         *EXCL
MSGLOG Message Log                             *EXCL
NETLOG Network Log                             *EXCL
RMTCMD Run Remote Command (HALRMTCMD)         *EXCL
RMTLOC Remote Locations                         *EXCL

F3=Exit F12=Cancel                               MORE...
    
```

The user can be assigned the following function authorities where applicable:

*ALL	User has all the authority that is possible for this function (not all functions support all types of authority)
*CHG	User has change and use authority
*USE	User has use authority
*UNDEF	No authority is defined. Therefore, the effective authority is determined by a more generic entry such as group entry or *PUBLIC
*EXCL	User has exclude authority. This means that the user is not authorized even if a more generic entry grants authority to this function

Press **Enter** to confirm the changes. Press **F12** to return to the Work with User Authority display.

Copy

Use option **3=Copy** against an existing user profile to open the Copy Authorized User display. This allows you to copy the user authorities from this profile to another defined user profile. Enter the name of the user profile to which the user authorities from the selected profile will be copied, in the **To User** profile parameter. Use **F4=Prompt** in this parameter to display a list of valid alternatives from which a selection can be made. Press **Enter** to confirm the copy procedure.

Delete

Use option **4=Delete** to open the Work with Function Authority display with all function authorities changed to *UNDEF (or *EXCL for *PUBLIC authority). Type any changes required and press **Enter** to update.

NOTE: If all function authorities in all products for a user are set to *UNDEF, that user is removed from the list of users.

Display

Use option **5=Display** to open the Work with Function Authority display in view mode only with the current authorities for the selected user and/or product.

NOTE: No changes can be made when displaying authorities.

Functions on the Work with User Authority display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to add an authorized user to this display and define the relevant authorities.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to print a user authority report showing details of user authorities to product functions.

Authority To Halcyon IFS Folders And Objects

A separate authorization list, HIFSPROD, which is displayed as a new 'IFS' column immediately after the HAL column on the main Work with User Authority display controls access th Halcyon IFS Folders and Objects.

HAL/OBJECT is used to control access to the Halcyon HAL library.

```

HAL9000R                               Halcyon Software                               HAL720P2
MANL                                     Work with User Authority                               17/11/15 12:57:39
Type options, press Enter.
2=Change 4=Delete 5=Display
Y=All C=Change U=Use P=Partial N=None X=Exclude
----- Product Codes -----
User      H I H H H H H H H H H
Opt Profile L S M M M S C M X P T P
-----
*PUBLIC  X X X X X X X X X X X
ANDY     Y Y Y Y Y Y Y Y Y Y Y
PRATCHFORD Y Y Y Y Y Y Y Y Y Y Y
QMSF     P Y N N N N N N N N N
QSECOFR  P Y P P P P P P P P P
QSYSOPR  Y Y Y Y Y Y Y Y Y Y Y
QTCP     P Y N N N N N N N N N
QUSER    P Y N N N N N N N N N
SMABBUTT Y Y Y Y Y Y Y Y Y Y Y
TDIPPER  Y Y Y Y Y Y Y Y Y Y Y
    
```

NOTE: On upgrade, the existing Halcyon IFS folders for the environment, and any objects within, are changed to use the new Authorization List. All existing users with HAL/OBJECT authority are granted 'Y' (*ALL) authority to IFS. Review this permission as required and adjust accordingly.

The IFS column accepts the following values for user authority:

Y	User has *ALL authority
C	User has *CHANGE authority
U	User has *USE authority
X	User has *EXCL authority
N	User has no defined authority. The effective authority is derived from group membership or public authority

IMPORTANT: The IFS column may also display a value of 'P'. This indicates that the user has USER DEF authority. It is not possible to set USER DEF authority using the Work With User Authority display. Use the Edit Authorization List (**EDTAUTL**) command instead.

Exporting User Authorities

It is possible to export User Authorities to a remote environment via use of the Export User Authorities (**EXPUSRAUT**) command. Data is exported via the method specified in [HAL/NETXFERMODE](#). If this is set to *NETMGR, corresponding export status messages will be prefixed with *NETMGR for easy identification.

IMPORTANT: This command supports the use of FTP SSL (FTPS). *SECADM special authority is required by the user running the **EXPUSRAUT** command.

```

Export User Authorities (EXPUSRAUT)

Type choices, press Enter.

To system . . . . . _____

-----
User ID . . . . . *ALL      Name, *ALL, *PUBLIC
Product . . . . . *ALL      *ALL, HAL, HAM, HDM, HEM...
Replace . . . . . *NO       *YES, *NO
To remote location or group . . . . . _____ Name
To environment . . . . . PROD   Name
Remote User ID . . . . . _____ Name
Remote password . . . . . _____

Port . . . . . *DFT       1-65535, *DFT, *SECURE
Secure connection . . . . . *DFT   *DFT, *NONE, *SSL, *IMPLICIT
Data protection . . . . . *DFT   *DFT, *CLEAR, *PRIVATE

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

Parameters on the Export User Authorities display

The following parameters are available on this display.

To system

Enter the Host Name or IP Address of the remote system to which the user authorities are to be exported.

User ID

Specify the User ID of the user to be exported. *ALL indicates that all the user authorities on this system are exported to the remote environment. *PUBLIC exports all *PUBLIC authorities.

Product

Specify the Halcyon product codes of the authorities to be exported. Use *ALL to specify all products.

IMPORTANT: *SECADM special authority is required by the user running the **EXPUSRAUT** command.

Replace

Specifies, when 'User' and 'Product' parameters are both set to *ALL, whether to revoke all authorities before applying the exported authorities. If these parameters are not set to *ALL, the setting in this parameter has no effect.

*NO	Existing authorities are not reset. The authorities that are exported replace any existing authorities for each user-product combination that is exported. Existing users and products which are not exported are not changed
*YES	All existing authorities are reset before the exported authorities are applied. For example, *PUBLIC is set to *EXCLUDE and all other user authorities are revoked. Therefore, after this command completes, the authorities which were exported will be the only authorities that exist

To remote location or group

When a remote location is specified in the 'To system' parameter is specified, this parameter indicates the name of a remote location or remote location group. If a remote location is specified, it must have system type *I5. If a remote location group is specified, the authorities are exported to all the remote locations defined in that remote location group.

To environment

When a specific remote location or group is not specified and the 'To system' parameter is set to *RMTLOC, this parameter specifies the name of the environment on the remote system to which the user authorities are exported. When a specific remote location or group is specified this parameter is not used.

Remote User ID

Specifies the user ID used to log on to the remote system. This parameter is not required when 'To system' is specified as *LOCAL, 127.0.0.1, or *RMTLOC and the 'To remote location' parameter specifies a location on the local system.

Remote password

Specifies the password for the user specified in the 'Remote User ID' parameter. A substitution variable may be specified. Substitution variables must be prefixed with '&' and enclosed in single quotes.

Port

Specify the port number of the FTP server to which you are connecting. This parameter is not required when 'To system' is specified as *LOCAL, 127.0.0.1, or *RMTLOC and the 'To remote location' parameter specifies a location on the local system.

*DFT	Default equates to the well-known port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Uses the specified number for the port

Secure connection

Specify the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required when 'To system' is specified as *LOCAL, 127.0.0.1, or *RMTLOC and the 'To remote location' parameter specifies a location on the local system.

*DFT	Defaults to *NONE unless 990 is specified for the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server
*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed
*IMPLICIT	The connection is attempted using SSL/TLS, but if the server does not support this type of connection, the connection is closed

Data protection

Specify the type of protection for the data being transmitted on the FTP connection. This parameter is not required when 'To system' is specified as *LOCAL, 127.0.0.1, or *RMTLOC and the 'To remote location' parameter specifies a location on the local system.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise this parameter defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. Cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example, *IMPLICIT or *SSL)

Press **Enter** to export the User Authorities with the specified parameters.

Functions on the Export User Authorities display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Environments

An environment is an installation of Halcyon products. Multiple copies of Halcyon products can be installed on a system or partition and then run independently of each other. The two main uses for this are:

- Allows you to install and evaluate a new version of a Halcyon product in a test environment while still running the existing version in the production environment.
- A high availability solution offering both production and backup system, allows you to have separate production and backup environments on both systems, with the appropriate environment active on each machine depending on its current mode and the other dormant.

NOTE: When you switch to an environment that is different from the default, the display shows a colored icon in the top left-hand corner of the screen to indicate that you are now working in a different environment from the default.

Getting there

Select option **3=Work with Environments** from the Halcyon Configuration menu.

The Work with Environments display lists all the environments that have been installed.

NOTE: Environments cannot be created using this display. Instead they must be created at the point of installation. Please refer to the associated Halcyon Product Suite Installation Guide for more information on how to install the software onto different environments.

```

HAL0007R              Halcyon Software              HAL525P3
                    Work with Environments          18/02/11 09:43:10
Type options, press Enter.
  2=Change  4=Delete  5=Display product information

Opt Env   Description                                Dft  IP Address    Port
-  AAS    Halcyon Software Ltd                       N    192.168.0.20  15002
-  ASH    Demonstration Environment                     N    192.168.0.20  15081
-  ASW    *AuthSwap Only*                                  N    192.168.0.20  15009
-  CPA    Halcyon Production Environment                   N    10.200.60.11  15000
-  IBM    Ibm test                                           N    192.168.0.20  15008
-  JON    J LAKEY TEST                                       N    192.168.0.20  15004
-  MC     MC TEST                                           N    192.168.0.20  15006
-  MMS    Halcyon Software Ltd                             N    192.168.0.20  15000
-  NIK    Nikki Customer Demo Environment                 N    192.168.0.20  15007
-  OCS    Halcyon Software Ltd                             N    192.168.0.20  15003
-  PROD  Halcyon Software Ltd                             N    192.168.0.20  15005
-  QA    QA Environment                                    N    192.168.0.20  15051
-  SOS    Halcyon Software Ltd                             N    192.168.0.20  15001

BOTTOM

F3=Exit  F5=Refresh  F12=Cancel

```

Parameters on the Work with Environments display

The following parameters are available on this display.

Environment (Env)

Displays the name of the environment as it was entered at the time of product installation.

Description

Displays the description of the environment as it was entered at the time of product installation. This can be changed using option **2=Change**.

Dft

Indicates which of the listed environments is the default environment. This is set using option **2=Change**.

IP Address/Port

Displays the IP Address and Port Number on which the environment receives network data. These are derived from the settings defined for the *SYSTEM on the [Work with Remote Locations](#) display from within the current environment.

NOTE: If an environment is corrupted then the IP Address and Port Number are displayed as blank parameters.

Using the Work with Environments display

The following options are available when working with environments. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Environment Display.

Enter a new description for the selected environment and/or press **F7** to make the selected environment, the default environment.

NOTE: It is not possible to change the name of the environment.

Delete

Use option **4=Delete** to open the Confirm Delete of Environments display. Additional parameters on this display allow to specify the conditions of the deletion.

Remove folder

Specify whether the HALCYON/HALxxxxx folder, directory and file share are deleted along with the environment.

Restart FTP

Specify whether the FTP server jobs are restarted after the FTP exit point entries for the environment have been removed. This must be set to 'Y' when FTP monitoring is active for the environment being deleted, otherwise the FTP server jobs still holds locks on Halcyon objects.

Display product information

Use option **5=Display product information** to open the Display Product Information display.

NOTE: See Technical Information - [Display Product Information](#) for more details.

Functions on the Work with Environments display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Using the Import Environment (IMPENV) command

The Import Environment (**IMPENV**) command allows you to import all the customized settings from one environment directly into another environment. This can be used for:

- Creating a Disaster Recovery Environment (usually on a different LPAR)
- Installing a new PTF of the software without affecting the live environment
- Installing a pre-configured set of rules and templates into a remote location ready for customization.

Customizations for all, multiple or single products can be specified at the time of import. **IMPENV** supports the use of FTP SSL (FTPS).

```

Import Environment (IMPENV)
Type choices, press Enter.
From system or *SAVF . . . . .
Save file . . . . . HALCYON      Name
Library . . . . . QGPL          Name
From environment . . . . . PROD      Character value
From products . . . . . *ALL       *ALL, HAL, HAM, HDM, HEM...
Data to Import . . . . . *CONFIG  *ALL, *CONFIG, *NONSYS, *SYS
Import *JOBQ System defaults . . *YES    *YES, *NO
Remote User ID . . . . .           Character value
Remote password . . . . .
Port . . . . . *DFT          1-65535, *DFT, *SECURE
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

To use the Import Environment (IMPENV) command

1. Run the Halcyon installation routine, naming the new environment to reflect its intended use. (For example, DR for Disaster Recovery environment or TEST for test environment.

NOTE: Ignore this step if the environment has previously been created.

2. Log on to the environment into which the customizations are to be imported (for example; go HALDR/HALCYON where **DR** is the name of the environment).
3. On the command line type **IMPENV** and press F4.
4. Enter the name of the system from which the product customizations are to be imported. This can either be *LOCAL, for another environment on the same LPAR or an IP Address (or name that has been mapped to an IP Address using a TCP/IP Host Table entry) or a remote server name for a remote system.
5. Enter the name of the environment on the selected system from which the product customizations are to be imported. This parameter defaults to PROD.
6. Select the product code for which the customizations are to be imported. *ALL selects all products.

NOTE: Enter a '+' in the blank parameter and press **Enter** to view and add further product codes as required. Press **Enter** when complete.

7. Use the 'Data to import' parameter to define which data is imported:

- ***ALL:** All product data is imported except data defined as ***EXCLUDE**
- ***CONFIG:** Selected configuration data is imported. This includes user-defined data such as rules, calendars, phones and so on but excludes run-time data such as alert log, message log, performance data and such like. This is the default value. Use this setting for a normal import from a working environment to another environment
- ***NONSYS:** User data is imported except for Exit Point Manager audit data and Document Management System indexes. Use this setting for backup and recovery
- ***SYS:** Imports system data only. For example, menu definitions, authority functions and such like

NOTE: System data is stored in files that does not change, except when upgrading to a new version or PTF Level. Examples of system files are menu option files, lists of constants, and so on.

Import Environment (**IMPENV**) refuses to import the data if the Source and Target Environments are not at the same PTF Level. This is to prevent issues where functionality has been introduced that requires configuration which does not exist or is different at other PTF Levels.

The destination environment's 'Port' within remote locations is updated as part of a ***NONSYS** and ***ALL** import. If you have done this locally, there are multiple environments set to use the same Port which causes problems if the monitors within these environments attempt to run at the same time.

For Imports from Remote Systems Only

Enter the User ID and associated password required to access the remote system. Specify the Remote time-out period for failed connections.

8. Specify whether to import system defaults [HDM/JOBQ](#), [HDM/RGZJOBQ](#) and [HEM/SPLJOBQ](#) for ***JOBQ** values.
9. Use the 'Check file locks' parameter to specify whether file locks are checked prior to any data being imported:
 - *YES:** Locks are checked in advance and if any are found on any physical file in any libraries into which the import is planned, the command fails and an error message is generated. If no locks are detected, the import may still fail if a lock is subsequently taken that then prevents imported data from being applied
 - *NO:** Locks are not checked in advance but if any locks exist when the imported data is being applied, the import may still fail at this point depending on the type of lock encountered

Press **Enter** to perform the import environment routine using the entered criteria.

NOTE: **IMPENV** uses an *IM code to identify to which value QSYSOPR should be set.

*IMCUR (*CURRENT)

*IMLAST (*LAST)

*IMIPL (*IPL)

*IMhhmm (Replaces hhmm with the actual defined time on the MsgQ)

*IMmsgid (Replaces msgid with the actual defined msgid on the MsgQ)

This setting can be viewed by accessing QSYSOPR after **IMPENV** has completed but before the **STRMON** command has been run.

NOTE: See [Appendix - IMPENV Configuration Options](#) for a list of all the customized settings that are imported using the **IMPENV** command.

Work with Remote Locations

A remote location represents a specific environment on a specific system with which you want to be able to communicate. [Manually adding a Remote Location](#) involves assigning a unique location name and specifying an IP Address or host name and port via which data can be transmitted.

A remote location is usually on a remote system, however, you may want to create a remote location on your local system as a way of being able to communicate between different environments on the same system.

NOTE: The special location *SYSTEM is used to declare the IP Address and Port that remote locations should use in order send data to this system. The IP Address and Port specified in remote locations declared in other locations that refer to this location. A host name cannot be applied to the special location; *SYSTEM.

The Work with Remote Locations display shows all remote locations that have been created and provides options for their maintenance.

Getting there

Select option **4=Work with Remote Locations** from the Configuration menu.

```

HAL2100R                               Halcyon Software                               HAL720P4
QA                                     Work with Remote Locations                               6/01/15  12:25:12
Type options, press Enter.
2=Change 4=Delete 5=Display 7=Rename 8=System information 9=Test comms
13=Export 25=Change system logo
Opt Location Typ Host or IP      Port Description                               Status
__ *SYSTEM  *I5 192.168.0.49      15051 Local System                               Active
__  ASH_5P3  *I5 HAL525P3.HALCY>  15081 HAL525P3/ASH                             *AUTO Off-Line
__  DEV100   *PC 192.168.0.113    15000 DEV100                                   *AUTO Active-SVR
__  DEV101   *PC 192.168.0.132    15000 DEV101                                   *AUTO Active
__  PROD_OP2 *I5 HAL520P2.HALCY>  15000 HAL520P2/PROD                             Active
__  QA_OP2   *I5 HAL520P2.HALCY>  15051 HAL520P2/QA                             Active
__  QA_270   *I5 HAL270.HALCYON>  15051 HAL270/QA                                 Off-Line
__  QA_5P3   *I5 192.168.0.20     15051 HAL525P3/QA                             Active
__  QAWN2K8A *PC 192.168.0.160    15000 QAWN2K8A                                 *AUTO Failed-GUI
__  QAWN2K8B *PC 192.168.0.159    15000 QAWN2K8B                                 *AUTO Active-GUI
__  TECH105  *PC TECH105.HALCYO>  15000 TECH105                                 *AUTO Idle
__  TESTWIN8 *PC TESTWIN8.HALCY>  15000 TESTWIN8                                 *AUTO Active-GUI
__  WINDOWS2 *PC WINDOWS2003.HA  15000 WINDOWS2003                             *AUTO Active
__  ZGEN_5P1 *I5 HAL525P1.HALCY>  45454 Automated Testing on HAL525P1         Off-Line
Bottom
F3=Exit F5=Refresh F6=Add F11=Alternate view F12=Cancel F22=Print

```

Parameters on the Work with Remote Locations display

The following parameters are available on this display.

Remote location

This is a unique symbolic name that represents a remote location. It is recommended but not mandatory, to use the remote system network name as the remote location name.

Type

Identifies the type of system being defined.

*I5	IBM i system
*PC	PC system installed with Enterprise Console

Host Name or IP Address

If IP Address used, this parameter displays the IP Address of the remote system which contains the remote location. If the remote location is another environment on the local system, use IP Address 127.0.0.1. If host name is used, it can be either the full internet domain name or an alias.

In either case, it comprises one or more components separated by dots and must start with A-Z or 0-9 and end with A-Z or 0-9. Middle characters also allow dash and underscore. Each component can be up to 63 characters in length and the whole host name can be up to 255 characters in total.

NOTE: See [Using Remote Location Host Name instead of an IP Address](#)

Remote Port

Displays the port number used to communicate with the remote location. If the remote system contains multiple environments, each environment uses a different port.

NOTE: Ensure that the correct port is specified as defined in *SYSTEM in the relevant environment. See also [Remote Port Settings](#).

Description

Displays a textual description of the remote location.

Status

Specifies the connection status of the remote location and differs by remote location type.

Status for *SYSTEM

Active	The local system is active (Network Send, Network Receive and Action monitors) are running
Stopped	The local system is not active. In this case, no status is shown for remote locations

Status for IBMi devices

Active	The remote system is active
Off-line	The remote system network support ended normally. This status is only shown if the remote system broadcast that it was going off-line before ending network support. This occurs if the Network Send monitor ends in a controlled manner.
Restricted	The remote system is in restricted state. This status is only shown if the remote system sends data to this system during restricted state. While in restricted state, the remote system can send data but cannot receive data.
Failed	The remote system is not contactable

Status for *PC devices

Active	The Network Manager service on this system is responding
Active-GUI	As Active, but in addition a Halcyon GUI is active on this system
Active-SVR	As Active, but in addition a Web Server hosting Halcyon GUI applications is active on this system
Failed	The Network Manager service on this system is not responding
Failed-GUI	As Failed, but in addition a Halcyon GUI is active on this system
Failed-SVR	As Failed, but in addition a Web Server hosting Halcyon GUI applications is active on this system
SVR	Network Manager service has not been detected on this system. A Web Server hosting Halcyon GUI applications is active on this system
Idle	Network Manager service has not been detected on this system. No Halcyon GUIs or Web Servers are active.

Using the Work with Remote Locations display

The following options are available when working with remote locations. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Remote Location display from where you can change details (except name) of the selected remote location. See [Manually adding a Remote Location](#) for more information relating to parameters on this display.

Allow automatic update

This parameter is only visible when changing a remote location. Specifies whether auto-configuration may change the IP address. When a remote location is added by auto-configuration, this field is set as per system default [HAL/NETAUTOCFGUPD](#). When a remote location is added manually using the Add Remote Location display, this field cannot be set (*NO is assumed).

Automatic update is intended to be used when a remote system may frequently change its IP address, but reverse DNS look-ups are not available, therefore the remote system must be configured as a fixed IP address. Without automatic updates, a new remote location would be created each time the remote system connected using a different IP address. With automatic updates, the existing remote location is updated with the new IP address. An existing remote location is updated when:

- A remote system connects and there is no existing remote location with a matching IP address and port
- Automatic configuration is enabled
- An existing remote location with the same name as the remote system name exists
- The existing remote location has automatic update enabled
- The existing remote location is the same type (*I5 or *PC)
- The existing remote location has the default text description
- The existing remote is not currently communicating

*NO	Auto-configuration cannot change the IP address
*YES	Auto-configuration may change the IP address

NOTE: This setting has no effect unless system default [HAL/NETAUTOCFG](#) is set to *YES.

Automatic update cannot be enabled unless a fixed IP Address is defined.

If reverse DNS look-ups are available, automatic update will define the system using a host name and revoke automatic updating.

Delete

Use option **4=Delete** to open the Confirm Delete of Remote Locations display. Press **Enter** on this display to delete the selected remote location.

Display

Use option **5=Display** to open the Display Remote Location display where you can view (but not change) details of the selected remote location.

When using this option against a *PC remote location type, any Halcyon products detected on the remote location, such as Enterprise Console, Performance Analyzer GUI and Document Management System GUI are also displayed within the **Applications detected** field. If Encryption is being used between the IBM i and the PC Remote Location application, this is also indicated in an additional column.

TIP: Encryption between the IBM i and a PC Remote Location is configured within Halcyon Device Manager on the PC and not on the IBM i.

Rename

Use option **7=Rename** to open the Rename Remote Locations display. From this display you can rename the selected remote location.

System information

Use option **8=System information** to display system and Halcyon product information from the selected system.

Test comms

Use option **9=Test comms** to test the communication with the selected remote location using the Check Remote Location (**CHKRMTLOC**) command.

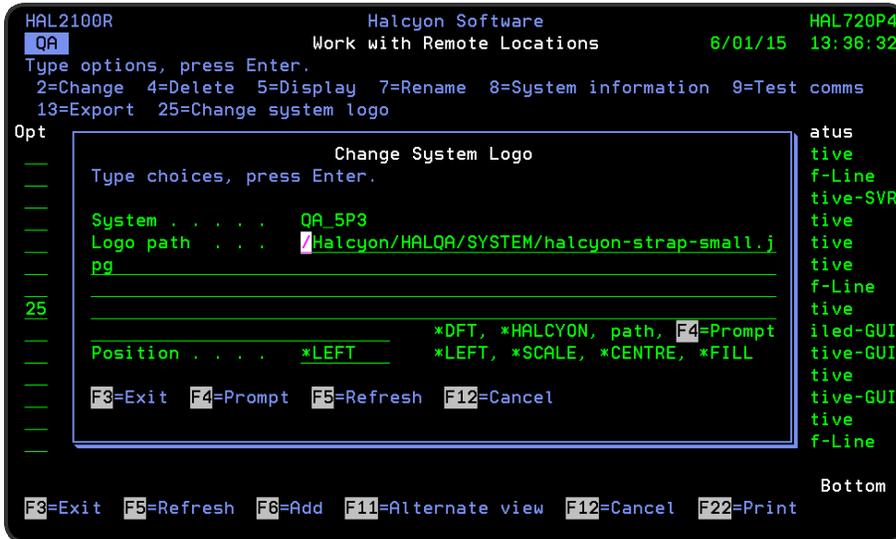
Export

Use option **13=Export** to export the selected remote location to the specified System, Remote Location or Remote Location Group.

NOTE: Export is only allowed between Environments at the same PTF Level.

Change system logo

Use option **25=Change system logo** to be able to change the JPEG image representing an i5 system when printing a graphic PDF report. The following screen is displayed.



System

Displays the name of the remote location.

Logo path

Specify the path of the logo file to be used or type a special value from the options listed:

*DFT	The default logo as specified by system default HAL/DFTLOGO is used for this system
*HALCYON	The Halcyon Software logo is used for this system
*FORTRA	The Fortra logo is used for this system
path	Specify the path of the JPEG file that contains the image to be used by this system. Use F4=Prompt to select valid path options

Position

When you define an actual path to the JPEG file you can also specify the position on the page where the logo is displayed. The default selection is controlled by system default [HAL/DFTLOGOPOSITION](#).

*LEFT	The logo is positioned at the upper left of the available logo space and trimmed if necessary
*SCALE	The logo is centralized and symmetrically scaled to the maximum size that will fit in the logo space
*CENTRE	The logo is centralized and trimmed if necessary
*FILL	The logo is centralized and asymmetrically scaled to completely fill the logo space

Press **Enter** to confirm the change of system logo.

Functions on the Work with Remote Locations display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Remote Location display from where a new remote location can be created. See [Automatic addition of a Remote Location](#) for more information.

F11=Alternative view

Use **F11=Alternative view** to switch the display between showing Host names /IP addresses and Description details or IP address and Remote environment details.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to print a report of all remote locations.

Remote Location Automatic Configuration

Automatic configuration is controlled by system default [HAL/NETAUTOCFG](#). If this is set to *YES, remote systems are automatically configured the first time that network data is received. If this setting is *NO, the local system rejects any network data that it receives from undeclared systems.

NOTE: See [Automatic addition of a Remote Location](#) for more information.

Automatic Configuration with Dynamic IP Addresses

In a network where devices have dynamic IP Address assigned, automatic configuration has the ability to change the IP Address on existing remote locations.

Remote locations have a parameter; 'Allow automatic update' which can be set to *YES or *NO. If set to *YES and a device connects which matches:

- Remote location name
- System type
- Remote location description is the auto-config default (including the word *AUTO in the correct place)

The IP Address is updated if it is different. That remote location is then used rather than a new remote location being created. In all other scenarios a new remote location will be created.

To control the initial value of the 'Allow automatic update' parameter on remote locations, a system default [HAL/NETAUTOCFGUPD](#) is available. When a new remote location is created the 'Allow automatic update' parameter is set to the value defined within the system default.

NOTE: The 'Allow automatic update' parameter does not appear within **F6=Add** when manually creating a new remote location as auto-config has not been involved in the creation of the remote location.

- See [Allow automatic update](#) for more information.
- See also [Automatically purging unused Remote Locations](#).

Using Remote Location Host Name instead of an IP Address

Instead of entering an IP Address, it is also possible to enter a host name (except for the special location; *SYSTEM) for any added remote location. A host name can be either the full internet domain or an alias of up to 255 characters.

When a host name is entered it must be able to resolve the host name to an IP Address and then resolve the IP Address back to the host name. In order for this to work successfully, the host name must either be added to the TCP/IP Host table (using **ADDTCPHTE**) or it must be defined on one of the domain name servers specified on the **CHGTCPDMN** command. If defined by the latter method, the IP Address may or may not be dynamic.

When adding a remote location, the 'Description' and 'Host name' parameters both default to the name of the remote location if they are left blank. If the host name specified (or to which it has defaulted) is found to be a valid host name alias, it is automatically replaced by

the primary host name for that alias. If you want to enter a remote location name that does not match the primary or alias of the system, then you must key in the host name manually.

Outbound Traffic

There are three possible alternatives for outbound traffic:

- If a remote location uses a specific IP Address, the system always used that IP Address
- If a remote location uses a host name and the location is already in 'CON' status (as shown on the Work with Remote Locations main display), the system uses the last known IP Address for that location (saved when the status changes to 'CON')
- If a remote location uses a host name and the location is not already in 'CON' status, the system resolves the host name to an IP Address in case it is a dynamic address, and then uses the IP Address obtained. If the host cannot be resolved because, for example, the entry has been deleted from the host table or the domain server cannot be contacted, the connection fails and an error is logged. However, the connection is retried later

Inbound Traffic

The incoming data identifies itself by its return IP Address and Port Number. The system scans for this IP Address and port in the remote locations which have a specific IP Address, or which use a host name and that are in 'CON' status. Remote locations not in 'CON' status are ignored in case they use dynamic addresses that may have changed. If a match is found, the system has identified the sender.

- If a sender was not identified, the system next attempts to resolve the IP Address to a host name. If successful, the system then looks for remote locations with the specified host name and port. If a match is found, the system has identified the sender.
- If an error occurred during the resolve, other than 'no host name found for this IP', the sender is *UNKNOWN and the inbound traffic is rejected, otherwise:
- If auto-config is off, the sender is *UNKNOWN and the inbound traffic is rejected, otherwise:

A new remote location is auto-configured. If the system resolved the IP Address to a host name but didn't find a match, the new location is created using the host name resolved. If no host name was found for the IP Address, the new location is created using the specific IP Address.

Configuring The *SYSTEM Remote Location For Export Of Settings

It is possible to use Work with Remote Locations to define an 'Export name' for the *SYSTEM remote location. The entered name can then be used within the 'System' parameter when adding actions to rules.

When rules, action schedules and other settings are exported, they then have the *SYSTEM name alias set to the correct remote location name in order to communicate back to the central system.

This allows the mass update of multiple LPARs without the need to manually configure the *SYSTEM name for each LPAR.

Use the following instructions to configure this option. Note that it is not possible to amend the *SYSTEM settings while the network monitors are running so these must be ended first.

1. From the main menu, select option **42=Configuration** followed by option **4=Work with Remote Locations**
2. Select option **2=Change** against the *SYSTEM location.
3. Enter the '**Export name**' for this location.
4. Press **Enter** to confirm and return to the Work with Remote Locations display.

When an action is added to a rule, this system can be assigned by either entering the name directly into the 'System' parameter or by using **F4=Prompt**. When rules and action schedules are then exported to the a remote system, the central system name is correct on the new location without the need for manual intervention.

Automatic addition of a Remote Location

Any time that an IBM i or PC device attempts to connect to the port for the environment (as defined in the *System Remote Location definition), the system checks the IP Address and Port of the remote system.

If the system does not already exist in the list of remote locations, it is automatically added using the same system defaults that are applied if you used **F6=Add**.

IMPORTANT: In order to be able to automatically add a remote location, the system default [HAL/NETAUTOCFG](#) must be set to *YES.

The following rules apply to the automatic addition of remote locations:

- The system can determine whether the remote location is an IBM i or PC device and changes the system type default setting automatically.
- When using automatic configuration, the description of the remote location is defined as follows:
 - ***I5 systems** System Name/Environment Code of the Remote *I5
 - ***PC systems** Device Name
- The suffix; *AUTO is added to the end of the description to show that this remote location has been set by Auto Configuration.

Use option **2=Change** on the Work with Remote Locations display to manually amend the name or parameter defaults.

Automatically purging unused Remote Locations

This functionality is primarily aimed for use in networks that use dynamic IP Address assignment so that Remote Locations that have not connected are removed as they likely relate to a device which now uses a different IP Address.

The automatic purging of unused remote locations is controlled by two system defaults:

- [HAL/NETAUTODLTI5](#): This specifies the number of days an *I5 remote location has to be inactive to be automatically purged/deleted. The default setting is *OFF
- [HAL/NETAUTODLTPC](#): This specifies the number of days a *PC Remote Location has to be inactive to be automatically purged/deleted. The default setting is *OFF

If either or both of these system defaults has a value other than *OFF, the Action Monitors purge the respective remote locations after the number of days inactivity specified.

Manually adding a Remote Location

Remote locations can be added by using **F6=Add** from the Work with Remote Locations display.

```

HAL2100R                               Halcyon Software                               HAL525P3
DMS                                     Add Remote Location                               16/05/13  11:02:50
Remote location . . . . . _____
Description . . . . . _____
System type . . . . . *I5      *I5, *PC
Host name or IP address . . . . . _____

Remote port . . . . . 15000      1-65535
Forwarding port . . . . . *NONE    1-65535, *NONE, F2=Allocate
Receive wait time-out . . . . . 5000  1-99999 mSec
Batch mode time-out . . . . . 60     1-90 mins
Interactive time-out . . . . . 10     1-30 secs
Handshake interval . . . . . 1       1-60 mins
Data encoding . . . . . *UTF8      *ASCII, *UTF8, *ENCRYPT
Short code . . . . . G           A-Z

Bottom
F2=Allocate F3=Exit F5=Refresh F12=Cancel

```

Parameters on the Add Remote Location display

The following parameters are available on this display.

Remote location

Enter a unique symbolic name of the remote location.

TIP: When the remote location is an IBMi, it is recommended that you use the system name of the remote location as shown by the Display Network Attributes (**DSPNETA**) command. However, this is not mandatory.

If you need to communicate with multiple environments on a remote system, you must create a remote location for each, with the same IP Address but a different port value. In each case the port entered must match the port defined in the ***SYSTEM** entry in each environment.

If you need to communicate with another environment on the local system, you must create a remote location definition with IP Address 127.0.0.1 and specify the port as defined in the ***SYSTEM** entry in the target environment.

The special location *SYSTEM is used to specify the IP Address and Port that remote locations should use to send data to this system. The IP Address and Port specified in *SYSTEM must match the IP Address and Port specified in other remote locations that use this location.

Description

Enter a textual description of the remote location. If this parameter is left blank, the entry defaults to the name typed in the 'Remote location' parameter.

System type

Enter the type of system to be defined:

i5	IBMi system. Use this value when defining a system installed with compatible Halcyon products
PC	PC system. Use this value when defining a system installed with Enterprise Console

IP address

Enter the IP Address of the remote location. If this parameter is left blank, a value may be automatically assigned as follows:

- If the remote location name is the same as the local system name, the IP Address defaults to 127.0.0.1
- If the remote location name has been defined in the TCP/IP Host Table (using the Add TCP/IP Host Table Entry *(**ADDTCPHTE**) command), the IP Address defaults to the value in the TCP/IP Host Table

NOTE: An IP Address must be used for the purposes of data forwarding.

Remote port

Enter the port number on which the remote location receives data. If this parameter is left blank, it defaults to 15000. With *SYSTEM defined as the remote location, this is the port used to receive data from other remote locations. Use the same port that is specified here, when this remote location is defined as a remote location in other environments.

NOTE: Enterprise Console settings also default to port 15000 so that the two systems are able to communicate. This must be set for additional installations (see below).

Port 15000 is used for the initial install only. If an existing environment is found then the port setting increments by 1 to 15001, 15002 and so on. The increment is always made on the environment with the highest port number so even if you have environment using ports 15000 to 15006 defined and delete the environment using port 15004, the next install will still use port 15007.

Remote Port Settings

It is possible to set multiple environments on the same system to use the same port. When you attempt to set the port within Work with Remote Locations to a port already used by another environment, the warning message `HAL0877` is generated. Press **Enter** to confirm and allow the change.

IMPORTANT: It is important you only have the Network Monitors for one of the environments active at the same time. If not, you could have one environment sending data with the other environment receiving or vice-versa.

Forwarding port

This parameter is used to specify the port number on which data to be forwarded is received. If data forwarding is not required, this setting can be left as *NONE. If specified, a Network Monitor is started to specifically listen for data on this port and then forward the data to the Host/Port specified in the Host name or 'IP address' and 'Remote port' parameters.

Use **F2=Allocate** to automatically assign the next available port number to this remote location.

See [Configuring Data Forwarding](#) for more information.

Receive wait time-out

Specifies the maximum time to wait when receiving data from a remote system after accepting a connection. When adding a new remote location this setting defaults to 30000 milliseconds.

Batch mode time-out

Specifies the time period (in minutes), within which attempts are made to send data to the remote location. If the remote system cannot be contacted, retries are attempted from time to time until the time specified here expires. The data is then set to time-out status and no further send attempts are made. When adding a new remote location this setting defaults to 30 minutes.

Interactive time-out

Specifies the time period (in seconds), in which a response should be received for an interactive request, such as **F4=Prompt** being pressed to obtain a list of valid entries. If the response is not received within this time, the request is cancelled. When adding a new remote location this setting defaults to 30 seconds.

Handshake interval

Specifies the handshake interval for this remote system. This is the frequency with which the local system verifies that the remote system can still be contacted. The lower the number the greater the frequency with which the contact is made, thus giving a faster indication should connection be lost.

This parameter defaults to 1 minute if not manually set.

Data encoding

Specifies the data encoding to use when sending data to this remote location:

*ASCII	Data is encoded as 8 bit ASCII Latin No 1 to ISO 8859 using CCSID 819
*UTF8	Data is encoded as UTF-8 using CCSID 1208
*ENCRYPT	Data is encoded as encrypted UTF-8. This setting is not supported for system type *PC. With system type *I5, ensure the remote system has common library PTF2013.086 or later installed. This setting only applies for outbound communications to the Remote Location. To ensure encryption occurs both ways, you must also set this value for the Remote Location on the Remote System

WARNING: The *ENCRYPT setting only applies to communications sent between the Network Send and Network Receive Monitors. For other communications, such as Export Rules, Export Groups, IMPENV and such like you must use secure FTP by specifying the secure FTP parameters on the relevant prompt.

Short code

Specifies the short code used to identify this remote system. The short code prefixes the alert ID to form the alert reference used when alerts are sent from this system as email or SMS messages. It may also be used with the Close Alert (**CLSALT**) and Reply by Alert ID (**RPYALT**) commands to close or reply to a specific alert on a remote system.

Short codes are 1 to 3 characters in length in the range A to Z. Numbers and other characters are not allowed. Short codes are not case-sensitive.

Applications Detected

When adding a *PC Remote Location type, either manually or automatically, the software automatically detects any Halcyon products that are running on the device and notes them in an 'Applications detected' parameter. This is not visible when adding the remote location as the connection has not yet been made and confirmed, but is shown when changing or displaying details of the remote location at a later time.

If Enterprise Console is listed within the 'Applications detected' section, the Status is set to 'Failed' and the following message is added to the Halcyon [Message Log](#) if no response is received from the Enterprise Console (where RMTLOCNAME is the name of the Remote Location):

```
HAL0393 Remote location RMTLOCNAME no longer communicating.
```

It is therefore possible to use [Add Administrator Alert Criteria](#) to have this message forwarded to the Admin Message Queue defined in system default [HAL/ADMINMSGQ](#), usually QSYSOPR, and then use the Message Monitor to alert if this message is received.

Functions on the Work with Remote Locations display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

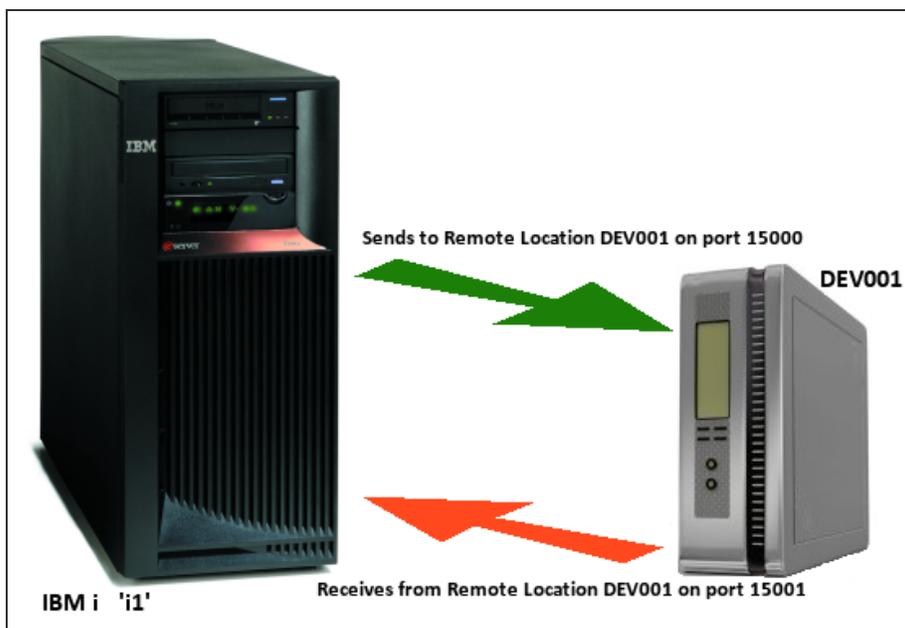
Use **F12=Cancel** to exit this display and return to the previous display.

Configuring Data Forwarding

Data forwarding is required when you have one or more IBMi devices that can connect to each other but not directly to the Enterprise Console. Therefore, in order to pass information to the Console, the data must pass through one or more of the IBMi systems to the device with the connection.

Basic Connection

Under typical circumstances, a direct connection between two systems; an IBMi and PC-based Enterprise Console that can talk directly to each other, would look something like this:



The previous diagram shows a simple configuration where the IBMi (i1) communicates directly with the Enterprise Console (DEV001).

The respective configurations on both the IBMi and Device Manager (for Enterprise Console) would be:

For IBM i (i1) - Work with Remote Locations

Originating Device

- **Name:** *SYSTEM
- **IP Address:** 192.168.0.35
- **Port:** 15001

Remote Location

- **Name:** DEV001
- **IP Address:** 192.168.0.138
- **Port:** 15000

For Enterprise Console - Device Manager

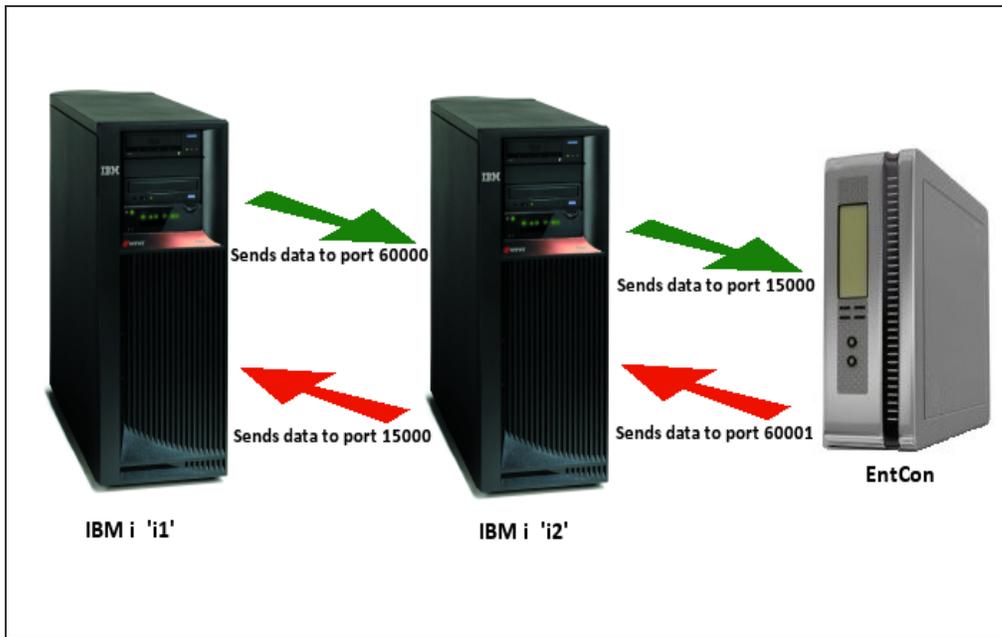
- **Name:** i1
- **Type:** IBM i
- **IP Address:** 192.168.0.35
- **Port:** 15001

NOTE: Please refer to the Enterprise Console User Reference Guide for detailed instructions on how to add devices.

With this configuration in place, IBM i device 'i1' sends data to the Enterprise Console (DEV001) via port 15000 and receives data from DEV001 on port 15001. DEV001 sends data on port 15001 and receives from HAL501P1 on port 15000.

Forwarding via an intermediate system

There may be instances where a direct connection cannot be made between the IBMi device and the Enterprise Console. In such instances it is possible to route the data via another IBMi device that does have a direct connection. This is done using the 'Forwarding port' parameter within the remote location.



In this next example, IBMi device 'i1' cannot communicate directly with the Enterprise Console.

However it can talk to another IBMi device 'i2' which in turn can communicate directly with the Enterprise Console.

The following configuration would be required for this scenario.

Systems	i1	i2	EntCon
Originating Device	*SYSTEM	*SYSTEM	EntCon
IP Address	192.168.0.18	192.168.0.35	192.168.0.138
Port	15001	15005	15000
Remote Location 1			Device Manager
Name	i2	i1	i2
IP Address	192.168.0.35	192.168.0.18	192.168.0.35

Systems	i1	i2	EntCon
Remote Port	15005	15001	15005
Forwarding Port	*NONE	60001	N/A
Remote Location 2			Device Manager
Name	EntCon	EntCon	i1
IP Address	192.168.0.35	192.168.0.138	192.168.0.35
Remote Port	60000	15000	60001
Forwarding Port	*NONE	60000	N/A

Using this configuration, data from 'i1' that is to be sent to the Enterprise Console must travel through 'i2'.

Therefore, data is sent from 'i1' to EntCon gets sent to 'i2' on port 60000. 'i2' collects the data on port 60000 and forwards it to EntCon on port 15000. EntCon then sends back data via 'i2' on port 60001 and which then forwards it to 'i1' on port 15000.

Remote Locations and IP Address Mapping

Remote locations support IP Address mapping for forwarding ports so that it is possible to forward alerts from one IBMi to another and then onto the Enterprise Console, so that the IP Address of the originating machine is identifiable.

IP Address mapping is set up using option **42=Configuration** followed by option **5=Work with IP Address Mappings**. See [Work with IP Address Mappings](#) for more information.

Device Naming Conventions

When data is forwarded to the Enterprise Console from an intermediate device, it is the name of this device that is displayed in the Enterprise Console, which may confuse as to the origin of the alert. In order that the originating device is correctly identified, and providing that it has been correctly configured within Device Manager, the 'Device name' parameter for the originating device, changes to 'Display Name' when an alert has been forwarded through an intermediate system.

NOTE: Please refer to the Enterprise Console User Reference - Device Manager section for guidance on how to configure this functionality.

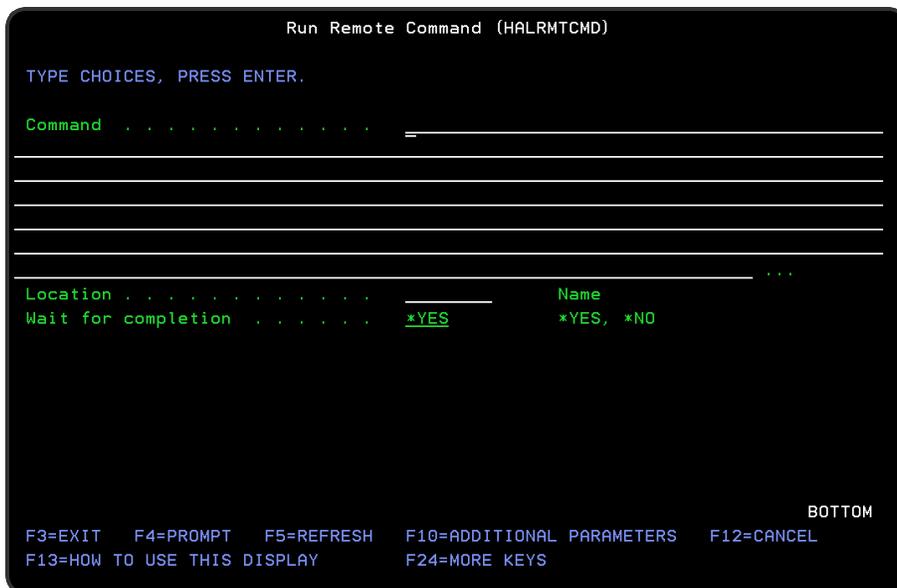
The [Message Console](#) does not suffer with this issue as the command **WRKRMTLOC** allows the remote location name to be defined independently of the system.

Run Remote Command (HALRMTCMD)

The Run Remote Command (**HALRMTCMD**) command can be used to run a command on a remote system via Halcyon network services. Upon the completion of the command, any message sent by the command on the remote system is resent by **HALRMTCMD**.

Getting there

Type **HALRMTCMD** on the command line and press **F4**.



Parameters on the Run Remote Command (HALRMTCMD) display

The following parameters are available on this display.

Command

Enter a character string of up to 512 characters, representing the command that you want to run remotely.

Location

Specify the system on which the command is to run. This system must already be defined in the [Work with Remote Locations](#) display.

Wait for completion

Specify whether to wait for the remote system to run the command and return the status.

*YES	The command waits for the remote system to run the command then sends either a Completion or an Escape message depending on the result
*NO	The command returns immediately without waiting for the remote system to run the command

Exec time-out

Specifies the maximum number of seconds to wait for the command to complete once the remote system has acknowledged receiving the request.

Remote User ID

Specifies the User ID used by the Action Monitors on the remote system to run the command.

*DFT	No User ID is specified. The command is run by the Action Monitor using its normal User ID
User ID	Enter the User ID that is used to run this command

Remote password

Specify the password for the Remote User ID. Only required when a specific User ID has been specified in the 'Remote User ID' parameter.

Encrypt command

Specify whether to encrypt the command string when sending the data over the network. This is useful when the command contains a password or other sensitive information which would otherwise be visible in the [Network Log](#).

*YES	The command string is encrypted
*NO	The command string is not encrypted

Encryption Notes

- Both systems must be at PTF2011.077 or later
- The encryption method converts the data to hexadecimal
- All characters are supported and the encrypted value comprises only the characters 0-9 and A-F therefore can be sent over a network because these characters have the same code point in every CCSID

Exporting Remote Locations

The Export Remote Locations (**EXPRMTLOC**) command allows you to export remote locations from the product environment in which this command is running to another environment on the local or a remote system.

NOTE: If *SYSTEM is exported, it is renamed when applied to the system to which it is exported. The name assigned is the network name of the exporting system. A numeric suffix is added if this name is already used for a remote location defined on the exporting system.

If an exported *I5 system has the same IP address and port as the local system (*SYSTEM) defined on the remote system, it is ignored by the remote system.

Getting there

Type **EXPRMTLOC** on the command line and press **F4**.

```

Export Remote Locations (EXPRMTLOC)
Type choices, press Enter.
To system . . . . .
Remote location to export . . . *ALL      Name, *ALL, *ALLI5, *ALLPC...
+ for more values
Replace . . . . . *NO      *YES, *NO, *ALL
Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Authority

In order to be able to export remote locations you require *USE authority to the HAL/RMTLOC function on the local system and *ALL authority to HAL/RMTLOC function on the remote system.

NOTE: If a remote location is exported with an IP address and port that matches the *SYSTEM entry on the remote system, that remote location is ignored by the remote system. If you export the *SYSTEM entry from the local system, it is exported using a different name. This name can be set using the 'Export Name' parameter on the Change Remote Location screen.

Parameters on the Export Remote Locations command

The following parameters are available on this display.

To system

Specifies the system to which to export the remote location groups. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFRMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export the remote location groups. Type an IP Address or a name which has been mapped to an IP Address using a TCP/IP Host Table Entry or remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To remote location' parameter

Remote locations to export

Specifies the list of remote locations that you want to export. You can specify up to 32 separate values within this parameter. Press '+' to open the parameter in order to enter additional values.

*ALL	All remote locations are exported
*ALLI5	All *I5 remote locations are exported
*ALLPC	All *PC remote locations are exported
name	Specify the individual names of the remote locations to be exported

Replace

Specifies, if necessary, whether or not to replace existing remote locations.

*NO	If a remote location with the same characteristics already exists on the target system, the selected remote location is not exported and the entry on the target system remains unchanged
*YES	If a remote location with the same characteristics already exists on the target system, the selected remote location is still exported and the entry on the target system is overwritten
*ALL	All remote locations on the target system are deleted and replaced by the remote locations being exported from the source system. This setting is only allowed when the 'Remote locations to export' parameter is set to *ALL, *ALLI5 or *ALLPC

To environment

If the 'To system' parameter is not specified this parameter specifies the name of the environment to which the remote locations are exported. When the 'To system' parameter is specified, this parameter is ignored.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with '&' and contained in single quotes. Spaces are permitted where they exist in passwords.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS0 or Secure Sockets (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server
*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example, *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults values are used. The default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected remote locations to the specified system.

Functions on the Export Remote Locations display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Remote Location Groups

A remote location group is a named group of *I5 type remote locations. This allows rules to be sent to groups of devices rather than having to select or omit individual groups.

The Work with Remote Location Groups display lists the remote location groups that have been created and provides functions and options for maintaining them.

Getting there

Select option **5=Work with Remote Location Groups** from the Halcyon Configuration menu.

```

HAL2140R                               Halcyon Software                               HAL525P3
QA                                     Work with Remote Location Groups          29/11/12  11:53:20

Type options, press Enter.
2=Change  4=Delete  5=Display

Opt Name      Description
- *DMS        DMS Envs
- *QAIMP      QAIMP

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
BOTTOM

```

Parameters on the Work with Remote Location Groups display

The following parameters are available on this display.

Name

Displays the name of the remote location group.

Description

Displays a textual description of the remote location group.

Using the Work with Remote Location Groups display

The following options are available on the Work with Remote Location Groups display. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Remote Location Groups display. The parameters on this display are the same as those on the Add Remote Location Group display. Please see [Adding a Remote Location Group](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Deletion of Remote Location group display. Press **Enter** to confirm the deletion of the selected remote location group or press **F12** to cancel the request and return to the main Work with Remote Location Groups display.

Display

Use option **5=Display** to be able to view (but not amend) the current details of the selected remote location group.

Functions on the Work with Remote Location Groups display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

Enter a textual description of the new remote location group.

Press **Enter** to display a list of fields into which you can enter existing *I5 remote locations that then form this remote location group.

F4=Prompt can be used on any of these parameters to display a list of valid remote locations from which a selection can be made. When the remote locations have been added, press **Enter** to create the new group and add it to the Work with Remote Location Groups display.

Exporting Remote Location Groups

The Export Remote Location Groups **EXPRMTGRP** command allows you to export remote location groups from the product environment in which this command is running to another environment on the local or a remote system.

Getting there

Type **EXPRMTGRP** on the command line and press **F4**.



Authority

In order to be able to export remote location groups you require *USE authority to the HAL/RMTLOC function on the local system and *ALL authority to HAL/RMTLOC function on the remote system.

Parameters on the Export Remote Location Groups command

The following parameters are available on the Export Remote Location Groups display.

To system

Specifies the system to which to export the remote location groups. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFRMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export remote location groups. Type an IP Address, or a name which has been mapped to an IP Address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To remote location' parameter

Remote location group

Specifies the list of remote location groups that you want to export. You can specify up to 32 separate values within this parameter. Press '+' to open the parameter in order to enter additional values.

*ALL	All remote groups are exported
name	Specify the individual names of the remote location groups to be exported

Replace

Specifies, if necessary, whether or not to replace existing remote location groups.

*NO	If a remote location group with the same characteristics already exists on the target system, the selected remote location group is not exported and the entry on the target system remains unchanged
*YES	If a remote location group with the same characteristics already exists on the target system, the selected remote location group is still exported and the entry on the target system is overwritten
*ALL	All remote location groups on the target system are deleted and replaced by the remote location groups being exported from the source system. This setting is only allowed when the 'Remote location group' parameter is set to *ALL

To environment

If the 'To system' parameter is set to *LOCAL, specify the name of the environment to which the remote location groups are exported.

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type of *I5. If a remote location group is specified, the remote location group definitions are exported to all remote locations within the group.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server

*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed
-------------	---

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted, regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. the default values are 300 seconds for inactivity time - out and 420 seconds for transfer timeout
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected remote location groups to the specified system.

Work with IP Address Mappings

IP Address mapping allows network data received from one IP Address (an alternate address) to be handled as having been received from another IP Address (the primary address). When an incoming connection is received the IP Address mappings are checked for a match and if found, the IP Address is changed to the Primary IP Address. This can prove useful when a remote system has multiple network interfaces that can be used to send data to this system.

NOTE: IP Address mappings only work on incoming communications. Outbound communications use the Primary IP Address that relates to a Remote Location.

Getting there

Select option **6=Work with IP Address Mappings** from the Halcyon Configuration menu to open the Work with IP Address Mappings display. This display lists the IP Address mappings that have been set-up and provides options for creating new or maintaining existing entries.

```
HAL2130R                               Halcyon Software                               HAL525P3
                                         Work with IP Address Mappings          13/01/11  09:26:05

Type options, press Enter.
  2=Change  4=Delete  5=Display

Opt Primary IP
= 192.168.0.15
- 192.168.0.24

                                         BOTTOM

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

Parameters on the Work with IP Address Mappings display

The following parameters are available on this display.

Primary IP

This parameter displays the IP Address for which alternative IP Address mappings have been defined. A Primary IP Address can be any IP Address that has not previously been defined as either a primary or alternate IP Address.

Using the Work with IP Address Mappings display

The following options are available when working with IP Address mappings. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change IP Address mappings display. This display allows you to amend the existing (or add new) alternate IP Addresses that exist for the selected Primary IP Address. When adding an alternate IP Address you can specify any IP Address that has not previously been defined as either a primary or alternate IP Address.

NOTE: You cannot change the Primary IP Address using this option.

Delete

Use option **4=Delete** to open the Confirm Delete of IP Address Mappings display. Press **Enter** to delete the selected primary IP Address and all of the associated alternate IP Addresses or press **F12=Cancel** to return to the Work with IP Address Mappings display without deletion.

Display

Use option **5=Display** to open the Display IP Address Mappings display which allows you to view but not change the alternate IP Addresses associated with the selected Primary IP Address.

Functions on the Work with IP Address Mappings display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to create a new record.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Primary IP Address

A Primary IP Address can be any IP Address that has not previously been defined as either a primary or alternate IP Address.

Getting there

To add a primary IP Address to which alternate IP Addresses can be mapped, use **F6=Add** on the Work with IP Address Mappings display to open the Add IP Address Mappings display.

```

HAL2130R                               Halcyon Software                               HAL525P3
                                     Add IP Address Mappings                               13/01/11  10:32:48
Primary IP address                       192.168.0.24
Type new/changed information, press Enter.

Alternate
IP address
192.168.0.47
192.168.0.69
192.168.0.11
_____
_____
_____
_____
_____

F3=Exit  F5=Refresh  F12=Cancel                               BOTTOM

```

Parameters on the Add IP Address Mappings display

The following parameters are available on this display.

Primary IP address

Enter the primary IP Address. Once entered, press **Enter** to open the parameters into which the list of alternate IP Addresses for this primary IP Address can be typed.

Alternate IP address

Enter as many alternate IP addresses for the Primary IP address as required.

TIP: Use **TAB** to move between lines.

Press **Enter** to confirm and create the new IP Address mapping.

Functions on the Add IP Address Mappings display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with System Defaults

System defaults are values that control how Halcyon products operate, in the same way that system values affect the IBMi operating system.

The Work with System Defaults display lists the available system defaults and provides options enabling you to display or change settings.

System Default Authority

In order to actively use this display, you need *USE authority to the WRKSYSDEF function.

In addition, you need *ALL or *USE authority to the SYSDEF function in each product of which you need to maintain or view the system defaults.

Getting there

Select option 7=Work with System Defaults from the Halcyon Configuration main menu.

```

HAL9010R                               Halcyon Software                               HAL525P3
SOS                                     Work with System Defaults                       13/10/09 11:12:08
Type options, press Enter.
2=Change 5=Display

Opt Prd Name      Description
- HAL ACTLOGLIFE  Number of days to retain actions in the action log.
- HAL ACTMAXBUSY  Action monitor maximum busy %.
- HAL ACTMONMAX   Maximum number of auxiliary action monitors.
- HAL ACTMONMIN   Minimum number of auxiliary action monitors.
- HAL ADMINMSGQ   Administrator Message Queue.
- HAL ALTLOGLIFE  Number of days to retain closed alerts in alert log.
- HAL CALCMDCLRDAY  Calendar command Clear Day.
- HAL CALCMDENDBLOCK  Calendar command End Contiguous Days.
- HAL CALCMDSETDAY  Calendar command Set Day.
- HAL CALCMDSTRBLOCK  Calendar command Start Contiguous Days.
- HAL CALCMDVIEWDAY  Calendar command View Day.
- HAL CALDFTENDTIME  Calendar default end time.
- HAL CALDFTSTRTIME  Calendar default start time.
- HAL DFTDIR       Default directory.
- HAL DFTMSGACTSCH  Default message for ACTSCH action.

MORE...

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F22=Print

```

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the three letter code of the Halcyon product to which the system default relates.

TIP: The three letter code of HAL refers to the common library.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Using the Work with System Defaults display

The following options are available when working with system defaults. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change System Default display. This displays the current value of the selected system default and allows you to change it to another value within the given parameters for the selected system default.

Display

Use option **5=Display** to open the Display System Default display. This displays the current value of the selected system default but does not allow change.

Functions on the Work with Systems Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset System Defaults display which allows you to set or clear the filter parameters that restrict the view of system defaults displayed. Filtering is actioned by product code.

NOTE: When the selected product code is HEM, an additional module code parameter is made available allowing you to specify the precise system default entries for a given System Event Manager product. Use **F4=Prompt** to display a list from which a selection can be made.

F22=Print

Use **F22=Print** to print a system defaults report for all listed system defaults.

Work with Calendars

Calendars are used throughout Halcyon products when working with both Action Schedules and Call Schedules.

A calendar can be used to assign an individual date, date ranges and date/time ranges.

The Work with Calendars display shows the available calendars and allows you to maintain the existing entries and create new calendars.

Getting there

Select option **8=Work with Calendars** from the Halcyon Configuration menu.

```

HAL4000R                               Halcyon Software                               HAL720P2
MANL                                     Work with Calendars                               10/07/19 08:05:26

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 6=Print 8=Where used

Opt Name      Description                               Populated
- *DEFAULT    *DEFAULT                                   2011-2023
- BACKUPS     Weekend backups on Sat 01:00 - 03:00      2019-2019
█ BLAH2       Demo #2
- DEMO        Demo
- FRI         Friday's
- INVERSE     Inverse
- MON         Monday's
- OFFICEHRS   Office Hours                               2015-2020
- SAT         Saturday's
- SUN         Sunday's
- THU         Thursday's
- TUE         Tuesday's
- WED         Wednesday's

F3=Exit  F5=Refresh  F6=Add  F12=Cancel                               Bottom

```

Default Calendar

A default calendar is supplied which has weekends and UK public holidays marked as non-working days. UK public holidays are decided several years in advance by a government committee. Their decisions can be found online at: <https://www.gov.uk/bank-holidays>

NOTE: The day of the week on which the calendar starts is set within the system default [HAL/STARTDAYOFWEEK](#).

The *DEFAULT Calendar can be automatically populated. System default [HAL/CALAUTOPOPULATE](#) controls how far into the future it is populated. The default setting is five years.

A check of the *DEFAULT calendar is made daily, just after midnight by the Primary Action Monitor and if required the *DEFAULT Calendar is populated.

When the *DEFAULT Calendar is populated, Monday to Friday are set to 'On' with the 'From time' parameter set to that defined in system default [HAL/CALDFTSTRTIME](#) and the 'End time' parameter set to that defined in system default [HAL/CALDFTENDTIME](#).

Parameters on the Work with Calendars display

The following parameters are available on this display.

Name

Displays the calendar name.

Description

Displays the calendar description.

Populated

Displays the first and last years for which the calendar has been set.

Using the Work with Calendars display

The following options are available when working with calendars. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the calendar, initially showing the current year using the calendar view. You can change to list view (by using **F13=List view**) or different years (by typing over the current year and pressing **Enter** as required).

Using either calendar or list views, you can set or reset dates or change the times associated with each date. See [Calendar Views](#) for more information on how the two views differ in appearance.

NOTE: For details on the options used when creating or maintaining calendars, please see [Creating a Calendar](#).

Copy

Use option **3=Copy** to open the Confirm Copy of Calendars display and create a new calendar based upon the existing calendar against which the copy action was taken. Provide a name for the new calendar and press **Enter**.

TIP: Use option **2=Change** to amend the description of the new calendar.

Delete

Use option **4=Delete** to open the Confirm Delete of Calendars display. Press **Enter** to confirm the deletion of the calendar.

NOTE: It is not possible to delete a calendar that has assignments. Check this with option **8=Where Used**.

Display

Use option **5=Display** to open the calendar in calendar view mode. From this display you can use **V=View** on any given day to show the daily schedule for the selected date. This displays the current value of the selected date but does not allow change.

Print

Use option **6=Print** to produce the calendar report for the selected calendar record. The report produced is for the years shown as populated. For example, if a calendar is shown as populated for the years 2009-2012, a report is produced for these years inclusive. The format of the report is as per traditional calendar format.

Where used

Use option **8=Where used** to display a pop-up window showing all of the items that currently use this calendar.

```

HAL4000R                               Halcyon Software
MANL                                     Display Calendar Where Used
Calendar . . . . . : OFFICEHRS
Type options, press Enter.
2=Change 5=Display
Opt Name
- *DEFAULT
- BACKUPS
- BLAH2
- DEMO
- FRI
- INVERSE
- MON
8 OFFICEHRS
- SAT
- SUN
- THU
- TUE
- WED

Opt Type      Detail                                Number
- *RULE      AUD:@MEFIRST                          10
- *RULE      AUD:@MEFIRST                          40
- *RULE      AUD:ALL                                340
- *RULE      JRN:HALQA/HALJRN                       20
- *RULE      JRN:HALQA/HALJRN                       30
- *RULE      JRN:HALQA/HALJRN                       40
- *RULE      JRN:HALQA/HALJRN                       50
- *RULE      AIM:QA                                  30
- *RULE      DEV:QA                                  20
More...

F3=Exit F5=Refresh F12=Cancel
F3=Exit F5=Refresh F6=Add F12=Cancel

```

The following items are supported:

- Action schedules
- Call schedules
- Pagers
- Phones
- Job scheduler groups
- Job scheduler jobs
- Authority swapper swap permits
- Restricted task groups
- User programs using the calendar functions of the **ANZDAT** command

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Functions on the Work with Calendars display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the initial calendar creation display allowing you to type a name and description for the new calendar. See [Creating a Calendar](#) for more information on this and subsequent displays.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Calendar Views

After taking option **5=Display** from the Work with Calendars display you have a choice of two different calendar layouts.

Calendar view

This view displays the calendar data using a traditional calendar format and employs the following rules:

- Set days are shown underlined in white or high intensity
- Normal days are shown in blue or normal intensity
- Consecutive non-contiguous days are separately underlined
- Consecutive contiguous days are underlined as a group

The display shows six months data at a time. To view earlier or later data use the **Page** or **Roll** keys. To go directly to a specific year, type the year in the 'Year' parameter and press **Enter**. To quickly return to the current year, blank out the 'Year' parameter and press **Enter**.

```

HAL4000R                               Halcyon Software                               HAL525P3
SOS                                     Work with Calendars                               13/10/09  11:18:59
Calendar . . . . . : *DEFAULT  Default Calendar
Year . . . . . : 2009
Y=Set day  N=Clear day  V=View day  <=>=Set contiguous days
July      August      September
Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su
    01 02 03 04 05           01 02           01 02 03 04 05 06
06 07 08 09 10 11 12   03 04 05 06 07 08 09   07 08 09 10 11 12 13
13 14 15 16 17 18 19   10 11 12 13 14 15 16   14 15 16 17 18 19 20
20 21 22 23 24 25 26   17 18 19 20 21 22 23   21 22 23 24 25 26 27
27 28 29 30 31         24 25 26 27 28 29 30   28 29 30
                               31
October   November    December
Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su
    01 02 03 04           01           01 02 03 04 05 06
05 06 07 08 09 10 11   02 03 04 05 06 07 08   07 08 09 10 11 12 13
12 13 14 15 16 17 18   09 10 11 12 13 14 15   14 15 16 17 18 19 20
19 20 21 22 23 24 25   16 17 18 19 20 21 22   21 22 23 24 25 26 27
26 27 28 29 30 31     23 24 25 26 27 28 29   28 29 30 31
                               30
XX =On.      XX =Off.
F3=Exit  F4=Prompt  F5=Refresh  F6=Bulk add  F12=Cancel  F13=List view
    
```

From within the Calendar view, to view the details for any specific day, position the cursor over the required date and type v. The Display Day pop-up window is displayed showing the date and time range details applicable to the selected day.

```

HAL4000R                               Halcyon Software                               HAL525P3
SOS                                     Work with Calendars                               13/10/09  11:18:59
Calendar . . . . . : *DEFAULT  Default Calendar
Year . . . . . : 2009
Y=Set day  N=Clear day  V=View day  <=>=Set contiguous days
July      August      September
Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su
    01 02 03 04 05           01 02           01 02 03 04 05 06
06 13 20 27
    |
    |      Display Day
    |      Date . . . . . : 12/08/09
    |      Time range #1 . . . . . : 00:00 - 23:59
    |      Time range #2 . . . . . :
    |      F12=Cancel
    |
    |      Oct
    |      Mo
    |
    |      05 06 07 08 09 10 11   02 03 04 05 06 07 08   07 08 09 10 11 12 13
    |      12 13 14 15 16 17 18   09 10 11 12 13 14 15   14 15 16 17 18 19 20
    |      19 20 21 22 23 24 25   16 17 18 19 20 21 22   21 22 23 24 25 26 27
    |      26 27 28 29 30 31     23 24 25 26 27 28 29   28 29 30 31
    |                               30
    |
    |      XX =On.      XX =Off.
    |      F3=Exit  F4=Prompt  F5=Refresh  F6=Bulk add  F12=Cancel  F13=List view
    
```

Functions of the Work with Calendars - Calendar View

The following functions are available when working with calendars in calendar view:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=List view

Use **F13=List view** to display the current data using the list view.

F22=Print

Use **F22=Print** to print a traditional calendar format report for the calendar year displayed.

List view

This view (obtained by pressing **F13=List view**) shows the set days as a list of dates together with the associated times.

```

HAL4000R                               Halcyon Software                               HAL525P3
SOS                                     Work with Calendars                               13/10/09 11:21:35
Calendar . . . . . : *DEFAULT   Default Calendar
Year . . . . . : 2009
Type dates, press Enter.

Day Date From - To From - To Day Date From - To From - To
Fri 02/01 00:00 23:59 Wed 21/01 00:00 23:59
Mon 05/01 00:00 23:59 Thu 22/01 00:00 23:59
Tue 06/01 00:00 23:59 Fri 23/01 00:00 23:59
Wed 07/01 00:00 23:59 Mon 26/01 00:00 23:59
Thu 08/01 00:00 23:59 Tue 27/01 00:00 23:59
Fri 09/01 00:00 23:59 Wed 28/01 00:00 23:59
Mon 12/01 00:00 23:59 Thu 29/01 00:00 23:59
Tue 13/01 00:00 23:59 Fri 30/01 00:00 23:59
Wed 14/01 00:00 23:59 Mon 02/02 00:00 23:59
Thu 15/01 00:00 23:59 Tue 03/02 00:00 23:59
Fri 16/01 00:00 23:59 Wed 04/02 00:00 23:59
Mon 19/01 00:00 23:59 Thu 05/02 00:00 23:59
Tue 20/01 00:00 23:59 Fri 06/02 00:00 23:59

MORE...

F3=Exit F5=Refresh F12=Cancel F13=Calendar view F22=Print

```

To change the calendar, type over existing information, blank out information or enter new information as required and then press **Enter**.

The display then refreshes to show the list in date order with the week day against each one.

Creating a Calendar

To create a new calendar, use **F6=Add** on the main [Work with Calendars](#) display. This opens a display where you provide a name and description for the new calendar.

Now press **Enter** to display the current calendar for this time point. Initially, the calendar has no dates set. To set dates, use one of the following:

- Use the calendar view and use the various calendar commands to set individual days, or ranges of days, to on or off
- Use the list view and type the dates and times to be set to on
- Press **F6=Bulk add** and use the available options to set dates to on according to a set pattern

NOTE: See [F6=Bulk Add](#) for more information.

Calendar Commands

Calendar commands are single letter commands that you type over the calendar in order to manipulate the data. The commands displayed can be user-defined by amending the system defaults.

NOTE: The commands detailed in this manual are restricted to the default values.

You can type multiple commands on the same calendar and then press **Enter** or **F4** to process them all in a single action.

Y=Set day

To set a day as being 'in-use' for the calendar, type **Y** over the required day and press **Enter**. The day is set using the default start and end times as specified in the system defaults.

NOTE: **CALDFTSTARTIME** is the default start time. **CALDFTENDTIME** is the default end time.

If consecutive days are selected, they are set in non-contiguous mode, meaning the same start and end times are set for each day.

To specify non-default start and end times, press **F4**.

The Add Day window is displayed, allowing you to set the times as required. The times displayed default to the currently set times, if the day is already set, or the default times specified by the system defaults if the day is currently clear.

```

HAL4000R                               Halcyon Software                               HAL525P3
                                         Work with Calendars                               30/01/09 16:28:01
Calendar . . . . . : *DEFAULT  Default Calendar
Year . . . . . : 2009
Y=Set day N=Clear day V=View day SE=Set contiguous days
January           February           March
Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su   Mo Tu We Th Fr Sa Su
01 02 03 04           01           01
05
12
19
26
Apr
Mo
06 07 08 09 1Y 11 12   04 05 06 07 08 09 10   08 09 10 11 12 13 14
13 14 15 16 17 18 19   11 12 13 14 15 16 17   15 16 17 18 19 20 21
20 21 22 23 24 25 26   18 19 20 21 22 23 24   22 23 24 25 26 27 28
27 28 29 30           25 26 27 28 29 30 31   29 30

XX =On.      XX =Off.
F3=Exit F4=Prompt F5=Refresh F6=Bulk add F12=Cancel F13=List view

```

N=Clear day

To clear a day of data, type **N** over the required day and press **Enter**. The day is 'cleared' from the calendar.

V=View day

To view the current times set for a specific day, type **V** over the required day or days and press **Enter**.

< >=Set Contiguous Days

To set contiguous days, type **<** over the start day and **>** over the end day and press **Enter**. The days are set on starting at the default start time on the start day and ending at the default end time on the end day.

To specify the start and end times, press **F4**. The Add Contiguous Days window is displayed allowing you to set the times as required. The times default to the default times specified in the [HAL/CALDFTSRTIME](#) and [HAL/CALDFTENDTIME](#) system defaults.

Functions on the Add Calendar display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

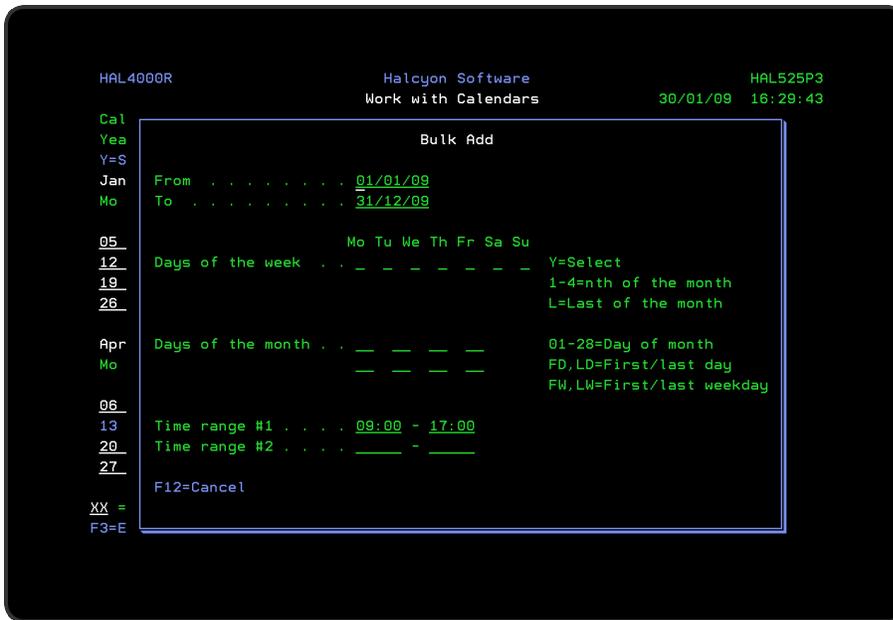
F5=Refresh

Use **F5=Refresh** to update the display with current information.

This also cancels any calendar commands that have been typed but not yet processed by the use of the **Enter** or **F4** key

F6=Bulk add

Use **F6=Bulk add** to open the Bulk Add window that allows you to set multiple dates within a range of dates according to a specified pattern.



From/To dates

Specifies the range of dates within which the bulk add operation is limited. These dates default to the first and last date of the current year.

Days of the week

Specifies which dates of the week are set for the calendar.

Y	Set this day of the week
1-4	Set the 1st, 2nd, 3rd or 4th occurrence of this weekday in each month
L	Set the last occurrence of this weekday in each month

Days of the month

Specifies which days of the month are set for the calendar.

01-31	Set this day of the month. If the number entered is greater than the number of days in a particular month, it is ignored
FD, LD	Set the first or last day on the month. FD is the same as 01

FW, LW	Set the first or last weekday (MON-FRI) of the month
-----------	--

Time ranges

Specifies the start and end times applied to each date that is set in the calendar. Two time ranges may be set for each day. The first time range must be earlier than the second time range unless setting a time range that overlaps days, (see [Setting calendar time ranges that overlap days](#) for more information). Time ranges themselves, must not overlap.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=List view

Use **F13=List view** to display the current data as a list rather than traditional calendar format.

Setting calendar time ranges that overlap days

It is possible to create a time range that overlaps between dates using the 'From-To' time ranges parameters within the [Calendar List View](#) option.

IMPORTANT: You must be in the Calendar List View to be able to add time ranges than span days.

When specifying time ranges to span dates, you enter the 'To time' parameter as an earlier time than the 'From time' parameter. For example:

From time	17:00
To time	03:00

The date entered is set to the times specified, but the time period is now split into two separate periods. The first spans the original date from 17:00 to 23:59 and a second entry spans the following day from 00:00 to 03:00.

```

HAL4000R                               Halcyon Software                               HAL525P3
                                         Work with Calendars                               5/01/11 13:41:15
Calendar . . . . . : TESTCAL   TESTING CALENDAR
Year . . . . . : 2011
Type dates, press Enter.

Day Date From - To From - To Day Date From - To From - To
Sat 08/01 17:00 23:59
Sun 09/01 00:00 03:00

MORE...

F3=Exit F5=Refresh F6=Bulk add F12=Cancel F13=Calendar view

```

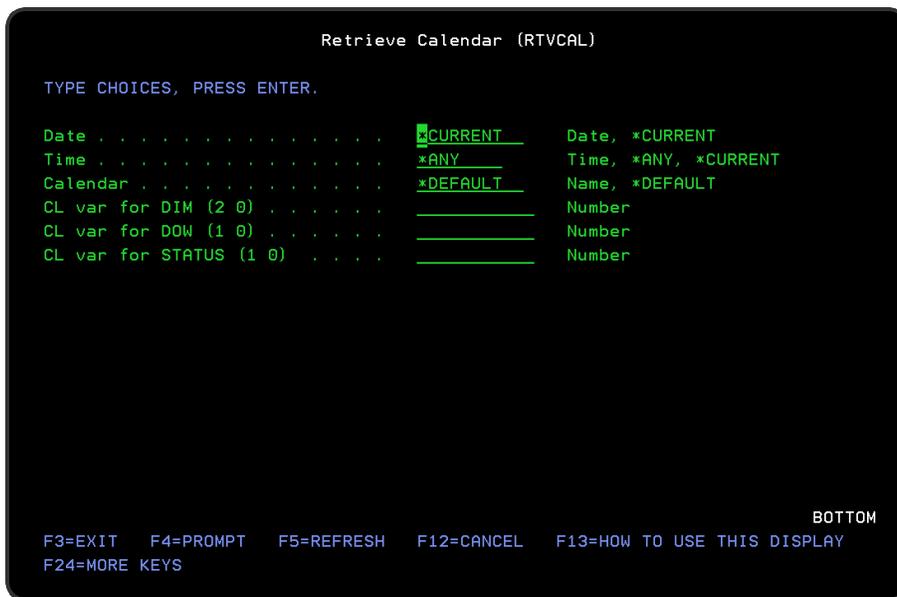
If it is not possible to create the time span, due to an conflict of times, where for example two ranges already exist for the date on which the overlap occurs, then warning message HAL0996 is displayed, with the cursor positioned to the time at which the conflict is occurring. To fix, either simplify or merge the times so that only two ranges are required for the given date.

Retrieve Calendar Command (RTVCAL)

The Retrieve Calendar (RTVCAL) command can be used in Control Language programs to verify details against an internal calendar.

Getting there

To run the command, type **RTVCAL** on the command line and press **F4**.



Parameters on the Retrieve Calendar (RTVCAL) Command display

The following parameters are available on this display.

Date

Specifies the date to be verified.

*CURRENT	The current system date is used
Date	Specify the date in CCYYMMDD format (for example; 20180831)

Time

Specifies the time to be verified.

*CURRENT	The current system time is used
*ANY	The time of day is not important and is not verified
Time	Specify the time in HHMM format (for example; 1659)

Calendar

Specifies the name of the calendar to be verified.

*DEFAULT	The *DEFAULT calendar is used
Name	Specify the name of a valid calendar that exists within the environment

CL Var for DIM

Specifies the CL Variable to receive the value for Days in the Month. The variable (*DEC 2 0) is set to the total number of days within the Month being verified.

CL Var for DOW

The CL Variable to receive the value for Day of the Week. The variable (*DEC 1 0) is set to a number to indicate on which day of the week the Date specified falls, where 1=Monday, 2=Tuesday and so on.

CL Var for STATUS

The CL Variable to receive the Status for the requested Date and Time to be verified in the Calendar. The variable (*DEC 1 0) is set to 1 (one) if the Calendar is enabled and 0 (zero) if the Calendar is not enabled for the Date/Time specified.

Some of the possible errors that can be returned when validating calendars are:

- CPD0076 - Parameter must be numeric
- HAL0293 - Date is not valid
- HAL0294 - Time is not valid
- HAL0302 - Calendar not found

Functions on the Retrieve Calendar Command display

The following parameters are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Exporting Calendars

The Export Calendars (**EXPCAL**) command allows you to export all or up to 32 separate calendars to another environment on the local or a remote system.

Getting there

Type **EXPCAL** on the command line and press **F4**.

```

Export Calendars (EXPCAL)
Type choices, press Enter.
To system . . . . .
-----
Calendar . . . . . *ALL      Name
+ for more values
Replace . . . . . *NO      *YES, *NO, *ALL
-----
Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Required Authority

In order to be able to export calendars you require ***USE** authority to the HAL/CALENDAR function on the local system and ***ALL** authority to HAL/CALENDAR function on the remote system.

Parameters on the Export Calendar command

The following parameters are available on this display.

To system

Specifies the system to which to export the calendars. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFRMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export the calendars. Type an IP Address, or a name which has been mapped to an IP Address using a TCP/IP Host Table Entry on a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To Remote Location' parameter

Calendar

Specifies the list of calendars that you want to export. You can specify up to 32 separate values within this parameter. Press '+' to open the parameter in order to enter additional values.

*ALL	All calendars are exported
name	Specify the individual names of the calendars to be exported

Replace

Specifies, if necessary, whether or not to replace existing calendars.

*NO	If a calendar with the same characteristics already exists on the target system, the selected calendar is not exported and the entry on the target system remains unchanged
*YES	If a calendar with the same characteristics already exists on the target system, the selected calendar is still exported and the entry on the target system is overwritten
*ALL	All calendars on the target system are deleted and replaced by the calendars being exported from the source system. This setting is only allowed when the 'Calendar' parameter is set to *ALL

To environment

If the 'To system' parameter is set to *LOCAL, specify the name of the environment to which the calendars are exported.

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type of *I5. If a remote location group is specified, the calendars are exported to all remote locations within the group.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server

*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed
-------------	---

NOTE: This setting is only valid when both this and the target system are running i5/OS version V5R2 or later.

Data Protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example; *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. The default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected calendars to the specified system.

Functions on the Export Calendars display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

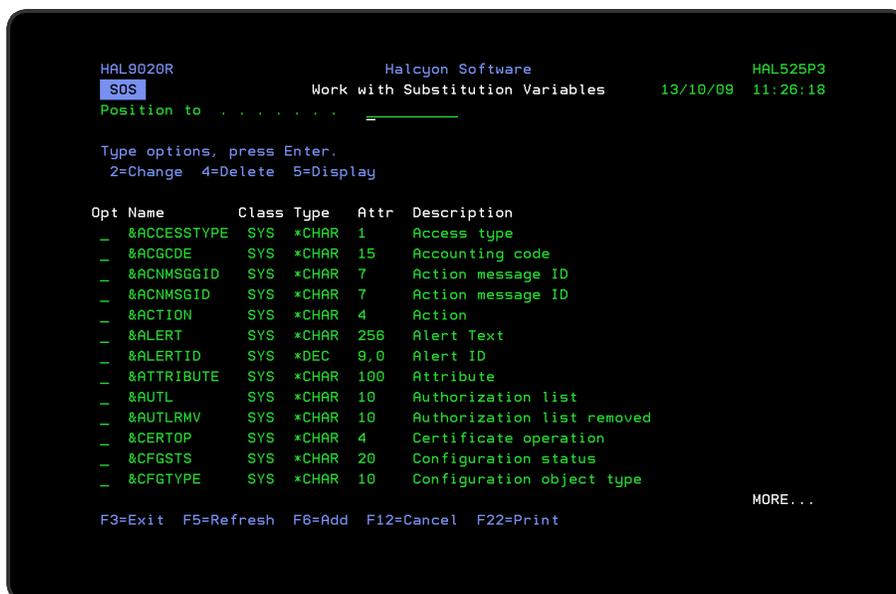
Work with Substitution Variables

Substitution variables can be used in command and message strings that are defined within Halcyon products. The variable is replaced with the effective value when the command runs or when the message is sent.

TIP: A full list of substitution variables that are available for use in Halcyon products can be found in [Appendix - Substitution Variables](#).

Getting there

Select option **9=Work with Substitution Variables** from the Halcyon Configuration menu.



```

HAL9020R                                     Halcyon Software                                     HAL525P3
SOS                                           Work with Substitution Variables                       13/10/09  11:26:18
Position to . . . . .

Type options, press Enter.
  2=Change  4=Delete  5=Display

Opt Name      Class Type  Attr  Description
- &ACCESSTYPE SYS *CHAR  1    Access type
- &ACGCDE     SYS *CHAR  15   Accounting code
- &ACNMSGGID  SYS *CHAR  7    Action message ID
- &ACNMSGID   SYS *CHAR  7    Action message ID
- &ACTION     SYS *CHAR  4    Action
- &ALERT      SYS *CHAR  256  Alert Text
- &ALERTID    SYS *DEC  9,0  Alert ID
- &ATTRIBUTE  SYS *CHAR  100  Attribute
- &AUTL       SYS *CHAR  10   Authorization list
- &AUTLRMV    SYS *CHAR  10   Authorization list removed
- &CERTOP     SYS *CHAR  4    Certificate operation
- &CFGSTS     SYS *CHAR  20   Configuration status
- &CFGTYPE    SYS *CHAR  10   Configuration object type

MORE...

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print
  
```

Parameters on the Work with Substitution Variables display

The following parameters are available on this display.

Name

Displays the name of the substitution variable.

Class

Displays the class of the substitution variable. There are two types:

SYS	System variables are built-in to the software and cannot be created changed, or deleted
USR	User variables are created and maintained by the user

Type

Displays the type of value returned by the substitution variable. This can be one of the following:

*BYTE	Binary data. Defines binary data with a maximum length of 64 bytes. The data must be typed in hexadecimal format
*CHAR	Variable length character variable. Defines a variable length character string with a maximum length of 1024 characters
*DATE	Date variable. Defines a packed decimal value with 8 digits containing a date in yyyyymmdd format
*DEC	Numeric variable. Defines a packed decimal value with a maximum of 15 digits of which up to 5 may be decimal digits
*FIXED	Fixed length character variable. Defines a fixed length character string with a maximum length of 1024
*PROT	Protected character variable. Defines a protected character string with a maximum length of 128. This type is useful for storing passwords. Once created, the value can be changed but the current value cannot be displayed.
*TIME	Time variable. Defines a packed decimal value with 6 digits containing a time in hhmmss format.

NOTE: When a substitution variable is used in a Command action with the **CALL** command, the value is returned as the data type defined above. For example, as either a character value or a packed decimal value. In all other cases, numeric values are returned in formatted character format.

For example, if today's date is 1 Jan 2010 and the time was 12:30, the &DATE and &TIME variables are resolved as follows:

Defined Command: CALL PGM (QGPL/MYPGM) PARM (&DATE &TIME)

Resolved Command: CALL PGM (QGPL/MYPGM) PARM (X'1020100101F'
X'0123000F')

Defined Command: QGPL/MYCMDCALL DATE ('&DATE' '&TIME')

Resolved Command: QGPL/MYCMDCALL DATE ('01/01/10' '12:30:00')

See [Number, Date and Time Formats](#) for more information on creating different format substitution variables.

TIP: To return *DATE and *TIME variables formatted other than in the default format:

1. Create a user variable of type *CHAR.
2. Type the date or time variable in operand #1.

Attr

The length of the return value in characters or digits. For *DEC, *DATE and *TIME variables, the number after the comma is the number of decimal places.

Description

The description of the substitution variable.

Using the Substitution Variables display

The following options are available when working with substitution variables. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Substitution Variable display where it possible to amend all settings of the selected substitution variable except the name.

NOTE: It is not possible to change a system class substitution variable.

For more information on the parameters available when changing a substitution variable, please refer to [Creating a Substitution Variable](#).

Changing a Substitution Variable Value to Another Variable Value

The Change Substitution Variable (**CHGSBSVAR**) command accepts another Variable name as the new value. In order for the new value to be accepted, the variable name must be enclosed in quotes to prevent problems within a CLP program.

EXAMPLE:
CHGSBSVAR VAR(TEST) VALUE('&DATE')

Delete

Use option **4=Delete** to open the Confirm Delete of Substitution Variables display. Press **Enter** to confirm the deletion of the substitution variable.

NOTE: It is not possible to delete a System Class Substitution Variable.

Display

Use option **5=Display** to open the Display Substitution Variable display. This displays the current values of the substitution variable but does not allow change.

Functions on the Work with Substitution Variables display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Substitution Variable display from where a new substitution variable can be created. See [Creating a Substitution Variable](#) for more information.

F12=Cancel

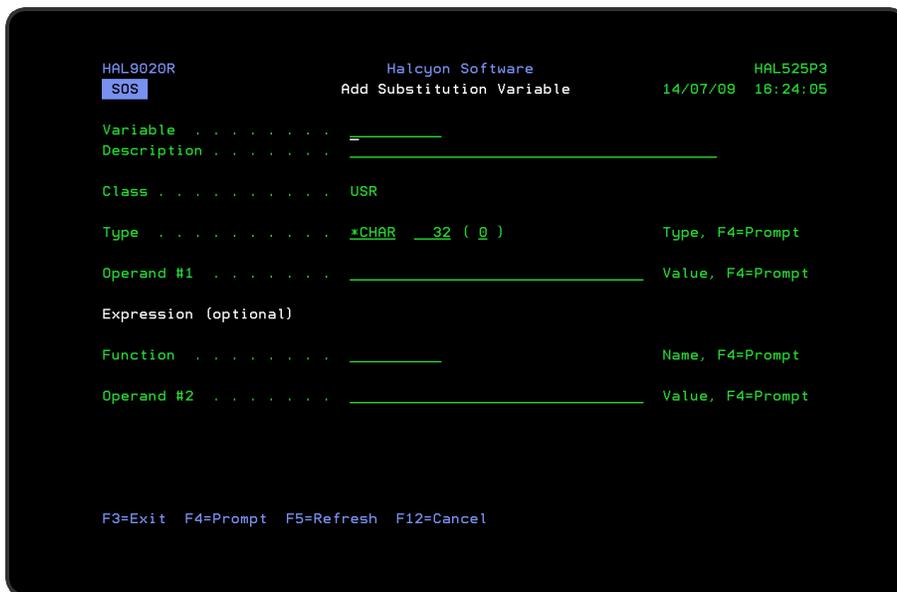
Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to produce a fully detailed substitution variables report for all substitution variables defined on the system.

Creating A Substitution Variable

To create a new substitution variable, use **F6=Add** on the main Work with Substitution Variables display.



Parameters on the Add Substitution Variable display

The following parameters are available on the Add Substitution Variable display.

Variable

Enter a name for the new substitution variable.

IMPORTANT: When creating a new substitution variable the ‘&’ is assumed and should not be keyed.

Description

Enter a description of the new substitution variable.

Class

Automatically defaults to USR as it is not possible for a user to create a system class substitution variable.

Type

Displays the type of value returned by the substitution variable.

*BYTE	Binary data. Defines binary data with a maximum length of 64 bytes. The data must be typed in hexadecimal format
*CHAR	Variable length character variable. Defines a variable length character string with a maximum length of 1024 characters
*DATE	Date variable. Defines a packed decimal value with 8 digits containing a date in yyyymmdd format
*DEC	Numeric variable. Defines a packed decimal value with a maximum of 15 digits of which up to 5 may be decimal digits
*FIXED	Fixed length character variable. Defines a fixed length character string with a maximum length of 1024
*PROT	<p>Protected character variable. Defines a protected character string with a maximum length of 128. This type is useful for storing passwords. Once created, the value can be changed but the current value cannot be displayed.</p> <p>*PROT Substitution Variables can only be resolved by the specific commands that allow their use. Use of a *PROT Substitution Variable in any other area of the system causes an un-resolvable error.</p> <p>If using with the INSTALL command you are required you to set the 'Password' parameter to *VAR which then opens an additional parameter for the *PROT variable name and the Environment that contains the variable.</p> <p>It is possible to define a *PROT substitution variable as a concatenation of other *PROT substitution variables. This is available via a new *TCAT function which is used exclusively with *PROT substitution variables.</p> <p>See Creating a two-part *PROT Substitution Variable for high sensitivity passwords for more information.</p>
*TIME	Time variable. Defines a packed decimal value with 6 digits containing a time in hhmmss format.

NOTE: When a substitution variable is used in a Command action with the **CALL** command, the value is returned as the data type defined above. For example, as either a character value or a packed decimal value. In all other cases, numeric values are returned in formatted character format.

For example, if today's date is 1 Jan 2010 and the time was 12:30, the &DATE and &TIME variables are resolved as follows:

```
Defined Command: CALL PGM (QGPL/MYPGM) PARM (&DATE &TIME)
Resolved Command: CALL PGM (QGPL/MYPGM) PARM (X'1020100101F'
X'0123000F')
Defined Command: QGPL/MYCMDCALL DATE ('&DATE' '&TIME')
Resolved Command: QGPL/MYCMDCALL DATE ('01/01/10' '12:30:00')
```

See [Number, Date and Time Formats](#) for more information on creating different format substitution variables.

Length

This is specified on the same line as, but after the type has been entered.

The entry in this parameter is dependent on the type entered and specifies the length of the substitution variable.

*BYTE	Valid lengths are 1-64
*CHAR	Valid lengths are 1-1024
*DEC	Valid lengths are 1-15
*DATE	Length must be 8
FIXED	Valid lengths are 1-1024
*PROT	Valid lengths are 1-128
*TIME	Length must be 6

Decimal positions

This is specified on the same line as, but after the type and length have been entered and specifies the number of decimal positions.

For a *DEC substitution variable, this must be in the range 0-5 and cannot exceed the variable length. For all other variable types, this parameter must be set to zero.

Operand #1

The entry in this parameter must be a constant, variable name or *USRPGM. A protected variable (*PROT) must be defined as a constant or as a concatenation of other protected variables.

- **A constant:** The constant value must match the substitution variable type
 - ***BYTE** Type the value in hexadecimal format
 - ***CHAR** Any value is acceptable
 - ***FIXED** Any value is acceptable
 - ***DEC** When function is *LEN, any value is acceptable. In all other cases type a number comprising:
 - Optional leading minus sign
 - Optional integer digits with or without thousand separators
 - Optional decimal point
 - Optional decimal digits
 - Optional trailing minus sign
 - **At least once digit must be specified**
 - **You cannot specify both leading and training minus signs**
 - **If thousand separators are used, they must be correctly spaced**
 - ***DATE** Type a formatted date. The format must approximate to system date format, but the year may be omitted, in which case the current year is assumed. Date separators may be omitted, but if separators are used, the leading zeros in each date component may be omitted
 - ***PROT** Any value is acceptable.
 - ***TIME** Type a formatted time with or without seconds. Time separators may be omitted, but if separators are used, the leading zeros in each time component may be omitted

NOTE: See [Number, Date and Time Formats](#) for more information on creating different format substitution variables.

- **A variable name:** The operand for a variable can be the value of another variable. This serves two purposes:
 - The type of variable being maintained may differ from the type of variable specified in the operand. This causes the type to be converted
 - By typing a value for Operand #2 and specifying a function, you can derive a variable name from the value of another variable. For example, concatenating two values or adding a day to a date variable

To specify a variable, type '&' followed by the variable name or press **F4=Prompt** to select from the list of variables. If the variable does not return a value of the type expected, the system attempts to convert the value. This may or may not succeed and could cause either a definition time or a run time error.

NOTE: Only a *PROT variable can refer to a *PROT variable

- ***USRPGM:** The *USRPGM keyword allows a variable to obtain its value by calling a user program. Type *USRPGM in the 'Operand #1' parameter and press **Enter** to replace the 'Function' and 'Operand #2' parameters with the 'User Program' parameters.

NOTE: The 'Operand' and 'Value' parameters allow mixed case characters, for example, unquoted strings are not automatically recreated in upper case.

You need to enclose the value in single quotes if:

It begins with, is, or contains blanks

It contains various special characters

The value contains a single quote. In this case you double up the quotes that are part of the value

You are typing a substitution variable name (without quotes it is treated as a CL program variable)

When you enclose the value in single quotes, the quotes are not part of the value.

Expression (optional)

- **Function (optional):** The 'Function' and 'Operand #2' parameters are used together when an expression is required. Function defines the operation to be performed. The valid functions vary depending on the variable type.

NOTE: You cannot specify a function with *BYTE variables. *TCAT is the only function allowed for a *PROT variable

- ***CHAR:** The *CHAR functions concatenate Operand #1 and Operand #2, format a date, time or number or convert characters. The resulting text is the effective value of the variable
 - ***BCAT:** The result is Operand #1 with trailing spaces removed, followed by one space, followed by Operand #2 with leading spaces removed
 - ***CAT:** If Operand #1 is a variable, the result is Operand #1 including any trailing spaces followed by Operand #2 including any leading spaces. If Operand #1 is

fixed text, the result is Operand #1 with trailing spaces removed followed by Operand #2 including any leading spaces

- ***TCAT**: The result is Operand #1 with trailing spaces removed followed by Operand #2 with leading spaces removed
- ***NUMFMT**: The result is the number in Operand #1 formatted according to the format specification provided in Operand #2
- ***DATEFMT**: The result is the date in Operand #1 formatted according to the format specification provided in Operand #2
- ***TIMEFMT**: The result is the time in Operand #1 formatted according to the format specification provided in Operand #2
- ***CCSID**: The result is the value in Operand #1 converted to the CCSID specified in Operand #2. Operand #2 can be *SYSVAL, which indicated the system value QCCSID is the CCSID to convert to, or is a number in the range 1-65533
- ***DEC**: The *DEC functions perform arithmetic on Operands #1 and #2
 - ***ADD**: The result is Operand #1 + Operand #2
 - ***SUB**: The result is Operand #1 - Operand #2
 - ***MULT**: The result is Operand #1 x Operand #2
 - ***DIV**: The result is Operand #1 / Operand #2
 - ***LEN**: The result is the length of the value returned by Operand #1. When Operand #1 returns a *CHAR or *FIXED value, the result excludes any leading or trailing spaces. When Operand #1 returns a *DATE, *TIME or *DEC value, the result is the length of the formatted character representation of that value. When *LEN is specified, Operand #2 must be left blank.

If the result of an arithmetic operation is too large or too small to be stored using the numeric attributes defined for the variable, the variable returns the largest or smallest value that it can contain. For example, if the result is 115 for 2 digit variable, the variable actually returns 99.

- ***DATE**: The *DATE functions modify the date specified in Operand #1 by the value specified in Operand #2. The value in Operand #2 should be a number, not a date.
 - ***ADDDAYS**: The result is Operand #1(date) + Operand #2 (days)
 - ***ADDMONTHS**: The result is Operand #1(date) + Operand #2 (months)
 - ***ADDYEARS**: The result is Operand #1(date) + Operand #2 (years)
 - ***SUBDAYS**: The result is Operand #1 (date) + Operand #2 (days)
 - ***SUBMONTHS**: The result is Operand #1 (date) - Operand #2 (months)
 - ***SUBYEARS**: The result is Operand #1 (date) - Operand #2 (years)

- ***PROT**: The only function allowed with *PROT variables is *TCAT. Both operands must be other *PROT variables
 - ***TCAT**: The result is Operand #1 with trailing spaces removed, followed by Operand #2, with leading spaces removed
- ***TIME**: The *TIME functions modify the time specified in Operand #1 by the value specified in Operand #2. The value in Operand #2 should be a number or a time depending on the function specified. If midnight is crossed, the time wraps. For example, 23:30:00 + 1 hour = 00:30:00.
 - ***ADDTIME**: The result is Operand #1 (time) + Operand #2 (time)
 - ***ADDHRS**: The result is Operand #1 (time) + Operand #2 (hours)
 - ***ADDMINS**: The result is Operand #1 (time) + Operand #2 (minutes)
 - ***ADDSECS**: The result is Operand #1 (time) + Operand #2 (seconds)
 - ***SUBTIME**: The result is Operand #1 (time) - Operand #2 (time)
 - ***SUBHRS**: The result is Operand #1 (time) - Operand #2 (hours)
 - ***SUBMINS**: The result is Operand #1 (time) - Operand #2 (minutes)
 - ***SUBSECS**: The result is Operand #1 (time) - Operand #2 (seconds)

NOTE: See [Number, Date and Time Formats](#) for more information on creating different format substitution variables.

Operand#2 (optional)

The 'Function' and 'Operand #2' parameters are used together when an expression is required. Type either a constant or a variable:

- **A constant**: The fixed value must match the substitution variable type.
 - ***BYTE** This parameter is not used with *BYTE variables
 - ***CHAR** With a *CHAR variable, Operand #2 is the text string that is to be concatenated to the string in Operand #1
 - ***FIXED** As *CHAR
 - ***DEC** With a *DEC variable, Operand #2 is the number that is to be added to, subtracted from, multiplied by or divided into the number in Operand #1
 - ***DATE** With a *DATE variable, Operand #2 is a number representing the number of days, months or years to be added to or subtracted from the date in Operand #1
 - ***PROT** When changing a *PROT variable defined as a constant (but not when adding) Operand #2 should repeat the value specified in Operand #1. This is for confirmation as neither value is displayed

- ***TIME** With a *TIME variable, Operand #2 is a number representing the number of hours, minutes or seconds or a time, depending on the function specified
- **A variable name:** The operand for a variable can be the value of another variable. To specify a variable, type '&' followed by the variable name or use **F4=Prompt** to select from the list of variables. If the variable does not return a value of the type expected, the system attempts to convert the value. This may or may not succeed and could cause either a definition time or a run time error. You need to enclose the value in single quotes if:
 - It begins with, is, or contains blanks
 - It contains various special characters
 - The value contains a single quote. In this case, you double up the quotes that are part of the value
 - You are typing a substitution variable name (without quotes it is treated as a CL program variable)

When you enclose the value in single quotes, the quotes are not part of the value.

User program fields

NOTE: These are only displayed if *USRPGM is specified in Operand #1.

Program

Specify the program to be called to retrieve the value for this variable. The program must be coded with two or three entry parameters:

- **PARM1 Input:** This is a *CHAR 10 parameter that receives the name of the substitution variable whose value is required
- **PARM2 Input - Output:** The user program should use this parameter to return the value of the variable. The user can choose the attributes of this parameter using the 'Parameter format' field. The value of this parameter can be pre-set using the Parameter Value field.
- **PARM3 Alert ID:** This is an optional *DEC 9 parameter that receives the alert ID of the alert within whose context this substitution variable is being resolved. If no alert context applies, 0 is passed within this parameter.

Parameter format

Specify the parameter format to be used. This defines the attributes of the second parameter of the user program, which is used to return the variable value. When *CHR32 is specified, the second parameter of the user program must be a character variable with a length of between 1 and 32.

When any other parameter format is used, the second parameter of the user program must exactly match the type of value indicated.

- Character formats are:
 - *CHR32
 - *CHR64
 - *CHR128
 - *CHR256
 - *CHR512
 - *CHR1024
- Packed decimal formats are:
 - *DEC1
 - *DEC2
 - *DEC3
 - *DEC4
 - *DEC5
 - *DEC6
 - *DEC7
 - *DEC8
 - *DEC9
 - *DEC15.5

Parameter value

Specify the parameter value. This is the initial value of the second parameter of the user program. The value specified must be compatible with the parameter format.

Functions on the Add Substitution Variable display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Number, Date and Time Formats

To return *DEC, *DATE and *TIME variables formatted other than in the default format:

1. Create a user variable of type *CHAR
2. Type the number, date or time variable in operand #1
3. Type *NUMFMT, *DATEFMT or *TIMEFMT in the Function field
4. Type a format specification on operand #2.

Operand #1 must be one of:

1. A variable of type *DEC, *DATE or *TIME as required.
2. A variable of another type that returns a value than can be converted to a number, date or time.
3. A constant that represents a valid number, date or time.

Function must be one of:

1. *NUMFMT to format the value in Operand #1 as a number
2. *DATEFMT to format the value in Operand #1 as a date
3. *TIMEFMT to format the value in Operand #1 as a time.

Operand #2 must be one of:

1. A valid format specification.
2. A variable of type *CHAR or *FIXED that returns a valid format specification.

A format specification is a text that contains one or more of the formatting elements listed below. Any text not recognized as a format element is returned unchanged.

Number Format Elements

The format codes are scanned from left to right and 0 and * are replaced with digits from the number. Leading zeros and thousands separators are omitted until the 0 in the format string is encountered. It is not necessary to use the *NUMFMT function to convert a number to characters. When *NUMFMT is not used, the result is left adjusted in the return value.

*	Digit position. There can be any number of these
0	Digit position. There must be zero or one of these

-	Minus sign. There must be zero or one of these
.	Decimal point. Must be zero or one of these
,	Thousands separator. There can be any number of these

Date Format Elements

The elements are not case sensitive except where noted.

d	Returns the day as 1 or 2 digits
dd	Returns the day as 2 digits
ddd	Returns a 3 letter abbreviation of the weekday name. If DDD is specified, the weekday name is returned in upper case
dddd	Returns the full weekday name. If DDDD is specified, the weekday name is returned in upper case
m	Returns the month as 1 or 2 digits
mm	Returns the month as 2 digits
mmm	Returns a 3 letter abbreviation of the month name. If MMM is specified, the month name is returned in upper case
mmm	Returns the full month name. If MMMM is specified, the month name is returned in upper case
yy	Returns the year as 2 digits
yyyy	Returns the year as 4 digits

EXAMPLE:

If the date is 1 Jan 2010:

d/m/yy 1/1/10

dd/mm/yyyy 01/01/2010

DDD dd MMM yyyy FRI 01 JAN 2010

dddd dd mmmm yyyy Friday 01 January 2010

Time Format Elements

The elements are not case sensitive.

h	Returns the hour as 1 or 2 digits
hh	Returns the hour as 2 digits
m	Returns the minute as 1 or 2 digits

mm	Returns the minute as 2 digits
s	Returns the second as 1 or 2 digits
ss	Returns the second as 2 digits

EXAMPLE:

If the time is 12:5:45:

h:m:s 12:5:45

hh:mm:ss 12:05:45

hh.mm 12.05

Using Substitution Variables to return random variables

It is possible within Halcyon products to use substitution variables to return a random value.

&RNDCHAR	Returns random characters
&RNDDEC	Returns random numbers

These substitution variables use the following formats:

Name	Class	Type	Attr	Description
&RNDCHAR	SYS	*CHAR	128	Random Characters
&RNDDEC	SYS	*DEC	9,0	Random Number

The random values can be retrieved using the Retrieve Substitution Variable (**RTVSBSVAR**) command. For example:

```
RTVSBSVAR VAR(RNDCHAR) CHAR10(&RND10)
```

```
RTVSBSVAR VAR(RNDDEC) DEC15(&RND155)
```

Converting Characters From One Code Page To Another

Halcyon software runs under Code Page 37 (USA) which can cause issues in the IFS when a character code such as '5B', which represents a '\$' sign in the US, becomes a different character in another code page, such as a '£' in Code Page 285 (UK).

When this character is used in an object name for the IFS, such as output queue rules when converting to PDF, the character code '5B' is used meaning that a dollar sign(\$) is substituted for the intended pound sign (£). To overcome this issue, it is possible to create a substitution variable that uses a *CCSID function to convert characters between code pages.

For example; a spooled file named '£MYSPLF' by using the substitution variable '&FILE' in an output queue rule, would currently produce a spooled file with an IFS object name of '\$MYSPLF'.

To overcome this, create a new substitution variable using the following formula when prompted on the [Add Substitution Variable](#) display.

Variable	&FILE285
Description	&FILE converted to Code Page 285
Type	*CHAR 10
Operand #1	&FILE
Function	*CCSID
Operand #2	285

This results in the Copy to PDF action using '&FILE' as the spooled file name but uses substitution variable '&FILE285' as the output stream file object name that preserves any character symbols.

Creating A Two-Part PROT Substitution Variable For High Severity Passwords

For highly sensitive passwords, it is possible to create a two-part protected (*PROT) substitution variable password of which two people only know one half. Use the following instructions to create a two-part *PROT substitution variable for the QSECOFR user profile.

1. The two people who will each know one-half of the sensitive password should be in the same location.
2. Open two IBMi Login sessions.
3. On the first Halcyon session, sign in as QSECOFR and issue a Change Password (CHGPWD) command. On the second Halcyon session, open option **42=Configuration Menu** followed by option **9=Work with Substitution Variables**.

4. One of the people now leaves the room. The remaining person types in the first part of the password into the 'New Password' parameter in the **CHGPWD** command. They then create a new *PROT substitution variable, using that part of the password, on the [Work with Substitution Variables](#) display.
5. This person now leaves the room and the other person re-enters. They type the second part of the password into the 'New Password' parameter in the **CHGPWD** command and also create a new *PROT substitution variable with the second part of the password.
6. Within the Change Password (**CHGPWD**) command only, the procedure is repeated to ensure the new password is verified.
7. Only in the Change Password (**CHGPWD**) command, press **Enter** to confirm the change of password. The QSECOFR password now requires both people to present in order for correct entry.
8. Finally, create a new *PROT substitution variable with a 'Function' parameter of *TCAT. This concatenates the two new *PROT substitution variables together. This concatenated substitution variable can now be used with Halcyon products where functions require QSECOFR user authority such as automated upgrade can be invoked without compromising the two parts of the password.

Exporting Substitution Variables

The Export Substitution Variables (**EXPSBSVAR**) command allows you to export all or up to 32 separate user (USR) class substitution variables to another environment on the local or a remote system. System (SYS) class substitution variables cannot be exported.

Getting there

Type **EXPSBSVAR** on the command line and press F4.

```

Export Substitution Variables (EXPSBSVAR)
Type choices, press Enter.
To system . . . . .
-----
Substitution variable . . . . . *ALL      Name
+ for more values
Replace . . . . . *NO      *YES, *NO, *ALL
-----
Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Authority

In order to be able to export substitution variables you require ***USE** authority to the HAL/SBSVAR function on the local system and ***ALL** authority to HAL/SBSVAR function on the remote system.

Parameters on the Export Substitution Variables command

The following parameters are available on this display.

To system

Specifies the system to which to export the substitution variables. ***LOCAL** or ***RMTLOC** must be specified when system default [HAL/NETXFRMODE](#) is set to ***NETMGR**.

name or address	Specifies the remote system name to which to export the substitution variables. Type an IP address or a name which has been mapped to an IP address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To remote location' parameter

Substitution variable

Specifies the list of substitution variables that you want to export. You can specify up to 32 separate values within this parameter. Press '+' to open the parameter in order to enter additional values.

*ALL	All user substitution variables are exported
name	Specify the individual names of the USR class substitution variables to be exported

Replace

Specifies, if necessary, whether or not to replace existing substitution variables.

*NO	If a substitution variable with the same characteristics already exists on the target system, the selected substitution variable is not exported and the entry on the target system remains unchanged
*YES	If a substitution variable with the same characteristics already exists on the target system, the selected substitution variable is still exported and the entry on the target system is overwritten
*ALL	All substitution variables on the target system are deleted and replaced by the substitution variables being exported from the source system. This setting is only allowed when the 'Substitution variable' parameter is set to *ALL

To environment

If the 'To system' parameter is set to *LOCAL, specify the name of the environment to which the substitution variables are exported.

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type

of *I5. If a remote location group is specified, the substitution variables are exported to all remote locations within the group.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server
*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example; *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. The default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected substitution variables to the specified system.

Functions on the Export Substitution Variables display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Action Schedules

Action schedules allow different actions to be invoked at different dates and times.

For example, it could allow you to send an alert to a user's message queue during working hours but send it to a cell phone out of hours. Action schedules can also allow the sequencing of actions based upon the condition of a previous action having completed.

How Action Schedules are resolved

When an action schedule is invoked, the schedule entries in the schedule are checked in the order they are listed. Either the first or all schedule entries found that include the current date and time become the effective entry.

You can check the coverage provided by any schedule entry by using the calendar view.

1. Select option **5=Display** on the action schedule.
2. Select option **1=Calendar View** on the required schedule entry.

The calendar view highlights the days on which the selected schedule entry is fully or partially effective. To check the coverage times for a particular day, use the View Day option (key the option over the required day and press **Enter**).

Getting there

Select option **10=Work with Action Schedules** from the Halcyon Configuration menu.

```

HAL4020R                               Halcyon Software                               HAL525P3
SOS                                     Work with Action Schedules                               13/10/09  11:27:32

Type options, press Enter.
2=Change  3=Copy  4=Delete  5=Display  6=Print  8=Where used

Opt Name      Description
= AS1         Default Action Schedule

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

BOTTOM

```

Parameters on the Work with Action Schedules display

The following parameters are available on this display.

Name

Specifies the name of the action schedule.

Description

Specifies the description of the action schedule.

Using the Work with Action Schedules display

The following options are available when working with the action schedules. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Action Schedule display where it possible to amend all settings of the selected action schedule except the name.

Schedules are resolved according to their defined sequence. Therefore, when an alert invokes an action schedule, the first schedule entry found that includes the current date and time is the effective entry.

To re-order the list of schedule entries, type new sequence numbers against the existing schedule entries and press **Enter**.

NOTE: For more information on the parameters available when changing an action schedule, please refer to [Creating an Action Schedule](#).

Copy

Use option **3=Copy** to open the Confirm Copy of Action Schedule display and create a new action schedule based upon the existing schedule against which the copy action was taken.

Enter a name for the new action schedule and press **Enter**. You can also copy individual actions within an action schedule.

See [Copying specific actions from within an action schedule](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Delete of Action Schedule display. Press **Enter** to confirm the deletion of the action schedule.

Display

Use option **5=Display** to open the Display Action Schedule display. This displays the current values of the action schedule but does not allow change.

Print

Use option **6=Print** to print a detailed action schedule report for the selected action schedule.

Where used

Use option **8=Where used** to open the Display Action Schedule Where Used window.

This window lists the actions that use the selected action schedule.

```

HAL4020R                               Halcyon Software                               HAL525P3
PRD                                       Work with Action Schedules                       12/11/12  10:19:52

Ty
2
Opt
8
  Display Action Schedule Where Used
  Action schedule . . . : AS1
  Type options, press Enter.
  2=Change 5=Display

  Opt Mon Queue or Group      Rule Description
  █  AUD AUTFAIL              5000 AF: Authority failures
  -  AUD AUTFAIL              5010 CV: Connection ended abnormal
  -  AUD AUTFAIL              5020 CV: Connection rejected
  -  AUD AUTFAIL              5030 DI: Authority failures
  -  AUD AUTFAIL              5040 DI: Password failures
  -  AUD AUTFAIL              5050 GR: Function registration oper
  -  AUD AUTFAIL              5060 KF: An incorrect password was
  -  AUD AUTFAIL              5070 IP: Authority failure for an I
  -  AUD AUTFAIL              5080 PW: Invalid passwords
  MORE . . .

  F12=Cancel
F3

```

On the Display Action Schedule Where Used display:

- Use option **2=Change** on this display to be able to edit the rule directly from this display. See [Work with Rules](#) for more information.

- Use option **5=Display** on this display to be able to view, but not edit the rule used within this action schedule.

Functions on the Work with Action Schedules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Create Action Schedule display from where a new action schedule can be created. See [Creating an Action Schedule](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to print a detailed action schedule report for all the action schedules defined on the system.

Creating An Action Schedule

To create a new action schedule, use **F6=Add** on the main Work with Action Schedules display.

```

HAL4020R                               Halcyon Software                               HAL525P3
 SOS                                     Add Action Schedule                               7/05/10 13:51:03
Action schedule . . . DEMO               Demonstration Schedule
Action select . . . *ALL                 *ALL, *FIRST
Type options, press Enter.
 2=Change 4=Delete 5=Display

Opt Seq Description                      Action
-

```

BOTTOM

F3=Exit F5=Refresh F6=Add F12=Cancel
Press F6 to add a schedule entry.

Parameters on the Add Action Schedule display

The following parameters are available on this display.

Action schedule

In the 'Action schedule' parameter, type a name and description for the new action schedule and press **Enter** to open the Create Action Schedule display.

Action select

Specifies which action is selected.

*ALL	All the actions that are applicable to the current date and time are selected
*FIRST	Only the first (lowest sequence number) action that is applicable to the current date and time is selected

You are now ready to add entries to the new action schedule.

Press **F6=Add** to add a new entry to this action schedule and open the Add Action Schedule entry display.

There are two pages to consider when creating a new action schedule.



Parameters on the Add Action Schedule Entry display

The following parameters are available on this display.

Entry description

This is the description of the schedule entry. If the special value of *AUTO is used, a summary of the schedule is used as the description.

Entry type

Specifies the type of schedule entry.

D=Concurrent date range	Defines a single range starting at a specified date and time and running continuously to another date and time and running continuously to another date and time
W=Concurrent weekday range	Defines repeating ranges starting at a specified weekday and time and running continuously to another weekday and time up to 7 days later. The same range repeats every week. The range may be contained within a week, for example, Mon-Fri, or may start one week and end the next, for example Fri-Mon

T=Non-concurrent time range	Specifies repeating ranges starting at a specified time and running continuously to another time up to 24 hours later. The same range repeats on the days specified by the 'Effective days' parameters, The range may also be limited to certain dates by the 'Effective dates' parameters. The range may be contained within a day, for example 0900 - 1700 or may start one day and end the next, for example 1900 - 0600
C=Calendar	Specifies that the date and times defined on a calendar are used (Normal mode) or that the date and times are not defined on a calendar are used (Inverse mode)
A=All	Specifies that the range lasts all day, every day. There are no parameters with this mode. This mode may be used as the last schedule entry to catch all time periods not allocated to any previous entries
O=On Condition	Specifies that this action is controlled by conditions that check the status of other actions invoked by the same alert that invoked this action schedule. If ANY of the actions referred to in the conditions are not invoked, this action is not invoked

If ALL of the actions referred to in the conditions are invoked, this action is generated as Cnd- Wait status. When the conditions are met, the status then changes to PENDING, or if the conditions cannot be met, this action is changed to CLOSED status.

Type an entry type from those listed and press **Enter**.

Subsequent parameters displayed on this page depend on the selected entry type.

Concurrent Date Range parameters

NOTE: These parameters are only displayed if 'D' is selected as the entry type.

Enter the start date and time and the end date and time of the required range. The end time must be later than the start time although the same date may be specified for both 'Start' and 'End date' parameters.

```

HAL4020R                               Halcyon Software                               HAL525P3
Add Action Schedule Entry                30/01/09  16:52:12
                                           Page 1 of 2

Entry description . . . . . *AUTO
Entry type . . . . . D                  D=Concurrent date range
                                           W=Concurrent weekday range
                                           T=Non-concurrent time range
                                           C=Calendar
                                           A=All

Start:
  Date . . . . . _____ date
  Time . . . . . 00:00 time
End:
  Date . . . . . _____ date
  Time . . . . . 23:59 time

                                           More . . .

F3=Exit F4=Prompt F5=Refresh F12=Cancel
Start Date is required.

```

Concurrent Weekday Range parameters

NOTE: These parameters are only displayed if 'W' is selected as the entry type.

Enter the start weekday and time and end weekday and time of the required range. For the 'Weekday' parameters, type sufficient beginning letters to uniquely identify the required day (ust typing 'T' is insufficient). If the end day is an earlier weekday than the start day, it applies to the following week.

```

HAL4020R                               Halcyon Software                               HAL525P3
Add Action Schedule Entry                30/01/09 16:54:21
                                         Page 1 of 2

Entry description . . . . . *AUTO
Entry type . . . . . W                D=Concurrent date range
                                         W=Concurrent weekday range
                                         T=Non-concurrent time range
                                         C=Calendar
                                         A=All

Start:
Day . . . . . Mon                    day of week
Time . . . . . 00:00                 time
End:
Day . . . . . Fri                    day of week
Time . . . . . 23:59                 time

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel

```

Non-concurrent Time Range parameters

NOTE: These parameters are only displayed if 'T' is selected as the entry type.

Enter the start and end time of the required range. If the end time is earlier than the start time, it applies to the following day.

Effective dates are optional but may be used to limit ranges to within a particular range of dates.

Effective days specify on which weekdays the time ranges start.

NOTE: A range may end on a day that is not selected.

```

HAL4020R                               Halcyon Software                               HAL525P3
Add Action Schedule Entry                30/01/09 16:54:59
                                         Page 1 of 2

Entry description . . . . .   _AUTO  

Entry type . . . . . I                    D=Concurrent date range
                                         W=Concurrent weekday range
                                         T=Non-concurrent time range
                                         C=Calendar
                                         A=All

Start:
Time . . . . .   09:00                  time
End:
Time . . . . .  17:00                  time

Effective dates . . . . .  *NOMIN - *NOMAX   date, *NOMIN, *NOMAX

                                         Mo Tu We Th Fr Sa Su
Effective days . . . . .   Y Y Y Y Y Y Y    Y,N

                                         More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel
    
```

Calendar parameters

NOTE: These parameters are only displayed if 'C' is selected as the entry type.

Enter the name of the calendar to use and the calendar mode. When calendar mode is N=Normal, the dates and times set on the calendar are used. When calendar mode is I=Inverse, the dates and times not set on the calendar are used.

All

In 'All' mode, the time range lasts all day every day. There are no parameters with this mode. This mode is intended to be used as the last schedule entry to catch all time periods not allocated to any previous entries.

Before this action schedule entry can be completed you must specify the action that you want the new schedule to take in the event of an alert being raised while the schedule is active.

```

HAL4020R                               Halcyon Software                               HAL525P3
Add Action Schedule Entry                30/01/09  16:56:01
                                          Page 1 of 2

Entry description . . . . . xAUTO

Entry type . . . . . C                  D=Concurrent date range
                                          W=Concurrent weekday range
                                          T=Non-concurrent time range
                                          C=Calendar
                                          A=All

Calendar . . . . . =                   Name, F4=Prompt

Calendar mode . . . . . N              N=Normal
                                          I=Inverse

                                          More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel
Calendar Name is required.

```

Condition parameters

NOTE: These parameters are only displayed if 'O' is selected as the entry type.

When entry type 'O' is selected, eight condition lines are displayed allowing you to enter the relationship, sequence and status of each condition.

Relationship (And/Or)

The first line of the conditions for the action schedule has the relationship of 'IF' and cannot be changed. For additional lines, specify either 'AND' or 'OR' as the relationship type.

Sequence

This parameter is used to specify the sequence number of the action schedule entry which you are conditioning. Enter a sequence number in the range of 10-990.

NOTE: You cannot condition on the current sequence number.

If you later insert or delete an entry, the number entered here does not automatically change, which can cause a condition to be looking at a different line, non-existent entry or itself. If these cases, an edit error occurs.

Four special values are supported within the 'Sequence' parameter:

*FIRST	Conditions on the first entry in this action schedule (for example; 10)
*PREV	Conditions on the previous entry in this action schedule
*ALL	Conditions on all the actions invoked via this action schedule when an alert is raised. This value does not condition on any entries defined in this action schedule that are not invoked when an alert is raised
*ALERT	Conditions on all the actions invoked by an alert that uses this action schedule, even if invoked directly from the rule or via a different action schedule

Status

Specifies the status required for each condition line to pass.

*PASS	The specified action must go to Complete status
*FAIL	The specified action must go to error status
*ANY	The specified action must go to Complete or Error status

Examples

To create a series of actions that run sequentially without regard to whether each was successful or not:

10	Action with an entry type of D, W, T, C or A as required
20	Action with an entry type of O
30	Action with an entry type of O
40	Action with an entry type of O

The conditions for sequence numbers 20 to 40 should each be:

IF *PREV *ANY

To make each action only run if the previous action was successful, the conditions on sequence numbers 20 to 40 should each be:

IF **PREV *PASS

To send a message to a main system console but with a backup system if the main system cannot be contacted:

10	Main Console action with entry type D, W, T, C or A as required
20	Backup Console action with entry type 'O'

The condition for sequence number 20 should be: IF *PREV *FAIL.



General Notes on using Conditions with Action Schedules

1. Conditional entries are only allowed in action schedules that have 'Action select' *ALL specified. Conditional entries are not allowed when 'Action select' is specified as *FIRST.
2. When an alert is raised, any non-conditional actions that apply to the current date/time are invoked first, either to 'Pending' or 'Delayed' status.
3. Any conditional actions that apply are invoked to 'Cnd-Wait' status. Conditional actions do not have any date/time criteria. Whether they apply or not depends on whether the entries on which they are conditioned apply. If the conditions lines use sequence *FIRST, *PREV or a specific number, the conditional action only applies if all those entries apply. If a condition entry only uses *ALL or *ALERT and does not use *FIRST, *PREV or a specific number, it always applies, but if it then finds that there are no entries on which the condition depends, it immediately goes to 'Closed' status.

EXAMPLE:

10 Action entry using type 'T' with Mon-Fri selected
 20 Action entry using type 'T' with Mon-Fri selected
 30 Action entry using type 'O' with IF *PREV *PASS specified

On Mon-Fri, entry 10 applies. On Sat-Sun, entry 20 applies. Entry 30 is conditioned on entry 20 so it only applies on Sat-Sun. If an entry has multiple condition lines, all the entries have to apply for the condition entry to apply.

4. Each time any action changes to 'Complete' or 'Error' status, the conditional actions in that alert are checked. There are three possible outcomes:
 - Conditions are now met. In this case the action changes from 'Cnd-Wait' to 'Pending' and processes as soon as an Action Monitor is available
 - Conditions now cannot be met. For example, an action needed to go to 'Complete' status but it has gone to 'Error'. In this case the action changes from 'Cnd-Wait' to 'Closed'
 - Conditions are not met yet still can be. In this case the action remains in 'Cnd-Wait' status
5. When an action changes from 'Cnd-Wait' to 'Pending' status, it is assigned a priority which ensures that it is processed before an action that changes to 'Pending' status later. This is especially important when only one Action Monitor is used or if all the Action Monitors are busy.
6. When an alert is closed, any actions still in 'Pending' or 'Cnd-Wait' status change to 'Closed' status.
7. It is possible to create conditions that can never be met. For example; entry 10 conditioned on entry 20 and vice versa. In this case, both entries remain in 'Cnd-Wait' status until the alert is closed.
8. For the Close action only, simple conditions can be specified directly in the rule. These conditions are:
 - COMP Same as IF *ALERT *ANY in an action schedule
 - COMPNOERR Same as IF *ALERT *PASS in an action schedule

These actions are shortcuts to let you condition the Close action without having to use an action schedule.

Completing the Action Schedule

Use **Page Down** to open the Add Action Schedule Action display.

Rule number

For actions within rules, this is the rule number.

Action type

Specifies the action to be performed if an alert is triggered within this action schedule. Type the name of an action, or press F4 to select from a list of applicable actions.

NOTE: See [Rule Actions](#) for more information on the various action types that can be applied to action schedules.

NOTE: Using *NONE results in no action being taken should an alert be triggered within this action schedule.

Notes when specifying action types within an action schedule

Console and SNMPTRAP Actions

The ACTSCH Action includes a 'Severity' parameter which can be used to override the severity of the alert when processed by Console and SNMPTRAP actions within an action schedule.

Functions on the Add Action Schedule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List substitution variables

Use **F16=List substitution variables** to display a list of substitution variables that can be applied to the action where applicable. (Option is hidden if substitution variables cannot be applied).

Copying Specific Actions From Within An Action Schedule

It is possible to copy specific actions from one action schedule to another or the same action schedule. This is done via the **2=Change** option against the required action schedule on the Work with Action Schedules display.

Getting there

Select **3=Copy** against the required action and press **Enter** to open the Confirm Copy of Action Schedule Entries display.

```

HAL4020R                               Halcyon Software                               HAL525P3
PROD                                Confirm Copy of Action Schedule Entries  13/07/10  16:01:21

Type information and press Enter to confirm your choices for 3=Copy.
Press F12 to return to change your choice.

To action schedule . . *SAME_____

Opt Name      Seq      Copy to      Description
3  AS1       010
  
```

BOTTOM

F12=Cancel

Parameters on the Confirm Copy of Action Schedule Entries display

The following parameters are available on this display.

To action schedule

The default setting is to copy actions into the same schedule. To specify another action schedule, overwrite ***SAME** with the name of an existing action schedule.

Press **Enter** to confirm the copy action. The copied action entry is assigned a sequence number of the current highest sequence number +10. If required, this can be adjusted after the copy action has completed.

Functions on the Confirm Copy of Action Schedule Entries display

Action Schedule Entry Copying Rules

1. When copying an entry into the same schedule, the copied actions are not made permanent until you exit the Maintenance display by pressing **Enter**. Using **F3=Exit** or **F12=Cancel** results in the changes being lost.
2. When copying an entry into a different schedule, the copied actions become permanent when you press **Enter** on the confirmation display.
3. Only action schedules that have an 'Action select' parameter of *ALL can contain conditional entries. You cannot copy a conditional entry to an action schedule that uses an 'Action select' parameter of *FIRST.
4. If a conditional action schedule entry refers to specific sequence numbers within its conditions, copying that entry to an action schedule where those sequence numbers do not exist, cause the schedule to become invalid. This methodology is allowed as you may be copying multiple entries so that when completed, the target action schedule is valid.
5. If an action schedule becomes invalid, the name of the schedule is shown in reverse image on the Work with Action Schedules display. If the current user profile is authorized for change functionality, option **2=Change** is automatically entered in the 'Option' parameter. Press **Enter** to determine the nature of the problem and take corrective action.

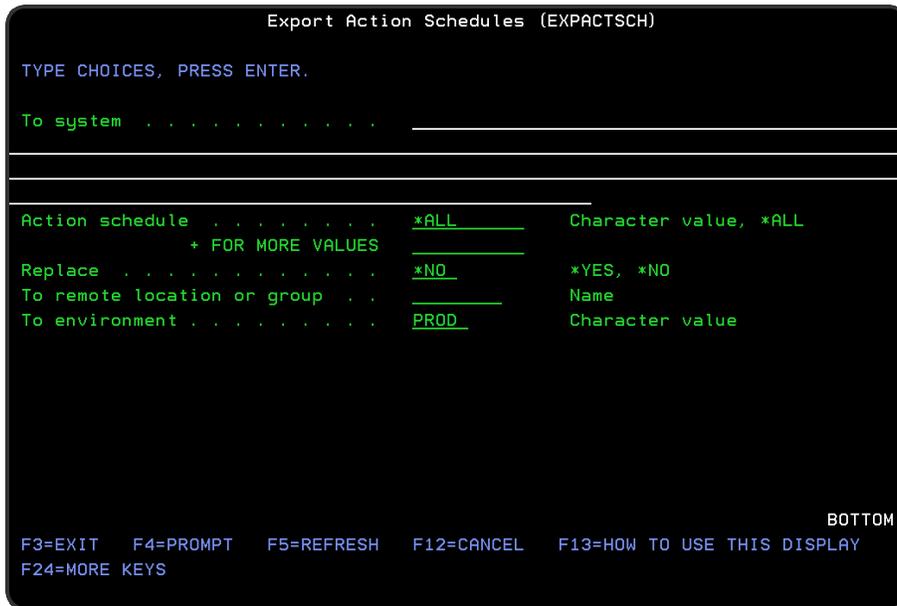
Exporting Action Schedules

It is possible to export action schedules from one system to another by using the Export Action Schedule (**EXFACTSCH**) command. Data is exported via the method specified in [HAL/NETXFERMODE](#). If this is set to *NETMGR, corresponding export status messages will be prefixed with *NETMGR for easy identification.

TIP: An exported Action Schedule could be invalid on the remote environment as it may not have the same device names or other parameters defined. After export it is highly recommended that you check the Action Schedule on the remote environment and correct any errors.

Getting there

On the command line type **EXPACTSCH** and press **F4**. The Export Action Schedules display opens.



Parameters on the Export Action Schedules display

The following parameters are available on this display.

To system

Specifies the system to which the action schedules are to be exported.

name/address	Specifies the remote system name to which to export the action schedules. Type an IP Address or a name which has been mapped to an IP Address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the action schedule is to be exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the entry in the 'To remote location' parameter

Action schedule

Enter the names of the action schedules that you wish to export. Up to 32 action schedules can be entered for this parameter.

*ALL	All action schedules are exported
name	Enter the name of the action schedule to export

Replace

Specifies whether to replace existing action schedules if necessary.

*NO	If an existing action schedule with the same name already exists then that action schedule is not exported and the original remains unchanged
*YES	If an existing action schedule with the same name already exists, it is replaced with the action schedule being exported

Press **Enter** to begin the export or use **F10=Additional Parameters** to display further parameters.

To remote location or group

If ***RMTLOC** is specified in the 'To system' parameter, this parameter specifies the name of the remote location or remote location group. If a remote location is specified, it must have system type ***I5**. If a remote location group is specified, the action schedules are exported to all the remote locations defined in that remote location group.

To environment

When ***RMTLOC** is not specified in the 'To system' parameter, this parameter specifies the name of the environment on the remote system to which the action schedule is exported. When ***RMTLOC** is specified in the 'To system' parameter, this parameter is not used.

Press **Enter** to begin the export of action schedules.

Functions on the Export Action Schedules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Action Templates

Action templates can be used to create additional, user defined actions. When adding an action to a rule or to an action schedule, an action template name may be typed instead of an action name or you can press **F4=Prompt** on the 'Action' parameter to select from a combined list of actions and action templates. When an action template name is entered or selected from the list, a Command action is created and is populated with the command defined in the action template.

Getting there

Select option **11=Work with Action Templates** from the Halcyon Configuration menu to open the Work with Action templates display.

```

HAL1100R                               Halcyon Software                               HAL720P2
MANL                                     Work with Action Templates                          28/01/16  10:05:46

Type options, press Enter.
2=Change 4=Delete 5=Display

Opt Name      Description
- CLSWATCH    Close a Message Watch
- DLTJRNRCV   Delete journal receiver
- DLTSPLF     Delete Spooled File
- DSCJOB      Disconnect Job
- DSPOBJD     Dump Object Info
- EMLACTJOB   Email active jobs
- EMLJOBINF   Email job information
- EMLJOBLOG   Email job log
- EMLSYSSTS   Email system status
- ENDJOB      End Job
- HLDDSTQ     Hold Distribution Queue
- HLDJOBQ     Hold Job Queue
- HLDOUTO     Hold Output Queue
- HLDSPLF     Hold Spooled File

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
More...

```

Parameters on the Work with Action Templates display

The following parameters are available on this display.

Name

Displays the name of the action template. This name cannot be the same as the name of a built-in action.

Description

Displays the description of the action template.

Command

Displays the details of the actual command.

Using the Action Templates display

The following default action templates are supplied and are immediately available for use:

CLSWATCH	Close a Message Watch
DLTJRNRCV	Delete Journal Receiver
DLTSPLF	Delete Spooled File
DSCJOB	Disconnect Job
DSPOBJD	Dump Object Info
ENDJOB	End Job
HLDDSTQ	Hold Distribution Queue
HLDJOBQ	Hold Job Queue
HLDOUTQ	Hold Output Queue
HLDSPLF	Hold Spooled File
MOVEJOBS	Move Job Queue Jobs
RLSDSTQ	Release Distribution Queue
RLSJOBQ	Release Job Queue
RLSOUTQ	Release Output Queue
RLSSPLF	Hold Spooled File
RMVLNK	Remove Link
RSTNETUSR	Remove a NetServer User
SETLDA	Set LDA Values And Call Named Program
SNMP	Send Message as SNMP Trap
STRPRTWTR	Start Printer Writer
STRWATCH	Start a Message Watch
SYSLOG	Send Syslog Message
VARYOFF	Vary Off
VARYON	Vary On

The following options are available when working with the action templates. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Action Template display allowing you to alter the current action template settings.

The default command is displayed together with the valid rule context with which it can be used. For any command that contains a variable listed as '&N', then you must define the actual properties of that variable within the command. All other command variables are defined by the rule to which the action template is assigned.

Delete

Use option **4=Delete** to open the Confirm Delete of Action Template display. Press **Enter** on this display to delete the selected action template.

Display

Use option **5=Display** to open the Display Action Template display where you can view (but not change) details of the selected action template.

Functions on the Work with Action Templates display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Action Template display from where a new action template can be created. See [Creating an Action Template](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Creating an Action Template

To create a new action template, use **F6=Add** on the main Work with Action Templates display.



Parameters on the Add Action Template display

The following parameters are available on this display.

Name

Enter a name for the new action template.

NOTE: This cannot be the same as a name of a built-in action.

Description

Enter a description for the new action template.

Command

Specify the command for this action template. You can specify any command that is allowed to run in an *EXEC environment (usually any command that can be run at the command line).

When entering a new command, substitution variables may be included. The special variable '&N' may be used as a placeholder if the value for a 'Command' parameter may vary each time a command string is created from the template. When the action template is

used to create a command string, the user is forced to replace any '&N' placeholders with some other variable or fixed value.

Whenever a substitution variable is used in a command or message string, it must be typed in the following format:

&name;

&	Ampersand denotes the start of a substitution variable
name	Name of the substitution variable
:	Optional semi-colon denotes the end of a substitution variable

NOTE: The semi-colon may be omitted if the character immediately following the variable name is not upper case A-Z or 0-9.

ASP Group (Only visible if IASPs are configured on the system)

Specifies the name of the Auxiliary Storage Pool (ASP) group to set for the current thread when the command is run. The ASP group name is the name of the primary ASP device within the ASP group.

*NONE	The current thread will have no ASP group. The library name space will not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs will be in the library name space
*SYSBAS	Same as *NONE
name	Specify the name of the Primary ASP in the ASP group to be set for the current thread when the command is run. All libraries from all the ASPs in this ASP group will be included in the library name space

Press **Enter** to create the new action template.

Functions on the Add Action Template display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=List substitution variables

Use **F16=List substitution variables** to display a list of substitution variables that can be applied to the action template.

Work with Administrator Alert Criteria

Administrator alerts allow you to bring to the attention of a systems administrator, messages that might otherwise have been missed.

Administrator alerts work by sending a copy of a message received on the Halcyon [Message Log](#) to the administrator message queue.

The Work with Admin Alert Criteria display allows you to specify which messages are forwarded to the administrator message queue specified in the system default [HAL/ADMINMSGQ](#).

The default administrator message queue is 'QSYS/QSYSOPR'.

Getting there

Select option **12=Work with Admin Alert Criteria** from the main configuration menu display.

```

HAL0090R                               Halcyon Software                               HAL720P2
MANL                                     Add Administrator Alert Criteria          16/11/15  11:43:19

Message ID . . . . . *ANY                Name*, *ANY
Message file . . . . . *ALL                Name, *ALL
  Library . . . . . *ALL                Name, *ALL
Message data . . . . .
  Starting position . . . *ANY            1-999, *ANY
  Length to compare . . . *LEN            1-40, *LEN
Minimum severity . . . . 00              0-99
Job name . . . . . *ALL                Name, *ALL
User name . . . . . *ALL                Name, *ALL
Program name . . . . . *ALL                Name, *ALL

F3=Exit  F5=Refresh  F12=Cancel

```

Parameters on the Work with Administrator Alert Criteria display

The following parameters are available on this display.

Message ID

Displays the message ID that can then be selected.

Message file

Displays the name of the message file containing the messages to be selected. If *ALL is displayed, all message files are selected.

Message text

This is the text of the message. The text is not shown if the message ID is generic. If a specific message ID is specified but the message file or message file library is generic, the text of the first message found that matches this criteria is shown. Messages in other message files with the same or different text may also be selectable by this criteria.

NOTE: See [Default Admin Alert Criteria Messages](#) messages for more information.

Using the Work with Administrator Alert Criteria display

The following options are available when working with administrator alert criteria. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change Administrator Alert Criteria display from where you can change the attributes of the selected criteria.

NOTE: The parameters on this display are the same as when adding a new administrator alert criteria. See [Add Administrator Alert Criteria](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Delete of Administrator Alert Criteria display. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

Display

Use option **5=Display** to be able to view the current attributes for the selected criteria. You cannot amend any details on this display (instead use option **2=Change** from the Work with Admin Alert Criteria display).

Functions on the Work with Administrator Alert Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Administrator Alert Criteria display from where a new alert message can be created. See [Add Administrator Alert Criteria](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Set Admin Message Queue

Use **F17=Set Admin Message Queue** to open the Change System Default display showing the [HAL/ADMINMSGQ](#) system default, allowing you to change the message queue to which administrator alerts are sent.

Add Administrator Alert Criteria

Press **F6=Add** on the Work with Administrator Alert Criteria display to add a new administrator alert criteria to those already defined.

```

HAL0090R                               Halcyon Software                               HAL720P2
MANL                                     Add Administrator Alert Criteria   16/11/15 11:43:19

Message ID . . . . . ANY                Name*, *ANY
Message file . . . . . ALL              Name, *ALL
  Library . . . . . ALL                 Name, *ALL
Message data . . . . .
  Starting position . . . ANY            1-999, *ANY
  Length to compare . . . LEN           1-40, *LEN
Minimum severity . . . 00               0-99
Job name . . . . . ALL                  Name, *ALL
User name . . . . . ALL                  Name, *ALL
Program name . . . . . ALL                Name, *ALL

F3=Exit  F5=Refresh  F12=Cancel

```

Parameters on the Add Administrator Alert Criteria display

The following parameters are available on this display.

Entry ID

This is a system generated ID that uniquely identifies a unique selection criteria. Once assigned, this ID cannot be amended.

Message ID

Specify the message ID that you want to select for this criteria.

*ANY	All message IDs are selected
msgid*	Enter a specific message ID

Message file

Specify the message file containing the messages to select for this criteria.

*ALL	All message files are selected
name	Enter a specific message file name

Message file library

Specify the message file library of the messages to be selected.

*ALL	All message file libraries are selected
name	Enter a specific message file library name

Message data

Specifies text that must be found within the message data in order for the message to be selected. Alternatively, leave this parameter blank to select all messages regardless of data content. To check for blank message data, leave this parameter blank but specify the required values in the 'Starting position' and 'Length' to compare parameters.

Starting position

If text, or blank message data, is specified in the 'Message data' parameter, specify the starting position within the message data of where the text can be found.

*ANY	The text can be anywhere within the message data
1-999	Enter the exact starting position

Length to compare

If text, or blank message data, is specified in the 'Message data' parameter, specify the text length to be compared with the message data entry.

*LEN	The right-trimmed length of the text in the 'Message data' parameter is used
1-40	Enter the actual text length

Minimum severity

Enter the minimum severity of the messages that should be selected. Enter '0' to specify that any message severity is selected.

Job name

Enter the name of the job that sent the message.

*ALL	All jobs are selected
name	Enter a specific job name

User name

Enter the user name from the job that sent the message.

*ALL	All user names are selected
name	Enter a specific user name

Program name

Enter the name of the program that sent the message.

*ALL	All program names are selected
name	Enter a specific program name

Press **Enter** to add the new administrator alert criteria to those already defined.

Functions on the Add Administrator Alert Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Default Administrator Alert Criteria Messages

The following Admin Alert Criteria messages are pre-defined in the product.

HAL0016	Product authorization code deleted
HAL0440	Supervisor not able to restart monitor
HAL0585	Warning - Slow network response by remote location &1
HAL0807	Warning - Calendar &1 data has expired
HAL09024	Expired temporary product authorization code was automatically deleted
HAL1211	Close Alert user exit program failed
HAL1224	Warning! Halcyon temporary authority for &6 products in environment &1 has expired
HAL1225	Warning! Halcyon temporary authority for &6 products in environment &1 expires in &3 days
HAL1226	Warning! Halcyon maintenance cover for &6 products in environment &1 expires in &3 days
HAL1227	Warning! Halcyon maintenance cover &6 products in environment &1 expires in &3 days
HAL1240	Warning! Processor limit exceeded. Permission to exceed expires on &1
HAL1251	Import failed. Local and imported product PTF levels are different
HAL1559	Redundant permanent product authorization code was automatically deleted
HEM0248	Performance Monitor is restarting
HEM0481	Output Queue Monitor capacity exceeded. Some spooled files not processed #
HEM0846	Errors in SQL execution. Rule held
HMC0114	Communications resources not available for Halcyon Message Communicator
HMC0117	Message not sent to device &1 type &2 due to error &3
HMC0191	Service provider message: &2
HMC0300	Mail Server Framework is not active
HMC0301	Mail Server Framework is active

HMC0333	Error - Could not logon to POP server
HMC0395	Email attachments cannot be sent using the ARPA email format
HMC2098	Notification message failed due to error HMC0082 #
HMM0060	Monitoring suspended for &2/&1
HMM0544	Log on attempt by user rejected
HMM0548	Export failed. Levle check on file &1. Remote environment is not compatible
HMM0640	Message Queue &1 on &2 is lagging
HMQ0042	MQ Subsystem is not active. Monitor ending #
HMQ0084	No MQ Managers are active. Monitor ending #
HRT0161	Network interface not started. Remote actions will not be performed
HRT0162	Task Group &1 ended unexpectedly. Reason code &2
LVE*	*ALL

Applies to clean installs only, not upgrades.

Exporting Administrator Alert Criteria

The Export Administrator Alert Criteria **EXPADMALT** command allows you to export all or up to 32 separate Administrator Alert Criteria messages to a remote location.

Getting there

Type the command **EXPADMALT** on the command line and press F4.

```

Export Admin Alert Criteria (EXPADMALT)

Type choices, press Enter.

To system . . . . . █

-----

Admin alert criteria:
Message id . . . . . *ALL      Name*, *ANY, *ALL
Message file . . . . . _____ Name, *ALL
Library . . . . . _____   Name, *ALL
+ for more values _
Replace . . . . . *NO        *YES, *NO, *ALL

-----

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

Authority

In order to be able to export Administrator Alert Criteria, you require *USE authority to the HAL/ADMINALT function on the local system and *ALL authority to HAL/ADMINALT function on the remote system.

Parameters on the Export Admin Alert Criteria command

The following parameters are available on this display.

To system

Specifies the system to which to export the Administrator Alert Criteria. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFRMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export the Administrator Alert Criteria. Type an IP Address, or a name which has been mapped to an IP Address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To remote location' parameter

Message id

Specifies the list of Admin Alert Criteria that you want to export. You can specify up to 32 individual values for this parameter. Press '+' to enter more values.

*ALL	All Administrator Alert Criteria are exported
*ANY	Administrator Alert Criteria with the message id of *ANY are exported. This option does not select any Administrator Alert Criteria with any message ID
name	Specify up to 32 individual Administrator Alert Criteria

Message file

Specifies the message file of the Administrator Alert Criteria to be exported.

*ALL	Administrator Alert Criteria where the message file is set to *ALL are exported. It does not select Administrator Alert Criteria with any message file
name	Specify the individual message file of the Administrator Alert Criteria to be exported

Library

Specifies the library of the Admin Alert Criteria to be exported.

*ALL	Administrator Alert Criteria where the message file is set to *ALL are exported. It does not select Administrator Alert Criteria with any message file
name	Specify the individual message file of the Administrator Alert Criteria to be exported

NOTE: If there are multiple Administrator Alert Criteria with the same 3-part qualified reference, for example with different message data specified, that reference selects all qualifying messages.

Replace

Specifies, if necessary, whether or not to replace existing Administrator Alert Criteria.

*NO	If Administrator Alert Criteria with the same characteristics already exists on the target system, the selected Administrator Alert Criteria are not exported and the entry on the target system remains unchanged
*YES	If Administrator Alert Criteria with the same characteristics already exists on the target system, the selected Administrator Alert Criteria are still exported and the entry on the target system is overwritten
*ALL	All Administrator Alert Criteria on the target system are deleted and replaced by the Administrator Alert Criteria being exported from the source system. This setting is only allowed when the 'Message id' parameter is set to *ALL

To environment

If the 'To system' parameter is set to *LOCAL, specify the name of the environment to which the Administrator Alert Criteria are exported.

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type of *I5. If a remote location group is specified, the Administrator Alert Criteria are exported to all remote locations within the group.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security(TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server
*SSL	The connection to the FTP server is made and then an SSL/TLS session is requested. If the server does not support this type of connection, the connection is closed

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example, *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. The default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected Administrator Alert Criteria to the specified system.

Functions on the Export Administrator Alert Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Exit Point Handlers

An exit point signifies the point in a system function or program where control is turned over to one or more exit programs to perform a function.

IMPORTANT: Work with Exit Point Handlers requires the user to have *IOSYSCFG 'Special Authority' if Exit Point Manager is installed on the same system.

Primary and Secondary Handlers

A Primary Handler is a program intended to be used as the exit program for an exit point. A primary handler does no real work itself, but merely calls additional programs known as secondary handlers. These secondary programs perform the actual work. The primary handler calls each defined secondary handler in turn, unless a secondary handler sets a return code to disallow an operation, in which case no further secondary handlers are called.

This system allows greater control over the exit point and dispenses with the one program limit that many exit points have.

NOTE: Halcyon exit points are controlled via system default [HAL/EXITPNTMGMT](#).

The Work with Exit Point Handlers display lists the registered exit points that support Primary Handlers. This option is available by taking option **13=Work with Exit Point Handlers** from the Configuration main menu.

NOTE: Only exit points that relate to the Halcyon products you have installed are displayed.

Getting there

Select option **13=Work with Exit Point Handlers** from the Halcyon Configuration menu.

```

HAL0200R                               Halcyon Software                               HAL720P4
QA                                     Work with Exit Point Handlers                               18/08/14 14:42:53
Type options, press Enter.
1=Add primary handler  4=Remove primary handler  5=Display...
                                Primary          ---Secondary handlers---  XP
Opt Exit point                Format      handlers + Halcyon      User      + Aud
-  QIBM_QDB_OPEN                DBOP0100                                HXP
-  QIBM_QDC_VRYEXIT             PROF0100  HAL_QDCVRY + HXP
-  QIBM_QDC_VRYEXIT             PRON0100  HAL_QDCVRY + HXP
-  QIBM_QNPS_ENTRY              ENTR0100  HAL_QNPENT HXP
-  QIBM_QNPS_SPLF               SPLF0100  HAL_QNPSPL HXP
-  QIBM_QPWFS_FILE_SERV         PWFS0100  HAL_QPWFS HXP
-  QIBM_QTG_DEVINIT            INIT0100  HAL_QTGINZ HXP
-  QIBM_QTMF_CLIENT_REQ         VLRQ0100  HAL_QTMFCR HXP
-  QIBM_QTMF_SERVER_REQ         VLRQ0100  HAL_QTMFSR HMM HXP HAL_QTMFSR Y
-  QIBM_QTMF_SVR_LOGON          TCPL0100  HAL_QTMFSL HXP HAL_QTMFSL Y
-  QIBM_QTMX_SERVER_REQ         VLRQ0100  HAL_QTMXSR HMM HXP
-  QIBM_QTMX_SVR_LOGON          TCPL0100  HAL_QTMFSL HXP HAL_QTMFSL Y
-  QIBM_QTOD_SERVER_REQ         VLRQ0100  HAL_QTODSR HMM HXP
-  QIBM_QZDA_INIT               ZDAI0100  HAL_QZINIT HXP HAL_QZINIT Y
-  QIBM_QZDA_NDB1              ZDAD0100  HAL_QZNDB1 HXP HAL_QZNDB1 Y
                                More...
F3=Exit  F5=Refresh  F11=Alt view  F12=Cancel  F23=More options  F24=More keys

```

Default Exit Point Handlers

The following Exit Point Handlers are pre-installed.

QIBM_QTMF_CLIENT_REQ

(FTP Client Request)

This Exit Point allows you to detect or prevent FTP operations being processed by an FTP client on this system, for example, using the Start TCP/IP File Transfer (FTP) command.

QIBM_QTMF_SERVER_REQ

(FTP Server Request)

This Exit Point allows you to detect or prevent FTP operations being processed by the FTP server on this system, for example, as a result of a user using FTP on another system to connect to this system.

QIBM_QTMF_SVR_LOGON

(FTP Server Logon)

This Exit Point allows you to detect or prevent logon to the FTP server on this system, for example, as a result of a user using FTP on another system to connect to this system.

QIBM_QTMX_SERVER_REQ

(REXEC Server Request)

This Exit Point allows you to detect or prevent a command being run by the REXEC server on this system, for example, as a result of a user using an REXEC client on another system to connect to this system.

NOTE: If you have Halcyon Authority Swapper and/or Halcyon Exit Point Manager installed on the same environment, further Exit Point Handlers are displayed on this screen. Please refer to the corresponding user guide for the Halcyon products you have installed for more information regarding these Exit Point Handlers.

Parameters on the Work with Exit Point Handlers Display

The following parameters are available on this display.

Exit point

This displays the name of the exit point. The exit points listed on this display are from a pre-defined IBM list. The list is dependent on the release of IBM O/S that you are running and the products installed.

Format

This displays the format of the exit point. The format is the registration identifier supplied by IBM. Each exit point can have a single exit program or multiple exit programs associated with it.

Each exit point can be registered multiple times with a unique format name. To see the formats accredited to the exit points use the Work with Registration Information (**WRKREGINF**) command.

Primary handlers

This displays the name of an exit program that is registered to the associated exit point.

If the primary handler for the current environment is registered to this exit point, the primary handler program name is shown. If not, the lowest numbered exit program registered to this exit point is displayed.

The color of the primary handler program indicates the current status:

Green	Secondary handlers or exit point auditing is enabled and the primary handler is registered to this exit point
Blue	Secondary handlers and exit point auditing is not enabled. If the primary handler is registered to this exit point, it is serving no useful purpose
Red	Secondary handlers or exit point auditing is enabled but the primary handler is not registered to this exit point. If the primary handler program appears to be shown in red, it is actually the handler from a different environment. In these instances, use 5=Display to identify the environment. If no exit programs are registered to this exit point, the special value *REQUIRED is shown

‘+’

A plus sign (‘+’) in this column indicates that more than one exit program is registered to this exit point. Use option **2=Change** against this exit point for full details.

Secondary handlers

Indicates which installed Halcyon products have secondary handlers for this exit point, and indicates their status. The following products may be shown. These products are shown if they are installed and have a valid authorization code:

HMM	Halcyon Message Manager - FTP activity monitor feature
HEM	Halcyon Authority Swapper
HXP	Halcyon Exit Point Manager

Status

The secondary handlers for each product can be enabled or disabled. However, enabling the secondary handlers for a product has no effect unless the relevant primary handlers are also active. The color of the secondary handler codes indicates the current status:

Blue	Secondary handler is disabled
Green	Secondary handler is enabled and primary handler is active
Red	Secondary handler is enabled but primary handler is not active

NOTE: Exit Point Manager secondary handlers are only displayed as enabled if Exit Point Manager secondary handlers are enabled and released rules exist that require use of that handler.

Secondary handlers - User

Shows the name of a user defined secondary handler program for this exit point.

- A program shown in green is enabled
- A program shown in red is disabled. This is because the primary handler has not been set, therefore is not able to call the secondary handlers

‘+’

A plus sign (+) in this column indicates that more than one user defined secondary handler program has been defined for this exit point. Use option **2=Change** against this exit point for full details.

XP Aud

A ‘Y’ in this column indicates that exit point auditing has been enabled for this exit point. The color indicates the current status:

Green	Exit point auditing is enabled and primary handler is active
Red	Exit point auditing is enabled but primary handler is not active

Using the Work with Exit Point Handlers display

The following options are available when using the Work with Exit Point Handlers display. Type the required option number against the chosen Exit Point and press **Enter**.

Add primary handler

Use option **1=Add primary handler** to open the Confirm Add Halcyon Primary Handlers display. Press **Enter** on this display to add primary handlers for the selected exit points, or press **F12** to cancel.

IMPORTANT: This option is not allowed when an exit point already has the maximum permitted number of exit points and four user-defined secondary handlers.

If an exit point already has the maximum permitted number of exit points and less than four user-defined secondary handlers, you are prompted to allow the first existing exit program to be changed into a user-defined secondary handler, in order to free up a slot for the primary handler. Press **F2** when prompted to allow this amendment.

```

HAL0200R                               Halcyon Software                               HAL525P3
XPAB                                     Confirm Add Halcyon Primary Handlers       9/07/14  11:52:09

Press Enter to confirm your choices for 1=Add.
Press F12 to return to change your choice.

Opt Exit point      Format
1 Q
1 Q

```

```

Confirm Replace of Existing Exit Programs

Some exit points already have the maximum permitted number of
exit programs. Press F2 to replace the first exit program with
the Halcyon Primary Handler and redefine the replaced exit
program as a user secondary handler.

F2=Continue  F12=Cancel

```

```

F12=Cancel
* - Exit points already contain maximum number of exit programs.

```

Remove primary handler

Use option **4=Remove primary handler** to open the Confirm Remove Halcyon Primary Handlers display. Press **Enter** on this display to remove primary handlers from the selected exit points, or press **F12** to cancel.

Display

Use option **5=Display** to open the Display Handler Details display which displays full details on the primary and secondary handlers for the selected exit point, and also allows you to change the user defined secondary handlers.

Start exit point audit

Use option **6=Start exit point audit** to display the Confirm Start Exit Point Audit display. Press **Enter** on this display to enable exit point auditing for the selected exit points, or press **F12** to cancel.

End exit point audit

Use option **7=End exit point audit** to display the Brings up the Confirm End Exit Point Audit display. Press **Enter** on this display to disable exit point auditing for the selected exit points, or press **F12** to cancel.

Functions on the Work with Exit Point Handlers display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F11=Alt view

Use **F11=Alt View** to switch the view between the exit point name and the exit point description.

F12=Cancel

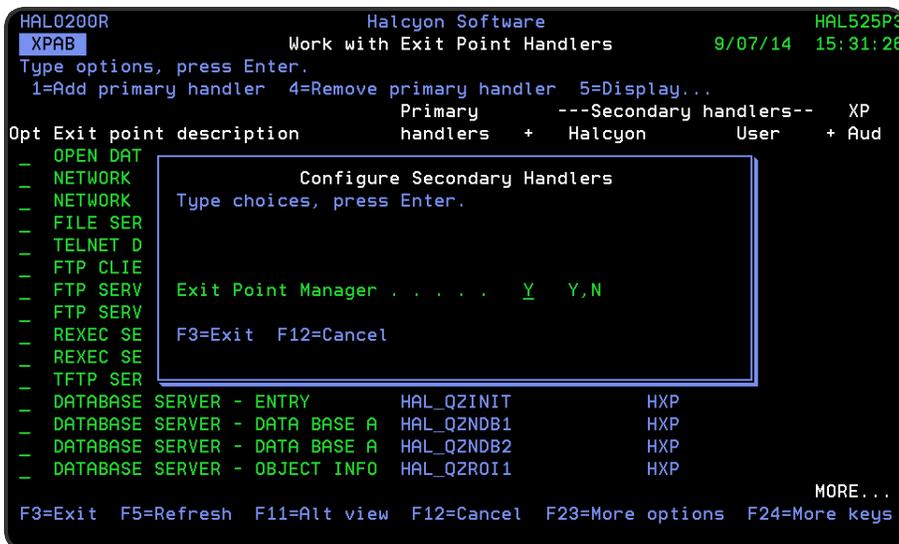
Use **F12=Cancel** to exit this display and return to the previous display.

F16=Secondary Handlers

Use **F16=Secondary Handlers** display to open the Configure Secondary Handlers pop-up window. This window allows you to enable or disable secondary handlers by product (if installed).

```

HAL0200R                               Halcyon Software                               HAL525P3
XPAB                                     Work with Exit Point Handlers                               9/07/14 15:31:26
Type options, press Enter.
1=Add primary handler 4=Remove primary handler 5=Display...
Primary      ---Secondary handlers---  XP
Opt Exit point description             handlers + Halcyon      User      + Aud
- OPEN DAT
- NETWORK
- NETWORK
- FILE SER
- TELNET D
- FTP CLIE
- FTP SERV
- FTP SERV
- REXEC SE
- REXEC SE
- TFTP SER
- DATABASE SERVER - ENTRY              HAL_QZINIT              HXP
- DATABASE SERVER - DATA BASE A      HAL_QZNDB1              HXP
- DATABASE SERVER - DATA BASE A      HAL_QZNDB2              HXP
- DATABASE SERVER - OBJECT INFO       HAL_QZR011              HXP
MORE...
F3=Exit  F5=Refresh  F11=Alt view  F12=Cancel  F23=More options  F24=More keys
  
```



The following parameters are available on this screen:

FTP Activity Monitor

Specify whether to enable or disable the secondary exit programs that handle the FTP Activity Monitor feature of Halcyon Message Manager.

Y	Enable secondary handlers
N	Disable secondary handlers

NOTE: This is only available if Halcyon Message is installed.

Authority Swapper

Specify whether to enable or disable the secondary exit programs that handle the FTP Profile Allocation feature of Halcyon Authority Swapper.

Y	Enable secondary handlers
N	Disable secondary handlers

NOTE: This is only available if Halcyon Authority Swapper is installed.

Exit Point Manager

Specify whether to enable or disable the secondary exit programs used by Exit Point Manager.

Y	Enable secondary handlers
N	Disable secondary handlers

F17=Restart servers

Use **F17=Restart servers** to open the Restart Servers pop-up window.

```

HAL0200R                               Halcyon Software                               HAL525P3
XPAB                                     Work with Exit Point Handlers                       9/07/14 15:53:49
Type options, press Enter.
1=Add primary handler 4=Remove primary handler 5=Display...
                                Primary          --Secondary handlers--  XP
Opt Exit point                Format          handlers + Halcyon      User  + Aud
-  QIBM_QDB_OPEN              DB0P0100                               HXP
-  QIBM_QNP
-  QIBM_QNP
-  QIBM_QPW
-  QIBM_QTG
-  QIBM_QTM                    Resynch primary handlers . . . Y Y,N
-  QIBM_QTM                    Restart servers . . . . . Y Y,N
-  QIBM_QTM                    F2=Continue F3=Exit F12=Cancel
-  QIBM_QTM                    Press F1 for information on restarting servers.
-  QIBM_QTO
-  QIBM_QZDA_INIT             ZDAI0100  HAL_QZINIT           HXP
-  QIBM_QZDA_NDB1            ZDAD0100  HAL_QZNDB1            HXP
-  QIBM_QZDA_NDB1            ZDAD0200  HAL_QZNDB2            HXP
-  QIBM_QZDA_ROI1            ZDAR0100  HAL_QZROI1            HXP
                                                                MORE...
F3=Exit F5=Refresh F11=Alt view F12=Cancel F23=More options F24=More keys
    
```

This window contains two options:

Resynch primary handlers

Specify whether to synchronize the primary handlers.

Y	The primary handlers are synchronized if possible. This adds primary handler programs to exit points that have an enabled Halcyon or user defined secondary handler or have exit point auditing enabled and removes them from exit points that have no enabled Halcyon or user defined secondary handlers and so not have exit point auditing enabled
N	No exit programs are added or removed

NOTE: The synchronize action may fail an exit point already has the maximum number of permitted exit programs.

Restart servers

In some cases, adding or removing an exit program has no effect on the exit point until the appropriate servers are restarted. This option allows you to stop and restart the relevant servers. A restart is not required when only secondary handlers have been enabled or disabled.

Y	The *FTP, *TFTP and *REXEC TCP servers are ended. Those servers are then restarted if they are configured to auto-start. The *CENTRAL and *DATABASE host servers are also stopped and restarted
N	No TCP or Host servers are stopped or restarted

If you want to restart the servers, you must press **F2** to continue. This is to prevent you pressing **Enter** and inadvertently restating the servers unintentionally.

F23=More Options

Use **F23=More Options** to display more of the options that can be used on this display.

Work with User Lists

Where supported throughout Halcyon products, user lists provide an alternative to working with individual user profiles.

IMPORTANT: Existing user lists within Authority Swapper and Exit Point Manager products are migrated into the common user lists. It is therefore important to ensure you do not have user lists of the same name within these products as they will be merged and may result in incorrect outcomes where the user list is applied.

NOTE: User Lists can be exported to other environments using the **EXPUSRLST** command.

Getting there

Select option **14=Work with User Lists** from the Configuration menu to manage lists of users for use in the various products where a user can be specified.

```

HAL4700R                               Halcyon Software                               HAL720P2
MANL                                   Work with User Lists                               27/01/16  15:44:08

Type options, press Enter.
2=Change  4=Delete  5=Display  6=Print  8=Where used

Opt Name      Description
- *ALLOWFTP   Allowed to FTP
- *ALLOWODBC  Allowed to use ODBC
- *IBMI       IBM i
- *TECHSUPP   TechSupport
- *USERS      users

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

Bottom

```

Parameters on the Work with User Lists display

The following parameters are available on this display.

Name

Displays the name of the user list.

Description

Displays the textual description of the user list.

Using the Work with User Lists display

The following options are available when using the Work with User Lists display. Type the option number against the required user list and press **Enter**.

Change

Use option **2=Change** to open the Change User List display from where you can change the parameters of an existing user list. The parameters on this display are the same as those used when adding a user list. Please see [Adding a User List](#) for further information relating to these parameters.

Delete

Use option **4=Delete** to open the Confirm Delete of User Lists display. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

Display

Use option **5=Display** to open the Display User List display from where you can view (but not amend) the details of an existing user list.

Print

Use option **6=Print** to print a report of the selected user list. For a parameter driven report use **F22=Print**.

Where used

Use option **8=Where used** to display the rules and other elements of the product suite that use the selected user list. It is not possible to delete a user list that is currently in use.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Functions on the Work with User Lists display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add User List display from where a new user list can be created. See [Adding a User List](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to open the Print User Lists display which provides additional parameters over using option **6=Print** for the generation of the report.

Press **Enter** and the description of this user profile is automatically added. Tab down to subsequent fields to add more user profiles to this user list. Use **F4=Prompt** to display a list of available user profiles that can be added to this user list.

Press **Enter** to confirm the user profiles selected and create a new user list.

Functions on the Add User List display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Message Sub-Consoles

Message sub-consoles are used to subdivide the alerts on systems that receive a large volume of alerts. Alerts and messages can be directed to a specific console when sent.

Message sub-consoles are available for viewing within [Message Console](#), in addition to the Alerts and Systems views.

Getting there

Select option **15=Work with Message Sub-Consoles** from the Halcyon Configuration menu to open the Work with Message Sub-Consoles display.

```

HAL0140R                               Halcyon Software                               QAWN2K8B
MANL                                     Work with Message Sub-Consoles           18/11/15  15:08:10

Type options, press Enter.
2=Change  4=Delete  5=Display  8=Where used  10=Authority
20=Change sub-console actions

Opt System  Name                Description
---
*LOCAL     *SYSTEM             Halcyon Message Console
*LOCAL     CLS15MINS           Closed after 15mins
*LOCAL     CLS30MINS           Closed after 30mins
*LOCAL     CLS60MINS          Closed after 60mins
*LOCAL     LEFTOPEN           Left open, Close manually
NEW        *SYSTEM
QAWNXP    *SYSTEM
QAWN2K8A  *SYSTEM
QAWN2K8B  *SYSTEM

F3=Exit  F5=Refresh  F6=Add  F12=Cancel

Bottom

```

Parameters on the Work with Message Sub-Consoles Display

The following parameters are available on this display.

Name

Displays the name of the Message sub-console.

Description

Displays the textual description of the Message sub-console,

Using the Work with Message Sub-Consoles display

The following options are available when using the Work with Message Sub-Consoles display. Type the required option number against the chosen Message sub-console and press **Enter**.

Change

Use option **2=Change** to open the Change Message Sub-Console display from where you can change the parameters of an existing Message sub-console. The parameters on this display are the same as those used when adding a Message sub-console. Please see the chapter [Adding a Message Sub-Console](#) for further information relating to these parameters.

Delete

Use option **4=Delete** to open the Confirm Delete of Message Sub-Console display. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

NOTE: It is not possible to delete the *SYSTEM Message Console.

Display

Use option **5=Display** to open the Display Message Sub-Console display from where you can view (but not amend) the details of an existing Message sub-console.

Where used

Use option **8=Where used** to open the Display Message Sub-Console Where Used display showing the rules and other places, both local and remote, where the selected message sub-console is used.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `CONSOLE` function.

NOTE: *SECADM special authority is required to use this option.

Change console actions

Use option **20=Change Console Actions** to open the Display Console Actions Display.

NOTE: See [Changing Console Actions](#) for more information regarding this feature.

Functions on the Work with Message Sub-Consoles display

The following functions are available when using the Work with Message Sub-Consoles display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Message Sub-Console display from where a new Message sub-console can be created. See [Adding a Message Sub-Console](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Message Sub-Console

From the Work with Message Sub-Console display use **F6=Add** to open the Add Message Sub-Console display. This display allows you to add a new Message sub-console to those already available.

```
HAL0140R                               Halcyon Software                               HAL720P2
MANL                                     Add Message Sub-Console                               14/11/19 12:06:13

System . . . . . *LOCAL
Name . . . . . _____
Description . . . . . _____

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables
```

Parameters on the Add Message Sub-Console Display

The following parameters are available on this display.

System

Displays the system where the sub-console is located. *LOCAL indicates a local sub-console, otherwise a remote location name is shown.

Name

Enter the name of the new Message sub-console.

Description

Enter a textual description of the new Message sub-console.

Press **Enter** to confirm the creation of the Message sub-console. This is now available for selection in the main Work with Message Sub-Consoles display.

Functions on the Add Sub-Console display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Changing Console Actions

The Change Console Actions display allows you to define and maintain the list of local actions for a sub-console. Each action is added with a Sequence number and a Count. When a message arrives on the console for the first time, all the actions at the lowest action level are invoked. If the same message then arrives again, the 'Count' parameter determines whether to invoke the same actions again or move to the actions with the next higher level.

IMPORTANT: Actions that are added using this option are performed against every alert that is added to the selected sub-console.

Getting there

Select option **20=Change sub-console actions** from the [Work with Message Sub-Consoles](#) display.

```

HAL0145R                               Halcyon Software                               HAL720P4
QA                                     Change Console Actions                               13/02/15 16:25:59
Console . . . . . CLS15MINS
Description . . . . . Closed after 15mins

Type options, press Enter.
2=Change 3=Copy 4=Delete 9=Move down

Opt Seq Action                               Count Delay
_  010 FORWARD CONSOLE(*SYSTEM) DELAY(0)    *NOMAX  0
_  and CLOSE ALERT(*CURRENT) CONDITION(*NONE) *NOMAX  0

F3=Exit F5=Refresh F6=Add F12=Cancel F19=Hold actions
Bottom

```

When an action has a 'Count' of '1', a level is only invoked once before moving to a higher level. With a Count of *NOMAX, a higher level is never selected.

Parameters on the Change Console Actions Display

The following parameters are available on this display.

Console

Displays the name of the sub-console for which the listed actions apply.

Description

Displays the description of the sub-console.

Sequence

Specifies the sequence number for each action. If an action has a count of *NOMAX, subsequent actions are treated as part of the same sequence number.

Action

Summarizes the Actions for this rule. The information shown varies with the type of action and may be truncated. To display full Action details, use option **2=Change**.

Count

Specifies the number of times actions at this level are invoked before a higher level is selected. All actions with the same sequence number must have the same count. The highest level of actions must be set to *NOMAX. If *NOMAX is specified, any higher level of actions are never invoked.

Delay

Specifies whether this action has a delay time period in force. To set the delay, use option **2=Change**. When a delay is specified, the action is performed when the delay times out, unless the message is closed or deleted from this sub-console in the meantime.

Using the Change Console Actions display

The following options are available when using the Change Console Actions display. Type the required option number against the chosen console action and press **Enter**.

Change

Use option **2=Change** to open the Change Local Console Action display from where you can change the parameters of an existing Message sub-console. The parameters on this display are the same as those used when adding a Message sub-console. Please see [Adding a Local Console Action](#) for further information relating to these parameters.

Copy

Use option **3=Copy** to copy the selected actions into the same Console actions display. Press **Enter** to confirm the copy or **F12=Cancel** to return to the previous display.

Delete

Use option **4=Delete** to delete the selected actions. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

Move down

Use option **9=Move down** to reorder the actions by moving an action down one line within the same action level. This allows you to control the order in which actions are processed.

Functions on the Change Console Actions display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Local Console Action display from where a new action can be added for this console. See [Adding a Local Console Action](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F19= Hold actions

Use **F19=Hold actions** to holds or release all the actions defined for this sub-console. Held actions are not invoked.

Once the actions have been added and ordered in the required sequence, press **Enter** on this display to confirm the actions for the selected sub-console.

Adding a Local Console Action

The display allows to add a new action to the selected sub-console.

TIP: The same parameters are used on this display as those when you use option **2=Change** from the Change Console Actions display.

Getting there

Use **F6=Add** on the [Change Console Actions](#) display to open the Add Local Console Action display.

```

HAL_MNTACT                               Halcyon Software                               HAL720P4
QA                                         Add Local Console Action                               23/03/15 10:28:57

Console . . . . . *SYSTEM

Action sequence . . . . . 10
Action type . . . . . _____ Type, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel
Action Type is required.

```

Parameters on the Add Local Console Action Display

The following parameters are available on this display.

Console

Displays the name of the sub-console for which the added action will apply.

Action Sequence

Enter the sequence number for this action. Retain the current action sequence number to add an action to the same sequence. All actions with the same sequence number must have the same count.

Action type

Specifies the action to be performed. Type the name of a pre-defined action, a user defined action template, or use **F4=Prompt** to select from a list of applicable actions or action templates. If an action template is specified, a COMMAND action is created, preset with the command defined in the action template.

NOTE: See [Adding Actions to Rules](#) for detailed explanations of each possible action entry in this parameter.

Once the actions have been added in the required sequence order, press **Enter** to confirm and return to the Change Console Actions display.

Functions on the Add Local Console Action display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with System Level User Defined Options

Work with System Level User Defined Options allows you to specify options which can be made available to all users, providing that they have sufficient levels of authorization.

Each user defined option comprises an option code which contains one or more commands or built-in options that are run in sequence when the option is invoked. The user defined options are run by typing the appropriate option code against an alert on either the [Work with Alert Log](#) display or the [Message Console - Alerts view](#) display.

When invoked within the relevant menu option, general options are shown in blue, and user-specific options shown are shown in green.

Notes:

1. General options are available to all users.
2. To maintain general options, run the command: **WRKUSOPT USER(*GENERAL)**.
3. You must have authority to the HAL/CONSOPTS function.
4. User-specific options are specific to the users who create them.

Getting there

Select option 16=Work with System Level User Defined Options from the Halcyon Configuration menu.

```

HAL0045R                                     Halcyon Software                                     HAL720P2
MANL                                         Work with User Defined Options                               17/08/15 13:54:35

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display

Opt Type Code Commands and options
_ ALT A8 WRKSYSDFT
_ CON AJ WRKACTJOB
_ CON ET SNDEMLMSG

F3=Exit F5=Refresh F6=Add F12=Cancel
Bottom
  
```

Parameters on the Work with System Level User Defined Options display

The following parameters are available on this display.

Type

Displays the abbreviation for the Halcyon menu under which the user defined option is available for use.

ALT	User defined option for the Alert Log
CON	User defined option for the Message Console

Code

Displays the alphanumeric code defined to each option.

Commands and options

Lists the commands and built-in options run by this user defined option when invoked.

Using the Work with System Level User Defined Options display

The following options are available when using the Work with System Level User Defined Options display. Type the option number in the Opt column against the required selection

Change

Use option **2=Change** to open the Change User Defined Options display allowing you to amend the configuration of a previously defined user option. This screen uses the same parameters as those entered when adding a system level user defined option. See [Adding a System Level User Defined Option](#) for more information

Copy

Use option **3=Copy** to copy the attributes of an existing user defined option into a new option. You are prompted to enter a unique alphanumeric code for the new user defined option prior to completing the copy action.

Delete

Use option **4=Delete** to open the Confirm Delete of User Defined Options display. Press **Enter** to confirm the deletion or **F12** to cancel.

Display

Use option **5=Display** to open the Display User Defined Option display from where you can view but not amend the current configuration of the selected option.

Functions on the Work with System Level User Defined Options display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Local Console Action display from where a new action can be added for this console. See [Adding a System Level User Defined Option](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a System Level User Defined Option

From the [Work with System Level User Defined Options](#) display, press **F6=Add** to open the Add User Defined option display.

Parameters on this display allow you to create a new user defined option that is then available to users.

```
HAL0045R                               Halcyon Software                               HAL720P2
MANL                                     Add User Defined Option                               17/08/15 15:25:02
Option type . . . . .  ALT, CON
Option code . . . . . 
Type options, press Enter.
  2=Change 4=Delete 5=Display
Opt Seq Command or option

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

Parameters on the Add User Defined Option display

The following parameters are available on this display.

Option type

Specify the Halcyon menu item for which this user defined option will be available.

ALT	The user defined option will be available when working with the Alert Log
CON	The user defined option will be available when working with the Message Console

Option code

Specify the option code. Option codes must be unique and begin with A-Z. The optional second character can be A-Z or 0-9.

To rename an option code, overtype the field with the new option code.

You are now ready to specify the commands that are run whenever this user defined option is invoked.

F6=Add

Press **F6=Add** to open the Add Option Command add a command or built in option to this user defined option.

```

HAL0045R                               Halcyon Software                               HAL720P2
MANL                                     Add Option Command                               17/08/15 15:46:58
Command or option . . . . PRTSYSSTS

```

```

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Command or option

Type the command or built-in option to run. You can specify any command that is allowed to run in the *EXEC environment (in most cases these are the same as the commands that can be run at a command line). The entered command may include substitution variables. Use **F4=Prompt** to view the major command groups. Use **F16=List substitution variables** to display a range of valid substitution variables that can be used in the command.

Once the command or option has been entered, press **Enter** to add it to this option code. You can define multiple commands within a single option code which are then run in sequence.

EXAMPLE: Assuming an Option code of AC, you can add the following commands to acknowledge the alert and send an email.

Seq Command or option

10 ACKALT ALERT (&ALERTID)

20 SNDTXTMSG MSG ('Acknowledged: &ALERTID / &ALERT') TOMSGDEV
(*EMAIL) EMAILADDR (TECHNICALSERVICES@HS.COM)

Changing the order in which commands are run

To change the order in which the commands are run for a specific option code, simply overwrite the current sequence number with the new sequence number, All sequence numbers must be unique and the run order always starts with the lowest sequence number first.

Once the command has been entered, press **Enter** to add this command in the next available sequence number for this user defined option. The command is now displayed for this user defined option.

Using the Add Option Command display

The following options are available on the Add Option Command display.

Change

Use option **2=Change** to amend the selected command for this user defined option.

Delete

Use option **4=Delete** to remove the selected command from the user defined option.

Display

Use option **5=Display** to be able to view, but not amend, the selected command for the user defined option.

Functions on the Add Option Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Inactivity Screen Saver

Whilst using Halcyon products, it is possible to lock an interactive display with a screen saver that requires the user to provide their password to unlock.

Configuration

- IBM System Value QALWJOBITP must be set to the value of 2. The system allows jobs to be interrupted in order to run user-defined exit programs. All new jobs that become active, default to being capable of being interrupted.
- IBM System Value QMAXSIGN should be set to the maximum number of attempts for entering the correct password.
- The Lock Display **LCKDSP** command has been made available in the HAL library. This command applies the lock to the specific interactive display job. For example:
 - **LCKDSP *** - Locks the current interactive display/job
 - **LCKDSP 123456/jobuser/jobname** - Locks the specified interactive display/job. In order to local another display/job you must have *JOBCTL authority.

Use

When a screen is locked, a screen saver is displayed comprising a small window that moves to a random position on the display every five seconds. Press F3, F12 or Enter to open a password prompt to unlock the display.

If an incorrect password is entered enough times (as defined in IBM System Value QMAXSIGN), the error “You have used the maximum allowed number of attempts to enter your password” is displayed and the password input field is no longer available. To recover from this position, either signoff using [SysRq]90 (which ends the job) or get an authorized user to unlock the display using the Unlock Display (**UNLDSP**) command.

NOTE: At this point, the maximum attempts have been used and any future screen saver activation will NOT allow the number of attempts at the password. Sign-off and sign back on to reset this value. This is an operating system restriction.

While the screen saver is active:

- [SysRq]2 is disabled (end previous request)
- [SysRq]4 is disabled (Display messages)
- [SysRq]5 is disabled (Send a message)
- [SysRq]6 is disabled (Display system operator messages)

- The “Attention” key is disabled
- Use of F3, F12 or **Enter** allows the user to provide their password to unlock the display.

Unlock Display (UNLDSP)

The Unlock Display (**UNLDSP**) command is available in the HAL library. This command removes a lock/screen saver from an interactive display/job.

*ALLOBJ special authority or specific *USE authority is required on the command to be able to use it as well as *JOBCTL authority.

Notes

- During install, an exit program (HAL8810C) is added to IBM Exit Point QIBM_QWC_JOBITPPGM. This enables remote locking.
- A valid Halcyon product authority code is required to use the **LCKDSP** and **UNLDSP** commands.
- HAL/GENERAL authority is required within Halcyon to run the **LCKDSP** and **UNLDSP** commands.
- No authority is required to be the target of a remote **LCKDSP** command. You can use **LCKDSP** to remotely lock the display of a user who has no Halcyon authority at all.
- An Action Template has been created so this functionality can be used with Inactivity rules.

Message Manager

Overview

Message Manager monitors all of your message queues and the QHST Message Log.

Message rules, covering specific, generic and global occurrences are created to monitor message queues for messages being received (or in some instances) not being received. For recurring messages, escalating actions can be applied.

Possible actions that can be taken include sending an automatic reply, executing a command, sending the message to a cell phone or email address and forwarding the details to a central graphical display application known as the Enterprise Console. Additionally, action schedules can be created so that different actions can be taken depending upon the time of day when the message was received.

Getting there

Select option **20=Halcyon Message Manager** from the Halcyon main menu to open the Message Manager options.

```

HMM                               QA Environment                               HAL720P4
QA                               Halcyon Message Manager                               18/03/15 11:38:11
Select one of the following:

  1. Display Message Log
  2. Work with Alert Log
  3. Work with Monitors

  5. Work with Rules
  6. Work with System Defaults
  7. Work with Substitution Variables

 40. Reports Menu
 41. Utilities Menu

 70. Display Product Information
 71. Display System Information

Bottom

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel

```

Quick access

From the Message Manager menu you can access the following options:

Option	Function
--------	----------

<u>Display Message Log</u>	Displays the message log subsetting for messages generated by Message Manager
<u>Work with Alert Log</u>	Displays the alert log subsetting for alerts generated by Message Manager
<u>Work with Monitors</u>	Opens the Work with Monitors display subsetting by the monitors specific to Message Manager
<u>Work with Rules</u>	Opens the Work with Rules display subsetting by the rule groups applicable to Message Manager
<u>Work with System Defaults</u>	Opens the Work with System Defaults display subsetting for system defaults applicable to Message Manager
<u>Work with Substitution Variables</u>	Opens the Work with Substitution Variables display subsetting for substitution variables applicable to Message Manager
<u>Message Manager Reports</u>	Displays the list of reports available within Message Manager
<u>Message Manager Utilities</u>	Displays the list of utilities available when working with Message Manager
<u>Display Product Information</u>	Displays the current Halcyon product information for this system
<u>Display System Information</u>	Displays the current system information for this device

Display Message Log

The Message Manager - Display Message Log option displays all messages generated by the Halcyon Message Manager product installed on your IBMi. These are shown as a subsetted list of the full Message Log.

NOTE: See the Chapter [Display Message Log](#) for more details.

Getting there

Select option 1=**Display Message Log** from the Message Manager main menu.

```

HAL0010R                               Halcyon Message Manager                               HAL525P1
                                     Display Message Log                               27/04/09 09:38:16
Position to Date . . . . . _____ Subsetted List
Position to Time . . . . . _____

Type options, press Enter.
1=Select job 5=Display 6=Print 7=Alert Log 8=Network Log 9=Comms Log

Op Typ Sev Date   Time      Message
_ SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QUSRSYS/MCUS
_ SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue PMEDHUSR/PME
_ SYS 00 27/04/09 08:32:56 Delay interval for queue PMEDHUSR/PMEDH set to 60 se
_ SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QHST.
_ SYS 00 27/04/09 08:32:56 Message Manager has attached file QHST09114B for pro
_ SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QHST set to 80 seconds
_ SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QSYSMSG
_ SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QSYSMSG set to 100 sec
_ SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QSYSOPR
_ SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QSYSOPR set to 60 seco
_ SYS 00 27/04/09 08:34:51 Message Monitor ended.

                                     Bottom

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F21=Print

```

Access and Navigation

Messages are displayed in chronological order, most recent last. When you first open the Display Message Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested
- Use the **Page Up**/**Page Down** keys to scroll through the messages

- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Message Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Message Log display

The following parameters are available on this display.

Type

Indicates the type of message entry.

MNT	Maintenance message
SYS	System message

Severity (Sev)

Displays the severity of each message using the following rating.

0	Information
10	Warning
20	Error
30	Severe error
40	Abnormal end of program or function
50	Abnormal end of job

Date

The date on which the message was logged.

Time

The time at which the message was logged.

Message

Shows the message text. If the text is truncated use option **5=Display** to show the full message detail.

Using the Display Message Log display

Please refer to the Chapter - [Display Message Log](#) for more information on working with this and subsequent screens.

Work with Alert Log

The Work with Alert Log display is used to display any alert messages that have been generated as a result of user-defined rule criteria being triggered in Message Manager you have installed on your IBMi. The Alert Log allows you to reply to, close and delete alerts as well as view previous action history or change the rule that generated the alert.

NOTE: See [Work with Rules](#) for more details on how to set rule criteria.

Getting there

The Work with Alert Log display is accessed from option **2=Work with Alert Log** from the Message Manager menu.

```

HAL0020R                               Halcyon Message Manager                               HAL525P3
SOS                                     Work with Alert Log                               21/01/10  10:55:30
Position to date . . . . .              Subsetted List
Position to time . . . . .
Type options, press Enter.
4=Delete 5=Display 6=Print 7=Messages 9=Reply 10=Close 11=Omit in future
13=Action history 14=Message count 18=Acknowledge 20=Change rule...

Opt Status Date      Time      Alert Message
---
  CLOSED 07/01/10 16:33:46 33  Service provider message: Hi from Orange. J
  CLOSED 11/01/10 11:08:16 84  ERROR MESSAGE CPF4203 APPEARED DURING OPEN
  CLOSED 11/01/10 11:09:18 86  ERROR MESSAGE CPF4203 APPEARED DURING OPEN
  OPEN   12/01/10 07:54:01 93  Service provider message: Hi from Orange. F
  CLOSED 13/01/10 11:29:27 121  CPF3303 RECEIVED BY QAREP1 AT 500. (C D I R
  CLOSED 13/01/10 11:30:28 122  CPF3303 RECEIVED BY QAREP1 AT 500. (C D I R
  CLOSED 13/01/10 11:32:30 123  CPF3343 RECEIVED BY QAREP1 AT 500. (C D I R
  CLOSED 18/01/10 10:37:13 178  MAKE DEVICE TAP02 READY (C G).
  CLOSED 20/01/10 09:18:20 224  RECEIVER HALRCV0001 IN HALQA NEVER FULLY SA
  CLOSED 20/01/10 09:41:44 232  RECEIVER HALRCV0001 IN HALQA NEVER FULLY SA

                                          BOTTOM
F3=Exit  F5=Refresh  F11=Show rules  F12=Cancel  F13=Repeat  F24=More keys
    
```

NOTE: If Message Manager is installed as part of a product suite, viewing the Alert Log from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only alerts applicable to Message Manager are currently being viewed.

Access and Navigation

Alerts are displayed in chronological order, most recent last. When you first open the Work with Alert Log display, you are automatically taken to the most recent alert at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alerts nearest to the date/time combination requested
- Use the **Page Up/Page Down** keys to scroll through the list of alerts
- Use **F18=Bottom** to return to the most recent alert
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new alerts that may have arrived since the Alert Log was initially displayed.

- Use **F5=Refresh** to refresh the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent alert

Parameters on the Work with Alert Log Display

The following parameters are shown on the Work with Alert Log display.

Alert status

Shows the current status of the alert. The alerts that are displayed on the Alert Log can be in a status of 'open' or 'closed'. Any alert that does not have a status value of closed is an open alert.

An open alert is one that has been raised by a filter criteria in one of the Halcyon products but that has not yet been closed. An open alert indicates an issue that needs further investigation. The current status can be one of seven values:

OPEN	The alert is currently open
ACKNOWL	The alert has been acknowledged but is still open
ACTIVE	Open alert for which an action is currently in progress
CONSOLE	Open alert for which a console action has been successfully completed
SNDTXT	Open alert for which a send text message action has been successfully completed
PENDING	Open alert for which an action is pending
ERROR	Open alert for which an action has failed

A 'closed' alert status indicates an alert that has had an issue resolved or has been noted. Alerts can be closed either manually or automatically.

CLOSED	The alert is closed
---------------	---------------------

Date

Shows the date on which the alert was logged.

Time

Shows the time at which the alert was logged.

Alert

Displays the unique identification number allocated to the alert.

Message

Displays the text of the alert. If this parameter is truncated use option **5=Display** against the required alert to view the full text.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

Using the Work with Alert Log display

Please refer to the chapter [Work with Alert Log](#) for more information on working with this and subsequent screens.

Work with Monitors

The Message Manager - Work with Monitors display shows a subsetting list comprising both the Message monitor and TCP/IP monitor that form the monitoring capability of Halcyon Message Manager.

From this display you can start, hold, end, release and supervise either of the installed monitors.

Getting there

Take option **3=Work with Monitors** from the Message Manager main menu to open the Work with Monitors display.

```

HAL0110R                               Halcyon Message Manager           HAL525P1
                                         Work with Monitors             9/12/08  11:18:07
                                         Subsetting List

Type options, press Enter.
 1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
 9=Stop supervising
Opt Monitor Description                Sup Status  Function  Busy
- HMMMSG  Message Monitor              N Stopped
_ HMTCP   TCP/IP Monitor                N Stopped

                                         Bottom
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with Subsystem Jobs  F17=Subset

```

NOTE: If installed as part of a Halcyon product suite, this display shows a subsetting list of the full monitoring capability of Halcyon products. Some of the actions performed in Halcyon products require that the relevant monitors are in a stopped status prior to the action being confirmed.

Message Manager Monitors

The following monitors are available in Halcyon Message Manager.

Message Monitor

The Message Monitor scans the specified message queues looking for messages that require actions to be performed.

TCP/IP Monitor

The TCP/IP Monitor PINGS connections to networked devices which have IP Addresses. If the PING fails, an alert is sent to the Action monitor, to notify that the device is not responding.

Auxiliary TCP/IP Monitors

As there is a timeout over which a PING is deemed unsuccessful, a monitor may have to wait for a long period of time before determining that the remote device is not responding. In the meantime, other networked devices are not being checked. Using Auxiliary monitors allows you to perform multiple PING checks simultaneously.

Job Log Monitor

The Job Log Monitor checks within the job log of currently active jobs for messages.

Starting and Ending the Monitors

There are three ways in which you can start and end the Halcyon monitors:

- Use options directly from the Work with Monitors display
- Using commands
- Using AutoStart and Controlled Ends

Using the Work with Monitors display

Using options **1=Start** and **4=End** from the Work with Monitors display enables you to start and end individual monitors as required. You can also hold and release monitors from this display. Starting a monitor also starts the subsystem if necessary.

NOTE: Monitors with a status of 'Held' cannot be started.

Using Commands

Starting

To start all non-held monitors, use the Start Monitors (**STRMON**) command. This also starts the subsystem if necessary. Parameters on this command allow you to start any number of specific monitors. Using the Start Subsystem (**STRSBS**) command to start the subsystem also starts all non-held monitors.

Ending

To end all the currently active monitors, use the End Monitors (**ENDMON**) command. Parameters on this command allow to end any number of specific monitors.

If all monitors are ended, then by default, the subsystem is also ended.

Using the End Subsystem (**ENDSBS**) command to end the subsystem also ends all active monitors, but takes longer than using the End Monitors (**ENDMON**) command.

Using AutoStart

It is possible to start the Halcyon monitors automatically when the IBMi is restarted. To achieve this, add the following autostart job entry to any subsystem that is automatically started during the IPL process:

ADDAJE SBS (library/subsystem) JOB(HALCYON) JOBD(library/STRSBS)

Using Controlled Ends

These commands end all active Halcyon monitors and the subsystem:

ENDMON MONITOR(*ALL) ENDSBS(*YES)

ENDSBS SBS(halcyonsubsystem) OPTION(*CNTRLD) DELAY(300)

ENDSYS OPTION(*CNTRLD) DELAY(300)

PWRDWN SYS OPTION(*CNTRLD) DELAY(300)

NOTE: To allow the monitors to end in a controlled manner, use **OPTION(*CNTRLD)** with a delay time of at least 60 seconds, 300 seconds being recommended)

Parameters on the Work with Monitors display

The following parameters are shown on the Work with Monitors display.

Monitor

Displays the name of the installed monitor.

Description

Provides a brief description of the monitor purpose and duties.

Supervised

This indicates whether the monitor is enabled for supervision by the monitor supervisor.

Y	Supervision is currently enabled
N	Supervision is currently not enabled
(blank)	Supervision is not applicable to this monitor

NOTE: Auxiliary Monitors, along with the supervisor itself, cannot be supervised.

When the Monitor Supervisor is active, the following occurs for monitors that are currently in supervised status and are not held.

- If a monitor is stopped, it is started by the Supervisor
- If a monitor has failed and is waiting for an inquiry message reply (showing as a Status of MSGW), the Supervisor replies to the message, trying replies in the following sequence:
 - **D** Dump
 - **C** Cancel
 - Default reply

Status

Shows the current status of the monitor.

Held	The monitor is stopped and held. A held monitor is not started when the Start Monitors command STRMON MONITOR (*ALL) is used
Starting	The monitor is starting

Active	The monitor is active but is not being supervised
Active-Sup	The monitor is active and is being supervised
Ending	The monitor is ending
Stopped	The monitor is stopped

Function

For an active monitor, this indicates the function that the monitor is currently performing. Monitors that are currently idling show either DEQW or SELW in this parameter.

Busy

Indicates the percentage of time (during the last 60 seconds) that this monitor spent processing a request.

NOTE: Busy time is not the same as CPU time. For example, when processing a request, Network and Communications Monitors may spend significant time waiting for a response in SELW or ICFW status, during which time, no CPU time is actually being used.

Using the Work with Monitors display

Please refer to the chapter [Work with Monitors](#) for more information on working with this and subsequent screens.

Work with Rules

Working with Rules allows you to define and maintain rules for the message queue and TCP/IP monitors.

Getting there

Use option **5=Work with Rules** on the Message Manager main menu to open the Work with Rules display.

```

HAL0030R                               Halcyon Message Manager                               HAL525P1
                                         Work with Rules                               9/12/08 12:44:54
Type options, press enter                Subsetted List
1=Insert 2=Change 3=Copy 4>Delete 5=Display 6=Release 7=Hold 8=Alerts
15=Review messages 23=Rule History
Opt                                       Status
-- Message Queue                       Active
-- TCP/IP                               Stopped

                                           Bottom
F3=Exit  F5=Refresh F6=Add  F9=Move to top F11=Expand F12=Cancel
F17=Subset F21=Command line F23=Expand all

```

NOTE: If Message Manager is installed as part of a product suite, viewing the Work with Rules display from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only rules applicable to Message Manager are currently being viewed.

The Work with Rules display lists the information using three levels of indentation. By default, upon opening the display, only the first level is shown. Further levels are displayed by using **F11=Expand** and then **F23=Expand All**.

Work with Rules Levels of Display

The three levels of indentation available for view on the Work with Rules display are:

1. Monitors
2. The rule groups defined within each monitor
3. The rules defined within each rule group

Parameters on the Work with Rules display

The following parameters are available on this display.

Item

Shows up to three levels of rules (see above).

Description

The description of the rule level item displayed in the Item column.

Status

This shows the current status of the item. The status information shown changes dependent on the item level selected.

At monitor level	
Held	The monitor is held to prevent it starting
Starting	The monitor is stating
Started	The monitor is running
Ending	The monitor is ending
Stopped	The monitor has been stopped
At rule group level	
Held	The rule group is held. None of the rules are processed
Released	The rule group is released. All released rules may be processed
At rule level	
Held	The rule is held. The rule is not processed
Released	The rule is released. This rule may be processed

Rule requirements

The following requirements must be met in order for a rule to be processed, in order that alerts may be generated and actions invoked:

1. The rule must be released.
2. The rule group containing the rule must be released.
3. The monitor containing the rule group must be started.

Using the Work with Rules display

Please refer to the following sections within [Work with Rules](#) for more information on working with this and subsequent screens.

Work with System Defaults

System defaults are values that control how Halcyon products operate, in the same way that system values affect the i5/OS operating system.

The Message Manager - Work with System Defaults display lists the available Message Manager system defaults and provides options enabling you to display or change settings.

Getting there

Take option **6=Work with System Defaults** from the Message Manager main menu to display the Work with System Defaults display.

```

HAL9010R                               Halcyon Message Manager           HAL525P1
                                         Work with System Defaults         9/12/08  14:51:27
Type options, press Enter.              Subsetted List
2=Change  5=Display

Opt Prd Name      Description
- HMM ADDRULOPT   Automatic Rule add option.
- HMM DFTMAXCONCALL Maximum consecutive API calls per queue.
- HMM DFTMAXPERAPI Maximum messages to retrieve per API call.
- HMM DFTMONINTV  First monitor interval in seconds.
- HMM DFTMONTIM  First monitor start time.
- HMM DFTMSGQSTROPT Default Message Queue start up option.
- HMM DFTPAGOVR  Pager override message severity.
- HMM DTAQWAIT   Data queue API wait time in seconds.
- HMM LOGTCPDTL  Log TCP/IP detail messages
- HMM LRMLOGLIFE Number of days to retain messages in review log.
- HMM LRTLOGLIFE Number of days to retain Message monitor processing ent
- HMM MSGCNTMETHOD Message count method.
- HMM MSGMONTRACE Add monitor trace messages to log
- HMM MSGQDIAGFOR Message Queue Diagnostic for queue name.
- HMM MSGQDIAGTYPE Message Queue Diagnostic message type.

More...

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset
    
```

NOTE: If Message Manager is installed as part of a Halcyon product suite, viewing the system defaults from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only system defaults applicable to Message Manager are currently being viewed.

System Default Authority

In order to actively use this display, you need *USE authority to the WRKSYSDF function. In addition, you need *ALL or *USE authority to the SYSDFT function in each product of which you need to maintain or view the system defaults.

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the code of the product to which the system default relates.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Work with Substitution Variables

Substitution variables can be used in command and message strings that are defined within Halcyon products. The variable is replaced with the effective value when the command runs or when the message is sent.

Getting there

Select option **7=Work with Substitution Variables** from the Message Manager menu.



Parameters on the Work with Substitution Variables display

The following parameters are available on this display.

Name

Displays the name of the substitution variable.

Class

Displays the class of the substitution variable. There are two types:

SYS	System variables are built-in to the software and cannot be created changed, or deleted
USR	User variables are created and maintained by the user

Type

Displays the type of value returned by the substitution variable. This can be one of the following:

*BYTE	Binary data. Defines binary data with a maximum length of 64 bytes. The data must be typed in hexadecimal format
*CHAR	Variable length character variable. Defines a variable length character string with a maximum length of 1024 characters
*DATE	Date variable. Defines a packed decimal value with 8 digits containing a date in yyyyymmdd format
*DEC	Numeric variable. Defines a packed decimal value with a maximum of 15 digits of which up to 5 may be decimal digits
*FIXED	Fixed length character variable. Defines a fixed length character string with a maximum length of 1024
*PROT	Protected character variable. Defines a protected character string with a maximum length of 128. This type is useful for storing passwords. Once created, the value can be changed but the current value cannot be displayed.
*TIME	Time variable. Defines a packed decimal value with 6 digits containing a time in hhmmss format.

NOTE: When a substitution variable is used in a Command action with the **CALL** command, the value is returned as the data type defined above. For example, as either a character value or a packed decimal value. In all other cases, numeric values are returned in formatted character format.

For example, if today's date is 1 Jan 2010 and the time was 12:30, the &DATE and &TIME variables are resolved as follows:

Defined Command: CALL PGM (QGPL/MYPGM) PARM (&DATE &TIME)

Resolved Command: CALL PGM (QGPL/MYPGM) PARM (X'1020100101F'
X'0123000F')

Defined Command: QGPL/MYCMDCALL DATE ('&DATE' '&TIME')

Resolved Command: QGPL/MYCMDCALL DATE ('01/01/10' '12:30:00')

See [Number, Date and Time Formats](#) for more information on creating different format substitution variables.

TIP: To return *DATE and *TIME variables formatted other than in the default format:

1. Create a user variable of type *CHAR.
2. Type the date or time variable in operand #1.

Attr

The length of the return value in characters or digits. For *DEC, *DATE and *TIME variables, the number after the comma is the number of decimal places.

Description

The description of the substitution variable.

Functions on the Work with Substitution Variables display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Substitution Variable display from where a new substitution variable can be created. See [Creating a Substitution Variable](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to produce a fully detailed substitution variables report for all substitution variables defined on the system.

Using Substitution Variables

Whenever a substitution variable is used in a command or message string, it must be typed in the following format.

&name;

&	Ampersand denotes the start of a substitution variable
name	Name of the substitution variable
;	Optional semi-colon denotes the end of a substitution variable

NOTE: The semi-colon may be omitted if the character immediately following the variable name is not upper case A-Z or 0-9.

EXAMPLE:

Assuming that the substitution variable NAME has the value of JOHN then:
A text entry of "User is &NAME." or "User is &NAME; ." results in "User is JOHN."

Message Manager Reports

Overview

Message Manager Report options allow you to print a variety of reports that provide information relating to messages and alerts received as well as details of system configuration.

Getting there

Select option **40=Reports Menu** from the Message Manager main menu.

```
HMMRPT                               Level 4: Operations Center           HAL525P3
                                     Halcyon Message Manager       29/06/11  10:09:15
                                     Reports Menu

Select one of the following:

  1. Print Message Log
  2. Print Alert Log

  5. Print Message Manager Rules
  6. Print System Defaults

 10. Print Message Queue Rules
 11. Print TCP/IP Rules
 12. List Message Queue Rules

 20. Print Job History
 21. Output Job History

                                     BOTTOM

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Each report is available to print separately from the Message Manager Reports menu.

Functions used when Printing Reports

The following functions are used on all printing options:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Print Message Log

NOTE: See Reports Menu - [Print Message Log](#) for information regarding the parameters on this display.

Print Alert Log

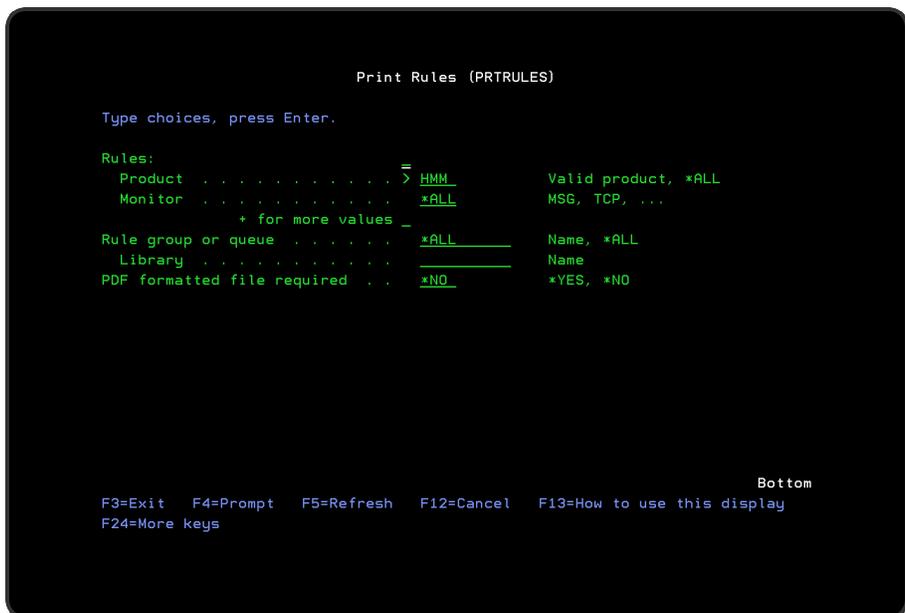
NOTE: See Reports Menu - [Print Alert Log](#) for information regarding the parameters on this display.

Print Message Manager Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the Message Manager product, the display is pre-configured to print the Message Manager rules covering both message queues and TCP/IP rule groups.

Getting there

Select option **5=Print Message Manager Rules** from the Message Manager Reports menu.



Parameters on the Print Message Manager Rules display

The following parameters are shown on the Print Message Manager Rules display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the Message Manager product and all the monitors contained within.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HMM (Halcyon Message Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with *ALL (message queues and TCP/IP rule groups) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If more than one monitor is selected in the 'Monitor' parameter, this setting must be *ALL.

*ALL	Selects all message queues and TCP/IP rule groups
group	If a single monitor has been entered, specify the name of the message queue or TCP/IP rule group to print. For message queues, the library must also be specified

Library

If a single message queue has been specified, enter the name of the queue library.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . the file name in the directory is Report_yyyy-mm-dd_ss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print System Defaults

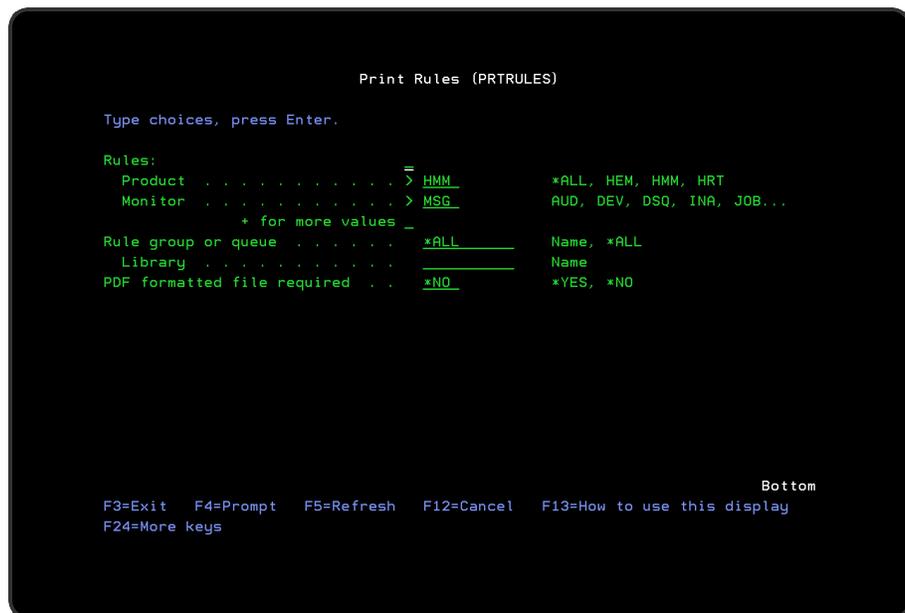
NOTE: See Reports Menu - [Print System Defaults](#) for information regarding the parameters on this display.

Print Message Queue Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the Message Manager product, the display is pre-configured to print the message queue rules.

Getting there

Select option **10=Print Message Queue Rules** from the Message Manager Reports menu.



Parameters on the Print Message Queue Rules display

The following parameters are shown on the Print Message Queue Rules display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the Message Manager product and the Message monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HMM (Halcyon Message Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with MSG (Message monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

As this option is pre-configured with the Message monitor, this parameter may be used to select a specific rule group within this monitor.

*ALL	Selects all message queues in the Message monitor
group	Specify the name of the message queue to print. The library must also be specified

Library

Specify the name of the queue library.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the value in system default HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM=DD is the date on which the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print TCP/IP Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the Message Manager product, the display is pre-configured to print the TCP/IP group rules.

Getting there

Select option **11=Print TCP/IP Rules** from the Message Manager Reports menu.



Parameters on the Print TCP/IP Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the Message Manager product and the TCP/IP monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HMM (Halcyon Message Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with TCP (TCP/IP monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

As this option is pre-configured with the TCP/IP monitor, this parameter may be used to select a specific rule group within this monitor.

*ALL	Selects all rule groups in the TCP/IP monitor
group	Specify the name of the TCP/IP rule group to print

Library

Not required when just printing TCP/IP group rules from this option.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the value in system default HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

List Message Queue Rules

The List Message Queue Rules (**LSTMSGRUL**) command prints the rules for one or more message queues. This report provides a basic list of the rules together with the select/omit entries. Not all of the data values are included due to space limitations.

NOTE: If you require a more detailed report of message queue rules, use the **PRTRULES** command or menu option **5=Print Message Manager Rules** from this menu.

Getting there

Select option **12=List Message Queue Rules** from the Message Manager Reports menu.

```

List Message Rules (LSTMSGRUL)

Type choices, press Enter.

Message queue . . . . . *ALL      Character value, *ALL
Include actions . . . . . *YES     *YES, *NO
PDF Formatted File Required . . > *YES  *YES, *NO
PDF Stream File Path . . . . . AUTO

-----

Stream file option . . . . . *ADDSEQ  *NONE, *REPLACE, *ADDSEQ

-----

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

Parameters on the List Message Rules display

The following parameters are available on the List Message Rules display.

Rule group/Library

Specify the name of the message queue and library in which it resides.

*ALL	All message queues are printed
group	Enter the name of the message queue containing the rules that you want to print

Include Actions

Specifies whether or not to include a list of the actions associated with each rule.

*YES	A list of actions is included with the Message Queue rules
*NO	Actions are not listed on the Message Queue rules list

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the value in system default HAL/DFTDIR . The file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based report where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the streamfile is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
--------------	--

*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Job History

The Print Job History (PRTJOBHST) command prints a report showing the job history between two user-specified dates and includes:

- Job reference
- Date and time that job entered the system
- Date and time job started
- Date and time job ended
- Run time
- CPU time used
- Ending code

Getting there

Select option **20=Print Job History** from the Message Manager Reports menu.

```

Print Job History (PRTJOBHST)

Type choices, press Enter.

From date . . . . . *TODAY      Date, *TODAY, *YESTERDAY
To date . . . . . *FROMDATE    Date, *FROMDATE, *TODAY
Save spooled file . . . . . *NO      *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys
    
```

Parameters on the Print Job History display

The following parameters are available on the Print Job History display.

From date

Specify the date from which you want to include jobs on the report.

*TODAY	The report begins with jobs from today's date
*YESTERDAY	The report begins with jobs from yesterday's date
date	Enter the date from which jobs are included on the report

To date

Specify the date to which jobs are included on the report.

*FROMDATE	The beginning date is also the end date
date	Enter the date to which jobs are included on the report

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the value in system default HAL/DFTDIR . The file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. the existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Output Job History

The Output Job History (**OUTJOBHST**) command outputs job history information to a physical or stream file. This file can then be queried for reporting purposes or the stream file can be loaded into a PC based spreadsheet application. The following information is included in the report:

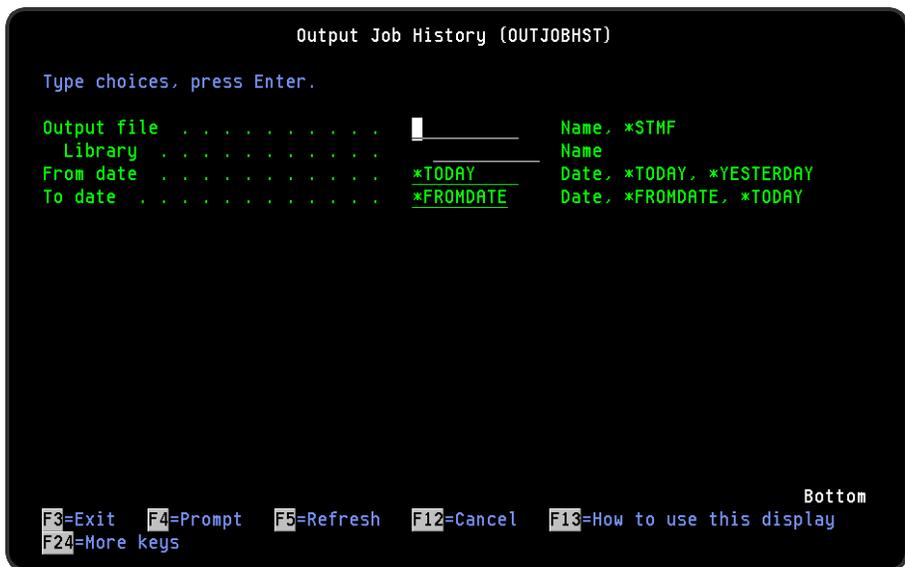
- Job reference
- Date and time job entered system
- Date and time job started
- Date and time job ended
- Run time
- CPU time used
- Ending code

NOTE: Only jobs that started and ended during the specified date range are included in the output.

TIP: To create a PDF formatted stream file, use the Print Job History (**PRTJOBHST**) command.

Getting there

Select option **21=Output Job History** from the Message Manager Reports menu.



Parameters on the Output Job History display

The following parameters are available on this display.

Output file/Library

Specifies the qualified name of the physical file to which the output is sent. Both the file name and library must be entered. The file is created if it does not already exist.

*STMF	Specifies that the output is sent to a stream file in the Integrated File System (IFS). Specify the path using the STMF parameter
*outfile	Enter the qualified name of the physical file

From date

Specifies the start date of the jobs that you want to include on the output.

*TODAY	The output begins from today
*YESTERDAY	The output begins from yesterday
date	Enter a specific date

To date

Specifies the last date of the jobs that you want to include on the report.

*FROMDATE	The start date was also the end date
*TODAY	The output ends on today
date	Enter a specific date

Output member

Specifies the name of the physical file member to which to send the output. This member is automatically created if it does not exist.

*FILE	Specifies that the name specified in the 'Output file' parameter is used as the member name
outmbr	Enter the member name

Replace physical file

Specifies whether to replace the physical file if it already exists.

*NO	If the physical file already exists it is not replaced. The member is added to the physical file, replacing a member with the same name if one already exists. If it does not already exist, it is created
*YES	If the file already exists it is deleted and the recreated. if the file does not exist then it is automatically created

STMF

Specifies the path of the stream file to which the output is sent. The stream file is created if it does not already exist but the directory structure must already be in place. The output is written to the stream file in CSV format.

Stream file option

Specifies whether the copy operation replaces an existing file, fails to copy, or generates a new name if a stream file with the specified name already exists.

*ADDSEQ	The file name specified in the 'To Stream File' parameter is modified to create a unique file name. A suffix of 'nnn' is added at the end of the file name (where nnn is a number in the range of 000 to 999)
*NONE	The file is not copied and the command fails
*REPLACE	The data in the existing file is replaced with the new data

Stream file column headings

Specifies whether to write column headings as the first output record on the report.

*YES	Column headings are included
*NO	Column headings are not included

Stream file codepage

Specifies the stream file code page used for data conversion.

*PCASCII	A Microsoft Windows compatible code page is used
*STDASCII	An IBM compatible code page is used
stmfcodpag	Enter the codepage to be used

NOTE: For more information on this parameter, please refer to the help provided for the STMFCODPAG parameter of IBM's Copy to Stream File (**CPYTOSTMF**) command.

Stream file end of line

Specifies the end-of-line characters used to mark the end of records within the stream file.

*CRLF	The end of line is marked by carriage return and line feed
*LF	The end of line is marked by carriage return and line feed
*CR	The end of line is marked by a carriage return
*LFCR	The end of line is marked by a line feed and a carriage return

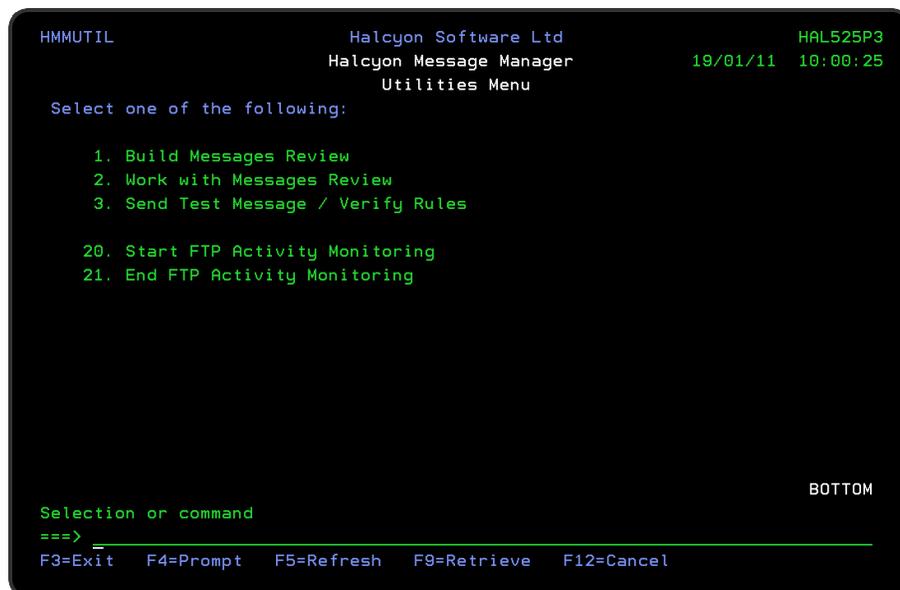
Message Manager Utilities

Message Manager Utilities allow you to create and maintain a Message Log based upon system messages previously held on your system prior to the installation of the Message Managersoftware.

Message Manager Utilities are also used to configure the monitoring of any FTP activity on your IBMi and send test messages.

Getting there

Select option **41=Utilities Menu** from the Message Manager main menu.



Quick access

From the Message Manager Utilities menu you can access the following options:

Option	Function
Build Messages Review	Allows you to build message history from your currently defined message queues
Work with Messages Review	Displays the summarized messages from a message queue and presents the results in the Message Review screen or in a printed report

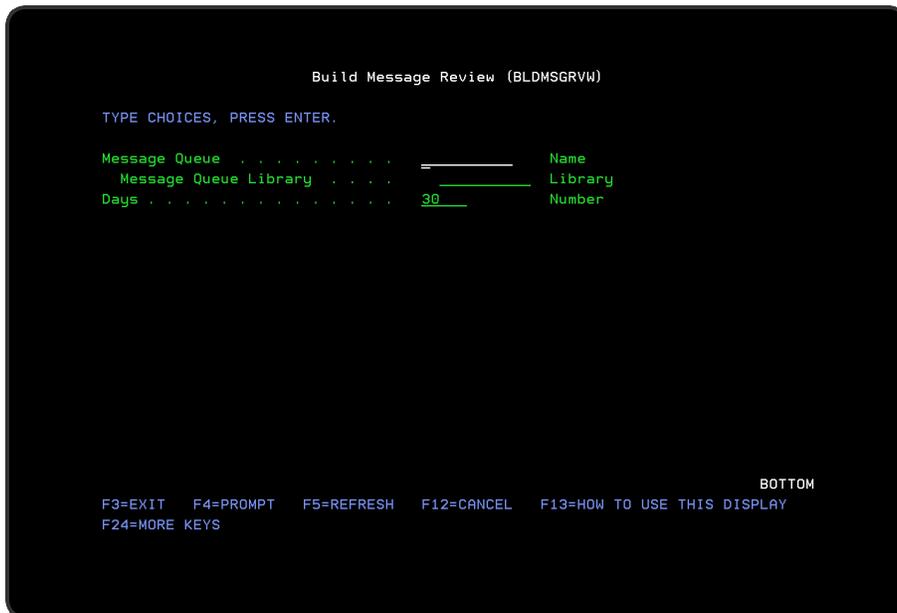
Option	Function
Send Test Message/ Verify Rules	Allows a message from a message file to be formatted with variable data and sent to a message queue
Start FTP Activity Monitoring	Starts monitoring for any messages that appear in the message queue HMMFTP
End FTP Monitoring	Ends monitoring of message queue HMMFTP

Build Messages Review

When you first install the Message Manager software, either individually or as part of a product suite, or add a new message queue that already contains messages you can use the Build Messages Review (**BLDMSGRVW**) command to build history from your current message queues.

Getting there

Select option **1=Build Message Review** from the Message Manager Utilities menu.



Parameters on the Build Message Review display

The following parameters are available on this display.

Message queue

Specify the ASP of the message queue to summarize and review.

*SYSBAS	The message queue library resides on the system ASP (1)
Name	Enter the name of the ASP group where the message queue library resides

Message queue library

Enter the name of the library in which the named message queue resides.

Days

Enter the number of days up to which the message history is collected. The default entry for this parameter is 30 days.

Press **Enter** to build the message review history using the entered parameters.

Functions on the Build Messages Review display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Messages Review

The Work with Message Review (**WRKMSGRVW**) command displays the summarized messages from a message queue and presents the results in the Message Review screen or in a printed report.

The summarized data is accumulated by the Message monitor during normal processing. If you want to review messages for a period when the Message monitor was not active, for instance when first installed, use the (**BLDMSGRVW**) command to build summarized data before using this command.

If you run the **BLDMSGRVW** command, all existing data for the selected message queue is replaced. Message Manager always purges the review data to match the number of days set in system default [HMM/LRMLOGLIFE](#).

The purge occurs automatically at midnight, or whenever the Message monitor is restarted. If you require more days of data to be retained permanently in the message review, you **MUST** change system default [HMM/LRMLOGLIFE](#).

NOTE: Message Queues running on Independent Disk Pools (ASPs) are supported (IBMi O/S v6.1 or later).

Getting there

Select option **2=Work with Messages Review** from the Message Manager Utilities menu.

```

Work with Messages Review (WRKMSGRVW)

TYPE CHOICES, PRESS ENTER.

Message Queue . . . . . _____  Name
Message Queue Library . . . . . _____  Library
Mode . . . . . *WEEKLY                *WEEKLY, *HOURLY, *DAILY
Message ID . . . . . *ALL                *ALL, Msg ID, generic* ID
Count Limit . . . . . 0                Number
Summarize days . . . . . *SYSDFT          *SYSDFT, *MAX, 01 - 999
Message severity filter . . . . . 00        00-99
Type of output . . . . . *                *, *PRINT, *OUTSTMF, *OUTFILE
Suppress duplicates . . . . . *YES         *YES, *NO

-

BOTTOM
F3=EXIT  F4=PROMPT  F5=REFRESH  F12=CANCEL  F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
    
```

Parameters on the Work with Messages Review display

The following parameters are available on this display.

Message queue/Library

Specify the ASP of the message queue to summarize and review.

*SYSBAS	The message queue library resides on the system ASP (1)
Name	Enter the name of the ASP group where the message queue library resides

Mode

Specify the message summary mode that is initially displayed.

*WEEKLY	The messages are displayed as being totaled for each week within the requested time period
*DAILY	The messages are displayed as being totaled for each day within the requested time period
*HOURLY	The messages are displayed as being totaled for each hour within the requested time period

Message ID

Specify the message or generic message ID to include in the summary.

*ALL	All messages are included, unless excluded by another parameter
Message ID	Only this message ID is included, unless excluded by another parameter
Generic ID	Message IDs that match the generic mask are included, unless excluded by another parameter

Count limit

Specify a count limit in the range 0-99999. Only message summary entries with a count greater than this figure is included.

Summarize days

Specify the number of days of messages that you want to summarize.

*SYSDFT	The number of days specified within system default HMM/LRMLOGLIFE is used
----------------	---

*MAX	Maximum number of days (up to 999) available
number	Enter a numeric value between 1 and 999

Message severity filter

Specify a message severity level of between 0 and 99. Only messages with a severity of greater than or equal to this level are included.

Type of output

Specify the required output format.

*	A summary is displayed on-screen
*PRINT	The summary is printed
*OUTSTMF	A list report is generated in a CSV file format
*OUTFILE	A physical file is created as specified in parameter OUTFILE, based upon the dummy file HMMRVWDUM

Suppress Duplicates

Specify whether message variable data should be included when summarizing messages.

*YES	Messages are summarized by message ID, ignoring the variable data. The first set of message variable data is used for the display line
*NO	The first level text and message variable data is used. Choosing this option causes many more entries to be produced and the message count is affected by the contents of the message data variables

IMPORTANT: If you have just upgraded Message Manager or the Halcyon product suite, it is necessary to run the **BLDMSGRVW** command for each message queue you want to review in order to rebuild the data.

Functions on the Work with Messages Review display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Send Test Message/Verify Rules

The Send Test Message display allows a message from a message file to be formatted with variable data and sent to a message queue.

NOTE: It is possible to send a generic message queue running on an Independent Disk Pool (ASP) (V6R1 or later).

Getting there

Select option **3=Send Test Message** from the Message Manager Utilities menu.



Enter a message ID, the message queue name and library name to which to send the message, the message file and library name containing the message and message type.

If any variables are defined for the requested message they are also listed. The message can be sent using all of the default values. Message variables of type *QTDCHAR are supported provided that they are enclosed in single quotes.

NOTE: If you send a message with severity equal or greater to the message severity value specified in system default [HMM/TSTMSGSEVWARN](#) a warning message is displayed and the message can only be sent using the force send option.

Press **F10** to send the completed entry to the selected message queue.

Sending test messages to Remote Locations

The Send Test Message (**SNDTSTMSG**) command can send the message to an *I5 Remote Location or the *I5 Remote Locations within a Remote Location Group that also have Message Manager or a Halcyon product suite installed and running.

Enter the details of the message and use [F11=Change attributes and send](#) to specify a Remote Location or Group.

NOTE: The details for the 'From Job Name', 'From User Name' and 'Use Jobqueue' parameters are not validated as they can only be verified on the Remote Location. Any errors that occur are not reported back.

Parameters on the Send Test Message Display

The following parameters are available on this display.

Message ID

Enter a unique message ID by which this test message is identified.

Message file/library/ASP group

Enter the name of the message file and qualified library name in which the message can be found. The message file must exist on the system to which the message is being sent.

NOTE: If using **F4=Prompt**, the search is performed on the libraries and message files within the specified ASP group so complete the entry in the ASP group parameter first.

The ASP group parameter defines the location of the selected message file and qualified library. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. The default entry is *SYSBAS.

Message type

Enter the type of message being sent.

*COMP	Sends a message type *COMP (Completion)
*DIAG	Sends a message type *DIAG (Diagnostic)
*INFO	Sends a message type *INFO (Information)
*INQ	Sends a message type *INQ (Inquiry)
*NOTIFY	Sends a message type *NOTIFY (Notification)
*ESC	Sends a message type *ESCAPE (Escape)

Message queue/library/ASP group

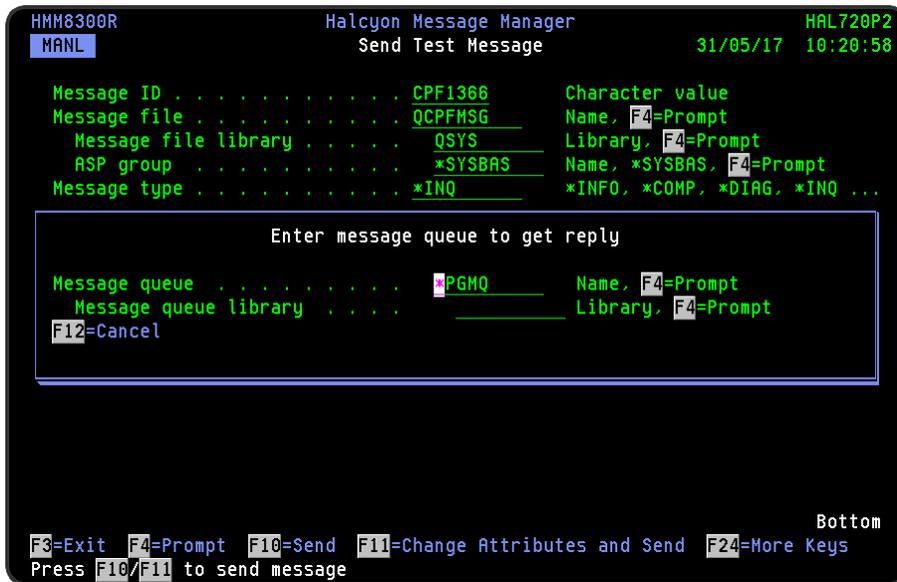
Enter the name of the message queue and qualified library name to which the message is sent.

NOTE: If using **F4=Prompt**, the search is performed on the libraries and message queue within the specified ASP group so complete the entry in the ASP group parameter first.

The ASP group parameter defines the location of the selected message queue and qualified library. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. The default entry is *SYSBAS.

When specifying a Message Type of *INQ, a window is opened once **F10=Send** is pressed to allow you to enter the message queue/library to get the reply.

Using this functionality allows you to process a message type of 'Sender Copy' (COPY).



Functions on the Send Test Message display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F10=Send

Use **F10=Send** to send the test message to the specified message queue.

F11=Change attributes and send

Use **F11=Change attributes and send** to be able to define the 'Job name' and 'Job user' parameters for the message being sent. The send request must be submitted to batch to run as the requested Job Name and User. The batch job runs as the user specified so you must have *USE Authority against the IBM User Profile for that user.

```

HMM8300R          Halcyon Message Manager          HAL720P2
MANL              Send Test Message                31/05/17  10:26:26

Message ID . . . . . CPF1366      Character value
Message file . . . . . QCPFMSG     Name, F4=Prompt
Message file library . . . . . QSYS  Library, F4=Prompt
ASP group . . . . . *SYSBAS       Name, *SYSBAS, F4=Prompt
Message type . . . . . *INQ       *INFO, *COMP, *DIAG, *INQ ...

Change Message Send Attributes

Remote location or group . . . . . *LCL      *LCL, *ALLI5, location
From job name . . . . . QPADEV0001  Name
From user name . . . . . ANDY       Name
Use job queue . . . . . QBATCH      Name
in library . . . . . QGPL          Name, *LIBL
Problem analysis . . . . . N        N=No, Y=Yes

F5=Refresh  F12=Cancel  F15=Verify rules

F3=Exit  F4=Prompt  F10=Send  F11=Change Attributes and Send  F24=More Keys
    
```

F12=Cancel

Use F12=Cancel to exit the current display and return to the previous display.

F15=Verify rules

Use F15=Verify rules to display a list of rules, currently configured for the selected message queue and message ID, showing the rule details and predicted action when the message is sent.

```

HMM8300R          HS Suite Message Manager          HAL720P4

HMM8310R          Verify Rules
Message queue . . . QSYS/QSYSOPR      Message ID . . CPF0907 *INFO
Message file . . . QSYS/QCPFMSG       Message Severity 80
Serious storage condition may exist. Press HELP.
Job name . . *ALL      Job user . . *ALL      Job program *ALL
Date/time . . 27/02/15 15:00:22      Sending user profile *ALL
Accg code . . *ALL

2=Work with rule 8=Scoring

Opt Rule  Description                      Monitor Option                      Sts
_ 0060  Serious storage conditions          ALERT criteria satisfied.           R
_ 0045  WRKPRB Message                       Problem analysis differs            R
_ 0999  Catch all - all other messag          ALERT criteria satisfied.           H
_ 0901  High severity messages >=90          Severity less than rule             R
_ 0100  Inquiry messages                     Message type differs               R
_ 0900  All inquiry messages                 Message type differs               R
_ 9999  Ignore "Sender Copy" Msgs           Message type differs               R
_ 0110  High severity messages                 Severity less than rule             H

F12=Cancel

Bottom
    
```

Each rule is identified (and indicated as either a Select or Omit rule). If required, use option **2=Work with Rule** against the rule that you want to open in order to be able to edit the parameters of the chosen message queue rule.

Rule identification

1. The list of Rules applying to the entered message details is sorted in the same order that the Message Monitor processes them, showing the highest 'weighted' Rule at the top towards the lowest 'weighted' at the bottom. Weighting is scored according to how many and what criteria are specified on the Rule. The more criteria; the heavier the weighting.
2. Rules with criteria **NOT** matching the message are colored Red.
3. Rules which have Omit Criteria which means **NOT** matching the message are colored White.
4. Rules with criteria matching the message are colored Green.
5. The 'Sts' column shows 'H' in Red for Held Rules and 'R' in Green for Released Rules.

The first Rule listed with all details shown in Green is the one picked up and processed by the Message Monitor as any Red or White color means the Rule is not selected.

Use option **8=Scoring** against a listed rule to display a list of the 'Scores' attributed to the rule that determined in which order the rule got processed. Rules are processed by highest to lowest score.

Job name

Specify the name of the job sending the message. The default setting is *ALL but this can be amended to check for rules for a specific job. Type a job name and press **Enter**.

Job user

Specify the name of the job user sending the message. The default setting is *ALL but this can be amended to check rules for a specific user. Type a user name and press **Enter**.

Job program

Specify the name of the program sending the message. The default setting is *ALL but this can be amended to check rules for a specific program name. Type a program name and press **Enter**.

Date

Specify the date on which the message is sent. The default setting is today's date, but this can be amended to check rules for a specific date. Type a date in DD/MM/YY format and press **Enter**.

Time

Specify the time at which the message is sent. The default setting is the current time, but this can be amended to check rules for a specific time. Type a time in hhmmss format and press **Enter**.

Sending user profile

Specify the name of the user sending the message. The default setting is *ALL, but this can be amended to check rules for specific users. Type a user name and press **Enter**.

Accounting code

Specify the accounting code of the user profile sending the message. The default setting is *ALL, but this can be amended to check rules for specific user accounting codes. Enter a user name and press **Enter**.

F16=Generic

Use **F16=Generic** to display the generic rules window. This pop-up window allows you to enter the details of the generic message where:

- **MessageID:** *BLANK
- **Message File:** *NONE

and then use **F15=Verify**.

```

HMM8300R                               Halcyon Message Manager                               HAL525P3
DCS                                     Send Test Message                               17/03/11 10:17:12

Message ID . . . . . _____ Character value
Message queue . . . . . QSYSOPR _____ Name
Message Queue Library . . . . . QSYS _____ Library
Message file . . . . . QCPFMMSG _____ Name
Message file library . . . . . QSYS _____ Library

Enter generic message details
Message queue . . . . . QSYSOPR _____ Name
Message Queue Library . . . . . QSYS _____ Library
Message type . . . . . *INFO _____ *INFO, *COMP, *DIAG, *INQ
Message text:
_____
_____
_____

F10=Send F12=Cancel F15=Verify rules

F3=Exit F4=Prompt F10=Send F12=Cancel F15=Verify rules F16=Generic
    
```

FTP Monitoring

FTP Monitoring is used to monitor for any messages that appear in the message queue `HMMFTP`, in library `HMMenv` (where `env` is the code used to represent the required environment).

Messages that appear on this queue confirm if any FTP actions have been performed. The Message monitor can then be used to create rules to determine whether or not certain FTP actions have occurred, and alert you accordingly.

For example, if you have a job that uses FTP to send a file overnight to another system and it is not received, you can send a text message or raise an alert so that the appropriate personnel are notified.

The Message monitor adds the following message to the Message Log if FTP Monitoring within the environment is not active.

HMM0532 - FTP Activity Monitoring is not active.

Use [Work with Administrator Alert Criteria](#) (WRKADMALT) or option 11=**Work with Admin Alert Criteria** on the Configuration Menu) to monitor for this message and take action if not active.

FTP Monitoring and Exit Points

FTP Exit Points only allow one program to be registered which can cause issues when you have multiple programs to be triggered on FTP events. In this instance, Message Manager FTP Monitoring, Authority Swapper (if installed) FTP Swaps and any customer written programs for handling FTP events are all affected as they cannot all be registered against the FTP Exit Points.

To combat this, the Halcyon programs registered against the FTP Exit Points simply trigger other programs as though they were triggered directly by FTP events. These are known as 'Primary Handlers'. 'Secondary Handlers' (the programs that are triggered by the Primary Handlers) can then be defined.

The following system defaults are also available, for each FTP Exit Point to define an additional program to be triggered if required:

- [HAL/QTMF_CLIENT_REQ](#)
- [HAL/QTMF_SERVER_REQ](#)
- [HAL/QTMF_SVR_LOGON](#)

- [HAL/QTMX_SERVER_REQ](#)
- [HAL/QTOD_SERVER_REQ](#)

Start FTP Activity Monitoring

To Start FTP Monitoring, select option **20=Start FTP Activity Monitoring** from the Message Manager Utilities menu.

```

Set Exit Points (SETEXITPNT)

Type choices, press Enter.

Primary exit point handlers . . . > *ENABLE      *SAME, *AUTO, *ENABLE...
Exit point:
Name . . . . . *ALL
Format . . . . . *ALL, CZRC0100, DB0P0100...
FTP Activity Monitor . . . . . > *ENABLE      *SAME, *ENABLE, *DISABLE
Exit Point Manager . . . . . *SAME        *SAME, *ENABLE, *DISABLE
Restart servers . . . . . *AUTO         *AUTO, *YES, *NO

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

The Set Exit Points (**SETEXITPNT**) command enables or disables the primary and secondary exit point programs used by Halcyon products.

NOTE: The Set Exit Points (**SETEXITPNT**) command requires the user to have *IOSYSCFG 'Special Authority' if Exit Point Manager is installed on the same system.

Primary Exit Point Handlers

Specify whether to add or remove Halcyon primary handler exit point programs. In some cases, adding or removing an exit program has no effect on the exit point until the appropriate servers are restarted. See the [Restart servers](#) parameter.

This command only processes Halcyon primary handlers. All Halcyon primary handler programs are located in the common library and have names beginning HAL_Q. Halcyon exit point programs that are not primary handlers are not processed by this command and neither are Halcyon primary handlers that belong to another Halcyon environment.

A Halcyon Primary Handler is a program intended to be used as the exit program for an exit point. A primary handler does no real work itself, but merely calls additional programs known as secondary handlers. These secondary programs perform the actual work. The primary handler calls each defined secondary handler in turn, unless a secondary handler

sets a return code to disallow an operation, in which case no further secondary handlers are called. This system allows greater control over the exit point and eradicates the one program limit that many exit points are restricted by.

*SAME	The primary exit handlers are not changed
*AUTO	The command attempts add the primary handlers that are required and removes those that are not required. A primary handler is deemed to be required if it is used by a Halcyon secondary handler of an installed product that has a valid authorization code, or more user defined secondary handlers have been declared. In the case of Halcyon Exit Point Manager, a further requirement is that at least one released rule must exist for that exit point
*ENABLE	The command attempts to add all primary handler exit point programs to their respective exit points. This fails if the exit point already has the maximum number of exit programs. To selectively add primary handler exit point programs, use the Work with Exit Point Handlers (WRKEXTHDL) command This value is not allowed when user exit point management is used (system default HAL/EXITPNTMGMT is set to *USER)
*DISABLE	The command removes all primary handler exit point programs for the current environment from the exit points
*SAVE	The command saves a record of the current handler configuration before removing all primary handler exit point programs for the current environment from the exit points. The second handler and auditing flags are also saved and cleared. This save replaces any previous save. The *RESTORE option may be used to restore the saved configuration
*RESTORE	The command attempts to re-add the primary handler exit point programs as recorded by the previous save. This fails if the exit point already has the maximum permitted number of exit point programs. The secondary handler and auditing flags are also restored. The save record is removed as a result
*CHECK	Checks whether any Halcyon primary handler programs for the current environment are registered. If so, message HAL1267 is issued as an escape message. If not, message HAL1268 is issued as a completion message

Exit Point name

When *ENABLE or *DISABLE is specified in the 'Primary exit point handler' parameter, this specifies to which exit points primary handlers should be added or removed.

*ALL	Primary handlers for all supported exit points are added or removed
name	Enter the name of the exit point

Format name

Specify the exit point format.

*ALL	Selects all supported formats of the specified exit point
name	Specify a specific format that is valid for the specified exit point

FTP Activity Monitor

Specify whether to enable or disable the secondary exit programs that handle the FTP Activity Monitor feature of Message Manager.

*SAME	The status is not changed
*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

IMPORTANT: You must specify ***SAME** for this parameter if ***AUTO**, ***SAVE**, ***RESTORE** or ***CHECK** is specified for the 'Primary exit point handler' parameter.

Authority Swapper

Specify whether to enable or disable the secondary exit programs that handle the FTP Profile Allocation feature of Halcyon Authority Swapper. This parameter has no effect unless Halcyon System Event Manager is installed and the Authority Swapper module is authorized by a valid license code.

*SAME	The status is not changed
*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

Exit Point Manager

Specify whether to enable or disable the secondary exit programs used by the Halcyon Exit Point Manager product. This parameter has no effect unless Halcyon Exit Point Manager is installed and is authorized by a valid license code.

*SAME	The status is not changed
*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

Restart servers

In some cases, adding or removing an exit program has no effect on the exit point until the appropriate servers are restarted. This parameter specifies whether to stop and restart the relevant servers. A restart is not required to enable or disable secondary exit programs.

*AUTO	<p>If exit programs have been added to or removed from any of the FTP, TFTP or REXEC exit points, the FTP, *TFTP and *REXEC TCP servers are ended.</p> <p>If exit programs have been added to or removed from the QIBM_QPWFS_FILE_SERV exit point, the *NETSVR TCP server is ended. These servers are then restarted if they are configured to auto-start. If exit programs have been added to or removed from database server exit points, the *CENTRAL and *DATABASE host servers are stopped and restarted and the QSERVER and QUSRWRK subsystems are stopped and restarted.</p>
*YES	The *FTP, *TFTP, *REXEC and *NETSVR TCP servers are ended. These servers are then restarted if they are configured to auto-start. The *CENTRAL and *DATABASE host servers are stopped and restarted. The QSERVER and QUSRWRK subsystems are stopped and restarted
*NO	No servers are stopped or restarted

NOTE: The SETEXITPNT command also restarts SSHD if it is set to be automatically started within the operating system.

Functions on the Set Exit Points display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

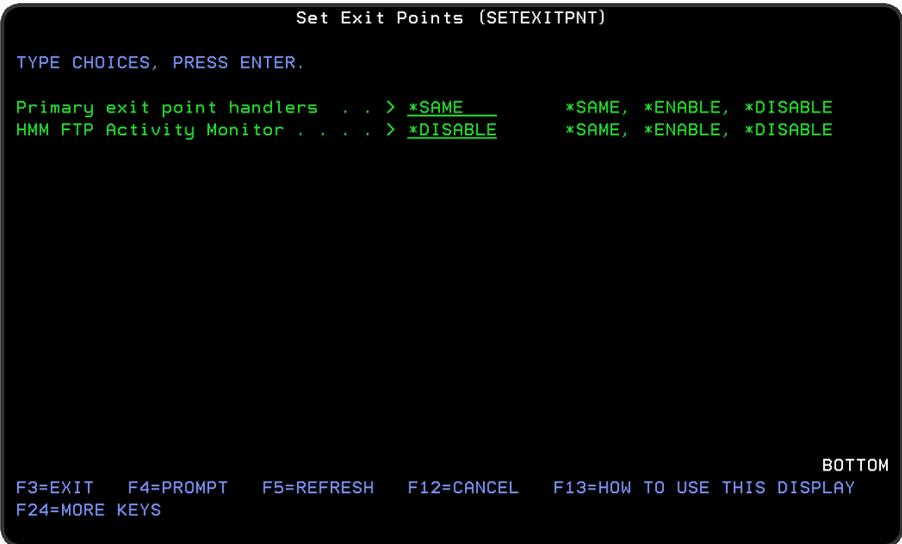
End FTP Activity Monitoring

The Set Exit Points (**SETEXITPNT**) command enables or disables the primary and secondary exit point programs used by Halcyon products.

NOTE: The Set Exit Points (**SETEXITPNT**) command requires the user to have *IOSYSCFG 'Special Authority' if Exit Point Manager is installed on the same system.

Getting there

Select option **21=End FTP Activity Monitoring** from the Message Manager Utilities menu.



Parameters on the Set Exit Point display

The following parameters are available on this display.

Primary Exit Point Handlers

Specify whether to add or remove Halcyon primary handler exit point programs. In some cases, adding or removing an exit program has no effect on the exit point until the appropriate servers are restarted. See the [Restart servers](#) parameter.

This command only processes Halcyon primary handlers. All Halcyon primary handler programs are located in the common library and have names beginning HAL_Q. Halcyon exit point programs that are not primary handlers are not processed by this command and neither are Halcyon primary handlers that belong to another Halcyon environment.

A Halcyon Primary Handler is a program intended to be used as the exit program for an exit point. A primary handler does no real work itself, but merely calls additional programs known as secondary handlers. These secondary programs perform the actual work. The primary handler calls each defined secondary handler in turn, unless a secondary handler sets a return code to disallow an operation, in which case no further secondary handlers are called. This system allows greater control over the exit point and eradicates the one program limit that many exit points are restricted by.

*SAME	The primary exit point handlers are not changed
--------------	---

*AUTO	The command attempts add the primary handlers that are required and removes those that are not required. A primary handler is deemed to be required if it is used by a Halcyon secondary handler of an installed product that has a valid authorization code, or one or more user defined secondary handlers have been declared. In the case of Halcyon Exit Point Manager, a further requirement is that at least one released rule must exist for that exit point.
*ENABLE	The command attempts to add all primary handler exit point programs to their respective exit points. This fails if the exit point already has the maximum permitted number of exit programs. To selectively add primary handler exit point programs, use the Work with Exit Point Handlers (WRKEXTHDL) command This value is not allowed when user exit point management is used (system default HAL/EXITPNTMGMT is set to *USER)
*DISABLE	The command removes all primary handler exit point programs for the current environment from the exit points
*SAVE	The command saves a record of the current handler configuration before removing all primary handler exit point programs for the current environment from the exit points. The second handler and auditing flags are also saved and cleared. This save replaces any previous save. The *RESTORE option may be used to restore the saved configuration
*RESTORE	The command attempts to re-add the primary handler exit point programs as recorded by the previous save. This failes if the exit point already has the maximum permitted number of exit programs. The secondary handler and auditing flags are also restored. The save record is removed as a result
*CHECK	Checks whether any Halcyon primary handler programs for the current environment are registered. If so, message HAL1267 is issued as an escape message. If not, message HAL1268 is issued as a completion message

Exit Point Name

When *ENABLE or *DISABLE is specified in the 'Primary exit point handler' parameter, this specifies to which exit points primary handlers should be added or removed.

*ALL	Primary handlers for all supported exit points are added or removed
name	Enter the name of the exit point

Format name

Specify the exit point format.

*ALL	Selects all supported formats of the specified exit point
name	Specify a specific format that is valid for the specified exit point

FTP Activity Monitor

Specify whether to enable or disable the secondary exit programs that handle the FTP Activity Monitor feature of Message Manager.

*SAME	The status is not changed
*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

IMPORTANT: You must specify ***SAME** for this parameter if ***AUTO**, ***SAVE**, ***RESTORE** or ***CHECK** is specified for the 'Primary exit point handler' parameter.

Authority Swapper

Specify whether to enable or disable the secondary exit programs that handle the FTP Profile Allocation feature of Halcyon Authority Swapper. This parameter has no effect unless Halcyon System Event Manager is installed and the Authority Swapper module is authorized by a valid license code.

*SAME	The status is not changed
*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

Exit Point Manager

Specify whether to enable or disable the secondary exit programs used by the Halcyon Exit Point Manager product. This parameter has no effect unless Halcyon Exit Point Manager is installed and is authorized by a valid license code.

*SAME	The status is not changed
--------------	---------------------------

*ENABLE	The secondary exit programs are enabled
*DISABLE	The secondary exit programs are disabled

NOTE: Enabled secondary exit programs are not called unless the primary exit point handlers are active.

Restart servers

In some cases, adding or removing an exit program has no effect on the exit point until the appropriate servers are restarted. This parameter specifies whether to stop and restart the relevant servers. A restart is not required to enable or disable secondary exit programs.

*AUTO	<p>If exit programs have been added to or removed from any of the FTP, TFTP, or REXEC exit points, the *FTP, *TFTP and *REXEC TCP servers are ended</p> <p>If exit programs have been added to or removed from the QIBM_QPWFS_FILE_SERV exit point, the *NETSVR TCP server is ended. These servers are then restarted if they are configured to auto-start. If exit programs have been added to or removed from the database server exit points, the *CENTRAL and *DATABASE host servers are stopped and restarted and the QSERVER and QUSRWRK subsystems are stopped and restarted</p>
*YES	The *FTP, *TFTP, *REXEC and *NETSVR TCP servers are ended. These servers are then restarted if they are configured to auto-start. The *CENTRAL and *DATABASE host servers are stopped and restarted. The QSERVER and QUSRWRK subsystems are stopped and restarted
*NO	No servers are stopped or restarted

Functions on the Set Exit Points display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Message Communicator

Overview

Message Communicator provides the communications interface between Halcyon products for the IBMi and provides the ability to send out text messages to cell phones and email addresses.

A 2-way SMS and email facility enables replies to be sent back to the IBMi from a cell phone or computer. This effectively means that you can send any IBMi or user-defined command directly from your cell phone or computer to the IBMi from any location.

Escalation lists, broadcast groups, schedules and rosters can be set up so that messages are delivered to the appropriate on-call personnel.

NOTE: Message Communicator automatically enrolls itself as a Client Application within Digital Certificate Manager as HALCYON_MESSAGE_COMMUNICATOR.

Getting there

Message Communicator options are accessed from option **21=Halcyon Message Communicator** from the Halcyon main menu.

```
HMC                               Halcyon - A division of HelpSystems          HAL720P2
MANL                               Halcyon Message Communicator      18/11/15 13:54:05
Select one of the following:

  1. Display Message Log
  2. Display Communications Log
  3. Work with Monitors

  6. Work with System Defaults

 10. Work with Phones
 11. Work with Pagers
 12. Work with Email Addresses
 13. Work with Message Queue Recipients

 20. Work with Broadcast Groups
 21. Work with Rosters
 22. Work with Call Schedules

More...

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Quick access

From the Message Communicator menu you can access the following options:

Option	Function
Display Message Log	Displays the message log subsetted for messages generated by Message Communicator
Display Communications Log	Lists communications requests and activity that has been logged by the Message Communicator
Work with Monitors	Opens the Work with Monitors display subsetted by the monitors specific to Message Communicator
Work with System Defaults	Opens the Work with System Defaults display subsetted for system defaults applicable to Message Communicator
Work with Phones	Allows the addition, modification and deletion of cell phone details
Work with Pagers	Allows the addition, modification and deletion of pager details
Work with Email Addresses	Allows the addition, modification and deletion of email address details
Work with Message Queue Recipients	Allows the addition, modification and deletion of message queue recipients
Work with Broadcast Groups	Allows the addition, modification and deletion of broadcast groups
Work with Rosters	Allows the addition, modification and deletion of rosters
Work with Call Schedules	Allows the addition, modification and deletion of call schedules
Work with Escalation Lists	Allows the addition, modification and deletion of escalation lists
Work with Service Providers	Allows the addition, modification and deletion of service providers
Work with Communications Resources	Allows the setup and interaction with any communications resources, such as modems and GSM terminals which are used for the receipt and transmission of data
Message Communicator Reports	Displays the list of reports available within Message Communicator
Display Product Information	Displays the current Halcyon product information for this system
Display System Information	Displays the current system information for this device

Message Device User Authority

Message Communicator supports user level authority to message devices, such as phones, emails, broadcast groups, call schedules and so on. If a user attempts to send a message to a message device to which they are not authorized, the request is rejected.

IMPORTANT: This applies to ALL users of Halcyon, including the user profiles running the Halcyon monitors. You must therefore ensure the relevant level of authority of HMC MSGDEV is granted for all users.

Setting HMC MSGDEV User Authority

To set user authority for HMC MSGDEV, from the Halcyon main menu, select option **42=Configuration** followed by option **2=Work with User Authority**.

Within the HMC (Halcyon Message Communicator) column type a '2' (for Change) next to the use profile for which the authority is to be set. Press **Enter**.

```

HAL9000R                               Halcyon Software                               HAL720P4
QA                                     Work with User Authority                               21/04/15  10:18:30
Type options, press Enter.
2=Change 4=Delete 5=Display
Y=All P=Partial N=None X=Exclude
----- Product Codes -----
User      H  H  H  H  H  H  H  H  H  H  H
Opt Profile * M M M S C M M Q X P T P
-----
*PUBLIC   P  X  X  P  X  X  X  X  X  X  X
ALLOBJ    P  P  Y  P  Y  P  Y  N  Y  Y  Y  N
ANDY      Y  P  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y
JLAKEY    P  P  Y  P  Y  P  Y  Y  Y  Y  Y  P
MCUSER    Y  P  P  P  P  P  P  P  P  P  P  P
MIKE      Y  P  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y
NEVANS    P  P  Y  Y  Y  P  Y  Y  Y  Y  Y  Y
PASSWORD  P  N  N  P  N  N  N  N  N  N  N  N
QMOM      P  N  N  N  N  N  N  Y  N  N  N  N
QMOMADM   P  N  N  N  N  N  N  Y  N  N  N  N
QMSF      P  P  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y
-----
F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print
More...
    
```

On the Work with Function Authority display, locate the MSGDEV function authority and change the current setting to the level of authority required for this user.

```

HAL9000R                                     Halcyon Software                                     HAL720P4
QA                                           Work with Function Authority                               21/04/15  10:43:51
Product . . . . . Halcyon Message Communicator
User profile . . . . .
Description . . . . .

Change authorities, press Enter.
Func  Description                                     Auth
GENERAL  General Product Use                          *ALL  *ALL,*UNDEF,*EXCL
CALLGRP  Broadcast groups                               *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
CALLROTA Call rotas                                       *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
CALLSCH  Call schedules                               *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
CMNLOG   Communications log                             *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
CMNRSC   Communications resources                     *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
EMAIL    Email addresses                             *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
ESCLIST  Escalation lists                            *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
MSGDEV   Message device                             *ALL  *ALL,*ITEM,*UNDEF,*EXCL
MSGO     MSGO recipients                             *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
PHONE    Phones and Pagers                           *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
SVCPROV  Service Providers                           *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
SYSDFLT  System Defaults                             *ALL  *ALL,*CHG,*USE,*UNDEF,*EXCL
More...

F3=Exit  F5=Refresh  F12=Cancel  F16=Item authority

```

Press **Enter** to confirm the new authority level to the `MSGDEV` function for this user.

Viewing Message Device Authority

Use `*ITEM` level authority for the `MSGDEV` function to view which message devices have been set to `*EXCL`, `*ALL` and all permissions.

1. From the Work with Function Authority display, position the cursor in the **Authority** field against the **MSGDEV** function.
2. Use **F16=Item authority** to open the Work with item Authority display.
3. On this display use **F11** to toggle between displaying just the `*EXCL` authorities, just the `*ALL` authorities and all permissions.

Message device user authority upgrade warning

When upgrading from a previous version (pre v6.0) of Message Communicator, a new user authority has been added providing the ability to send messages to any message devices defined within Message Communicator.

This has been added within Work with User Authority as HMC `MSGDEV` and under standard upgrade procedures, the default authority for every user is `*UNDEF` (meaning not authorized).

Therefore, on upgrade, no user profile is authorized to send any messages to any devices using Message Communicator.

To remedy this you must select, from the Halcyon main menu, option **42=Configuration** followed by **2=Work with User Authority**. Change the authority for each user profile as required. See [Setting HMC MSGDEV User Authority](#) for instructions.

Device Resolution

When sending messages to communication devices, Message Communicator only sends a message once to a single device, even if it is defined to be sent multiple times.

For example, it is possible to use a SNTXT action to send a message to a Broadcast Group which includes a Roster with the same device in both. In this type of scenario, the device will only be sent one message, not two.

NOTE: Because of the way that the device resolution is implemented, empty entries may be shown in the Display Communications Log (DSPCMNLOG) screen as a header entry is added when being actioned but it results in not requiring any messages to be sent.

Display Message Log

The Message Communicator- Display Message Log option displays all messages generated by the Message Communicator product installed on your IBMi. These are shown as a subsetted list of the full Message Log. See [Display Message Log](#) for more details.

Getting there

To view the current Message Log take option **1=Display Message Log** from the Message Communicator menu.

```

HAL0010R                Halcyon Message Communicator                HAL525P1
                        Display Message Log                        1/05/09  15:12:04
Position to Date . . . . . _____                               Subsetted List
Position to Time . . . . . _____

Type options, press Enter.
1=Select job  5=Display  6=Print  7=Alert Log  8=Network Log  9=Comms Log

Op Typ Sev Date      Time      Message
_ SYS 30 01/05/09 15:00:39 Parameter DLO required.
_ SYS 30 01/05/09 15:00:39 Errors occurred in command.
_ SYS 00 01/05/09 15:00:40 Text message sent to device MIKEEMAIL type *EMAIL.
_ SYS 30 01/05/09 15:00:40 Parameter DLO required.
_ SYS 30 01/05/09 15:00:40 Errors occurred in command.
_ SYS 00 01/05/09 15:00:40 Text message sent to device MIKEEMAIL type *EMAIL.
_ SYS 30 01/05/09 15:00:40 Parameter DLO required.
_ SYS 30 01/05/09 15:00:40 Errors occurred in command.
_ SYS 00 01/05/09 15:00:41 Text message sent to device MIKEEMAIL type *EMAIL.
_ SYS 30 01/05/09 15:00:41 Parameter DLO required.
_ SYS 30 01/05/09 15:00:41 Errors occurred in command.

                                                Bottom

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F21=Print

```

Access and Navigation

Messages are displayed in chronological order, most recent last. When you first open the Display Message Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the ‘Position to Date’/‘Position to Time’ parameters and press Enter.
 - These parameters act as a ‘search’ facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested
- Use the Page Up/Page Down keys to scroll through the list of messages

- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Message Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Message Log display

The following parameters are shown on the Display Message Log display.

Type

Indicates the type of message entry.

MNT	Maintenance message
SYS	System message

Severity (Sev)

Displays the severity of each message using the following rating.

0	Information
10	Warning
20	Error
30	Severe error
40	Abnormal end of program or function
50	Abnormal end of job

Date

The date on which the message was logged.

Time

The time at which the message was logged.

Message

Shows the message text. If this parameter is truncated use option **5=Display** to show the full message detail.

Using the Display Message Log display

Please refer to the Chapter - [Display Message Log](#) for more information on working with this and subsequent screens.

Display Communications Log

The Display Communications Log display lists communications requests and activity that has been logged by Message Communicator.

NOTE: If you attempt to view the Communications Log via the **RUNQRY** command, the data is encrypted to prevent sensitive data being exposed.

Getting there

Select option **2=Display Communications Log** from the Message Communicator main menu.

```

HMC1200R                               Halcyon Message Communicator                               HAL720P4
QA                                       Display Communications Log                               18/03/15 15:47:57
Position to date . . . . . _____
Position to time . . . . . _____

Type options, press Enter.
4=Cancel 5=Display 6=Print 7=Display messages 9=Send

Request Device Device
Opt Log date Log time System Name Type Pty Status Comms ID
- 18/03/15 09:49:22 *COM2 *COM2 Error 108188
- 18/03/15 10:39:08 *LOCAL TREVOR.EML.WRK *EMAIL 3 Complete 108190
- 18/03/15 12:43:04 *COM2 *COM2 Error 108196
- 18/03/15 14:10:36 *LOCAL TREVOR.PHN.MOB *PHONE 3 Error 108202
- 18/03/15 14:43:53 *LOCAL MIKE.MOBILE *PHONE 3 Closed 108205
- 18/03/15 14:50:59 *LOCAL MIKE.MOBILE *PHONE 3 Complete 108207
- 18/03/15 14:56:35 *LOCAL MIKE.MOBILE *PHONE 3 Complete 108208
- 18/03/15 15:02:36 *COM2 *COM2 Error 108209
- 18/03/15 15:27:12 *LOCAL MIKE.MOBILE *PHONE 3 Complete 108211
- 18/03/15 15:30:50 *LOCAL MIKE.MOBILE *PHONE 3 Complete 108212
- 18/03/15 15:38:03 *LOCAL MIKE.MOBILE *PHONE 3 Closed 108214

Bottom
F3=Exit F5=Refresh F12=Cancel F17=Subset F18=Bottom F22=Print

```

Outgoing Messages

A communications request is logged when an alert is raised which causes a **SNDTXT** action or when the Send Text Message (**SNDTXTMSG**) command is run. These requests are initially set to Pending status. Messages may be sent directly to a cell phone, pager or email address, or indirectly via a broadcast group, call schedule, roster or escalation list and in each case, a communications request is logged.

Processing a broadcast group, call schedule, roster or escalation list usually results in the creation of additional child communication requests. These additional requests may be to cell phones, pagers or email addresses or may be to additional broadcast groups, call schedules, rosters or escalation lists.

When system default [HMC/EMAILMETHOD](#) is set to *DSTSRV, broadcast groups create child *EMAIL entries for each email device defined in the group. When set to *SMTP, a single *MAILGRP entry is created with the same name as the parent broadcast group.

Broadcast groups, call schedules, rosters and escalation lists summarize the status of their child requests. For example, a broadcast group changes to a status of 'Sending' while a message is being sent to any of its child devices.

Incoming Messages

Incoming messages are received by the GSM terminal attached to the IBMi. Message Communicator checks the GSM terminal from time to time and retrieves any new messages which have been received. This process is logged as a request and while checking for and retrieving messages, the request is in 'receiving' status. On completion, the request changes to 'received' status if it resulted in new messages being retrieved. If no new messages were retrieved, the request is deleted.

NOTE: Display Communications Log is capable of obscuring a password that contains blanks/spaces on inbound SMS and Email. In order for this to happen, the password must be enclosed in single or double quotes if it contains blanks/spaces. For example: `pwd."password"`.

Access and Navigation

Communication messages are displayed in chronological order, most recent last. When you first open the Display Communications Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to date'/'Position to time' parameters and press **Enter**
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alerts nearest to the date/time combination requested
- Use the **Page Up**/**Page Down** keys to scroll through the list of messages
- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Communications Log was initially displayed.

- Use **F5=Refresh** to refresh the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Communications Log display

The following parameters are available on this display.

Log date

Displays the date on which the communications was started.

Log time

Displays the time at which the communications was started.

Request system

Displays the name of the Halcyon environment that requested this message send.

*LOCAL indicates that the local environment requested this message be sent. otherwise, this parameter displays the name of the remote environment that requested this message send.

NOTE: This parameter is blank for received data.

Device name

For send data, this displays the name of the communications device to which the message was sent. The device may be the name of a phone, pager, email address, broadcast group, call schedule, roster or escalation list.

*ADHOC	Indicates a message that was sent to a user-specified phone number or email address rather than a predefined message device. Use option 5=Display to view the actual phone number or email address
*TERMINAL	Indicates a communications session run using the Start Communications Terminal (STRCOMTRM) command
*COM1- *COM9	Indicates a receive from a GSM terminal or a POP server

Device type

This is the type of the device in the 'Device name' parameter.

For outgoing data, the following definitions are available.

*CALLGRP	This device is a broadcast group
*CALLSCH	This device is a call schedule
*EMAIL	This device is an email recipient. Messages can also be sent to ad-hoc email addresses
*ESCLIST	This device is an escalation list
*MAILGRP	This device is a mail group. This is an internal device type that represents the email addresses referenced only from broadcast groups. Mail groups are only used when system default HMC/EMAILMETHOD is set to *SMTP
*MSGQ	This device is a message queue
*PAGER	This device is a pager
*PHONE	This device is a cell phone or other SMS capable device
*ROSTER	This device is a roster

For incoming data, the following definitions are available:

*GSM	Locally connected GSM terminal
*NETGSM	Network connected GSM terminal
*POP	POP server

Priority (Pty)

For send data, this displays the priority assigned to this message by the sender.

1	High priority
2	Normal priority
3	Low priority

For receive data, this parameter is blank.

Status

This displays the status of the communication. The following values are possible:

Active	An outgoing communication which is currently being processed but not currently sent. This applies mainly to escalation lists but also momentarily to other device types
Closed	An outgoing communication that was canceled before completion because the associated alert was closed
Complete	An outgoing communication that was successfully completed
Error	An outgoing communication that was terminated due to errors
Pending	An outgoing communication request for which processing has not started
Received	A completed retrieve from a GSM terminal which includes incoming text messages
Receiving	A retrieve in progress from a GSM terminal
Recv-Abort	A retrieve that was aborted while in progress. This is caused by the monitor ending part way through the retrieve. This may be caused by the monitor being ended with the *IMMED option or by the monitor failing with a program error. In either case, the status is shown as 'receiving' until the monitor is restarted
Rty-Wait	An outgoing communication to cell phone, pager or email address that failed and is waiting to be retried
Sending	An outgoing communication that is currently being sent
Warning	A device within a group, such as a Broadcast Group is in 'Held' status and is preventing the message from being sent

Comms ID

The comms ID is an identification that uniquely identifies each communications request. The identification is based upon the following relationships:

- **Request ID, Parent ID and Comms ID**

A communication request is logged when an alert is raised which generates a SNDTXT action or when the Send Text Message (SNDTXTMSG) command is run. If the message is sent to a broadcast group, call schedule, roster or escalation list, this usually results in additional child communications requests. For example, if a message is sent to a broadcast group, processing the broadcast group may result in a number of child communications requests being generated. These child requests may specify cell phones, pagers and email addresses or they may specify additional broadcast groups, call schedules, rosters or escalation lists, which in turn generate another level of child requests.

The request ID, parent ID and comms ID define the relationships between these requests:

Comms ID: This is an ID that uniquely identifies each communications request

Parent ID: This is the communications ID of the communications request which is the parent of the current communications request. This is 0 if the current request has no parent request

Request ID: Is the communications ID of the originating communications request. If this is the same as communications ID, then the current request is the originating request

Using the Display Communications Log display

The following options are available on the Display Communications Log display:

Cancel

Use option **4=Cancel** to open the Confirm Cancel of Messages display. Press **Enter** on this display to cancel the selected messages.

NOTE: You can cancel messages to phones, pagers or emails that are in Pending, Rpt-Wait or Rty-Wait status, or to escalation lists that are in Pending or Active status.

Display

Use option **5=Display** to open the Display Log Detail display which shows additional information for the selected communications request.

NOTE: The encoded data for attachments is no longer available using this option. Use option "8=Full view" instead.

Print

Use option **6=Print** to produce a Communications Log report for the selected comms ID.

Display Messages

Use option **7=Display** to open the Message Log subsetting to show any messages relating to the selected communications request.

Full View

Use option **8=Full View** to open the Display Message Log display showing any messages relating to the selected communications request. Use this option to display the encoded data for any email attachments.

Send

Use option **9=Send** to manually request the re-sending of messages that may have failed when sending to *PHONE, *PAGER and *EMAIL devices. The resend can be attempted when the message is in one of the following statuses:

- Waiting (this option overrides the 'time to send' parameter if set)
- Closed
- Complete
- Error

Selecting option **9=Send** opens the Confirm Resend of Messages display. Press **Enter** on this display to confirm the resend of the messages or **F12** to Cancel.

Functions on the Display Communications Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Communications Log display which allows you to set or clear the filter parameters that restrict the visibility of messages on the main display.

F18=Bottom

Use **F18=Bottom** to refresh the display and position the view at the bottom of the Communications Log.

F22=Print

Use **F22=Print** to display the Print Communications Log (**PRTCMLNLOG**) command prompt allowing a date range to be entered in order to produce the required Communications Log report.

Work with Monitors

The Message Communicator - Work with Monitors display shows a subsetting list comprising the Primary Communications monitor. If more than one GSM or modem is being used, Auxiliary Communications Monitors are also displayed.

Getting there

Select option **3=Work with Monitors** from the Message Communicator main menu to open the subsetting Work with Monitors display.

```

HAL0110R              Halcyon Message Communicator              HAL525P1
                        Work with Monitors                       6/01/09 10:55:51
                                                Subsetting List

Type options, press Enter.
1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
9=Stop supervising
Opt Monitor Description          Sup Status  Function  Busy
= HMCCOM Primary Communications  N Stopped

                                                Bottom
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with Subsystem Jobs  F17=Subset

```

From this display you can start, hold, end, release and supervise either of the installed monitors.

NOTE: Some of the actions performed in Halcyon products require that the relevant monitors are in a stopped status prior to the action being confirmed.

Using the Work with Monitors display

Please refer to the main [Work with Monitors](#) chapter for more information on working with this and subsequent screens.

Message Communicator Monitors

The following monitors are available within Message Communicator

Primary Communications Monitor

The Primary Communications Monitor monitors the sending and receipt of text messages, emails and commands from cell phones, pagers and such like.

Auxiliary Communications Monitor

*EMAIL virtual resources can be created using the [Work with Communications Resources](#) display. Each email resource created results in a dedicated email-handling auxiliary monitor.

To create an *EMAIL virtual resource, use Message Communicator, menu option **31=Work with Communications Resources**. Use **F6=Add** and set the [Comm port](#) parameter to *EMAIL. There are no parameters for the *EMAIL resources. You can create up to 9 Communications Resources in total and these can be any mix of *EMAIL, *GSM, *MDM and *NETGSM. The Primary Communications monitor always handles the starting, ending and workload balancing of the delivery of emails, therefore it is only necessary to create *EMAIL resources if you need additional throughput.

Starting and Ending the Monitors

There are three ways in which you can start and end the Halcyon monitors:

- Use options directly from the Work with Monitors display
- Using Commands
- Using AutoStart and Controlled Ends

Using the Work with Monitors display

Using options **1=Start** and **4=End** from the Work with Monitors display enables you to start and end individual monitors as required. You can also hold and release monitors from this display.

NOTE: Monitors with a status of 'Held' cannot be started.

Starting a monitor also starts the subsystem if necessary.

Using Commands

Starting

To start all non-held monitors, use the Start Monitors (**STRMON**) command. This also starts the subsystem if necessary. Parameters on this command allow you to start any number of specific monitors.

Using the Start Subsystem (**STRSBS**) command to start the subsystem also starts all non-held monitors.

Ending

To end all the currently active monitors, use the End Monitors (**ENDMON**) command. Parameters on this command allow to end any number of specific monitors. If all monitors are ended, then by default, the subsystem is also ended.

Using the End Subsystem (**ENDSBS**) command to end the subsystem also ends all active monitors, but takes longer than using the End Monitors (**ENDMON**) command.

Using AutoStart

It is possible to start the Halcyon monitors automatically when the IBM i is IPL'd. To achieve this, add the following autostart job entry to any subsystem that is automatically started during the IPL process:

```
ADDAJE SBSDB (library/subsystem) JOB(HALCYON) JOBDB(library/STRSBS)
```

Using Controlled Ends

The following commands will end the all active Halcyon monitors and the subsystem:

```
ENDMON MONITOR(*ALL) ENDSBS(*YES)
```

```
ENDSBS SBS(halcyonsubsystem) OPTION(*CNTRLD) DELAY(300)
```

```
ENDSYS OPTION(*CNTRLD) DELAY(300)
```

```
PWRDWN SYS OPTION(*CNTRLD) DELAY(300)
```

NOTE: To allow the monitors to end in a controlled manner, use **OPTION(*CNTRLD)** with a delay time of at least 60 seconds, 300 seconds being recommended.

Work with System Defaults

System defaults are values that control how Halcyon products operate, in the same way that system values affect the i5/OS operating system.

The Work with System Defaults display lists the available Message Communicator system defaults and provides options enabling you to display or change settings.

Getting there

Select option **6=System Defaults** from the Message Communicator main menu to display the Work with System Defaults display.

```

HAL9010R              Halcyon Message Communicator              HAL525P3
SOS                   Work with System Defaults                 13/10/09 12:06:39
Type options, press Enter.                               Subsetted List
2=Change 5=Display

Opt Prd Name      Description
- HMC ADHOCVCPRV  Service provider to use for ad-hoc phones.
- HMC ALLOWSMSCMD Allow SMS commands from mobile phones.
- HMC ALLOWSMSREPLY Allow SMS replies from mobile phones.
- HMC CMNLOGLIFE  Number of days to retain data in communications log.
- HMC DFTIDDPREFIX Default international direct dialling code.
- HMC DFTSMSFORMAT Default SMS reply opcode format.
- HMC DFTSVCPRPAGERS Default service provider for pagers.
- HMC DFTSVCPRPONES Default service provider for phones.
- HMC EMAILADDRESS Email distribution address.
- HMC EMAILUSERID Email distribution user id.
- HMC GSMCHARCONV GSM mode character conversions.
- HMC LOGRSCCTL   Log communications resource control messages.
- HMC SMSCLSOPCODE SMS close alert opcode.
- HMC SMSCMDOPCODE SMS command opcode.
- HMC SMSOMITOPCODE SMS omit in future opcode.

MORE...

F3=Exit F5=Refresh F12=Cancel F17=Subset F22=Print

```

NOTE: If Message Communicator is installed as part of a Halcyon product suite, viewing the system defaults from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only system defaults applicable to Message Communicator are currently being viewed.

System Default Authority

In order to actively use this display, you need *USE authority to the WRKSYSDF function.

In addition, you need *ALL or *USE authority to the SYSDF function in each product of which you need to maintain or view the system defaults.

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the code of the product to which the system default relates.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Using the Work with System Defaults display

The following options are available when working with system defaults. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change System Default display. This displays the current value of the selected system default and allows you to change it to another value within the given parameters for the selected system default.

Display

Use option **5=Display** to open the Display System Default display. This displays the current value of the selected system default but does not allow change.

Functions on the Work with System Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset System Defaults display which allows you to set or clear the filter parameters that restrict the view of system defaults displayed.

Filtering is actioned by product code.

F22=Print

Use **F22=Print** to invoke the Print System Defaults (**PRTSYSDFT**) command to produce a systems default report for all Message Communicator system defaults.

Work with Phones

You can send SMS text messages from your IBMi to any cell phone. If you have a GSM terminal phone connected to your IBMi, you can send SMS text messages from your cell phone back to your IBMi. This feature allows you to send replies to inquiry messages, or to send commands that you want to run.

To send messages to or from a cell phone, you must add a named phone definition. This definition stores details such as the phone number, service provider, and so on. You then refer to the phone by name when you want to send a message, set up a broadcast group or use any other similar functionality.

The Work with Phones display shows the existing cell phones that have been set up and provides options for maintaining these as well as provision for adding further cell phone instances.

Getting there

Select option **10=Work with Phones** from the Message Communicator main menu.

```

HMC2100R              Halcyon Message Communicator              HAL720P2
MANL                  Work with Phones                          29/08/17  11:34:18
Position to . . . :
Type options, press Enter.
 2=Change 4=Delete 5=Display 6=Release 7=Hold 8=Where used
 9=Send message 10=Authority 13=Communications log
Opt Name      Description      Status
---
ASH           Ash
DONNIE.PHN.MOB Donnie: Mobile
MIKE.MOBILE   Mike
NIKKIMOB     Nikki
OPSPHONE1    Demo phone 1
OPSPHONE2    Demo phone 2
PRIPHONE     PR
RHPHONE      Richard's Phone
STEVE MOB    Steve Mob
TREVOR.PHN.MOB Trevor's Mobile

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F18=Bottom  F22=Print
Bottom

```

Parameters on the Work with Phones display

The following parameters are available on this display.

Position to

Use this parameter to enter the name of a phone or partial name from which the top of the list is then displayed.

Name

Displays the name of the phone. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the phone.

Status

Displays the current status of the phone. If 'Held' is displayed in this parameter then messages are not forwarded to the phone to which the held status applies.

Using the Work with Phones display

The following options are available when working with phones. Type the option number in the Opt column against the required phone.

Change

Use option **2=Change** to open the Change Phone display which allows you to change the attributes of a phone that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Phone](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Phones display. Press **Enter** on this display to delete the selected phones.

NOTE: When a phone is deleted, the name of the phone is included in the message sent to the Halcyon Message Log.

Display

Use option **5=Display** to open the Display Phone display which shows the phone detail.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Release

Use option **6=Release** to open the Confirm Release of Phones display. Press **Enter** on this display to release the selected phones.

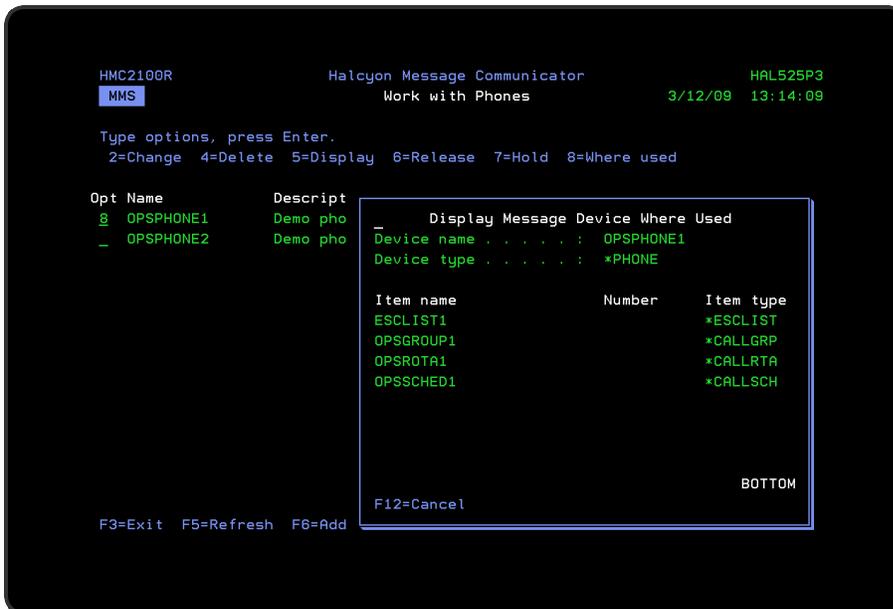
Hold

Use option **7=Hold** to open the Confirm Hold of Phones display. Press **Enter** on this display to hold the selected phones.

NOTE: Messages are not sent to Held phones.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, rosters, broadcast groups and escalation lists that specify this phone as a message device.



Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Send Message

Use option **9=Send Message** to open the Send Text Message display which allows you to send a text message to the selected message device. See [Send Text Message](#) for more information.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the MSGDEV function for the selected phone.

NOTE: *SECADM special authority is required to use this option.

Communications Log

Use option **13=Communications Log** to display the Communications Log showing all of the communications requests for the selected device. See [Display Communications Log](#) for more information.

Functions on the Work with Phones display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Phone display which allows you to enter the details of a new cell phone.

NOTE: See [Adding a Phone](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

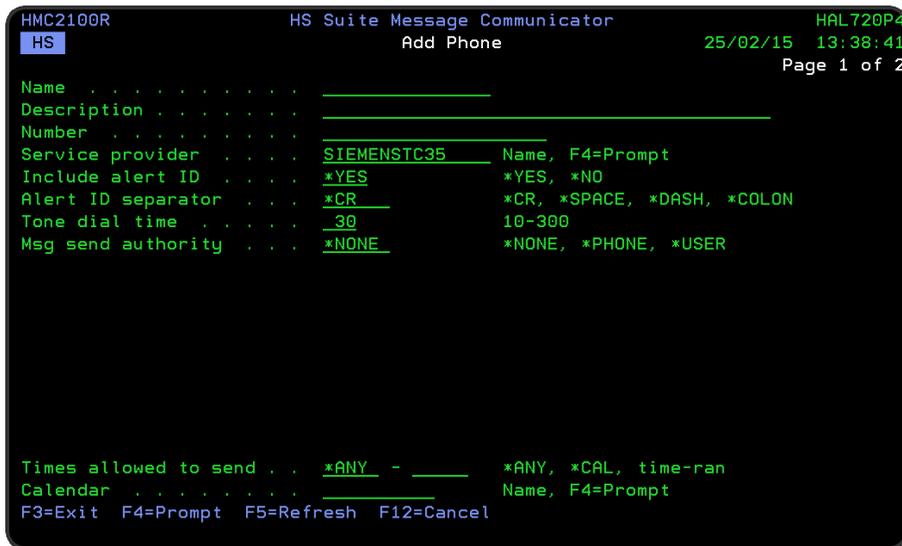
Use **F22=Print** to invoke the Print Phones (**PRTPHONES**) command that prints a detailed report for all phones defined on the system.

Adding a Phone

You may add unlimited cell phone entries, although each must have a unique message device name.

Getting there

Press **F6=Add** on the [Work with Phones](#) display to open the Add Phone display.



Parameters on the Add Phone display

The following parameters are available on this display.

Name

Enter a name for the new cell phone, that is unique amongst message devices. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

Description

Enter a textual description for the phone.

NOTE: The name of an individual or the purpose of the phone (such as 'Out of Hours') is recommended.

Number

Enter the cell phone number. The number can be formatted for clarity using intermediate spaces or hyphens (-). These are ignored when the phone number is used.

The number may be prefixed with an IDD (International Direct Dialing) code, comprising a (+) sign and one or more digits. If no IDD prefix is typed as part of the number, the default IDD prefix as defined in the [HMC/DFTIDDPREFIX](#) system default is used if an international format number is required.

Service provider

Specifies the service provider to be used with this phone.

NOTE: This must have been previously entered on the [Work with Service Providers](#) display.

Use **F4=Prompt** to display the Select Service Provider pop-up window listing the current Service Providers from which a choice can be made.

Include alert ID

Specifies whether to include the alert ID (if applicable) to any alert messages sent to this phone. The default setting is *YES.

Alert ID separator

Only displayed if the 'Include alert ID' parameter is set to *YES. Specifies the characters to insert as a separator between the alert ID and the message text. This is used to stop the two parameters from merging and potentially making the text unreadable.

*CR	A carriage return character (HEX 0D) is used
*SPACE	A space (HEX 40) is used
*COLON	A colon (:) character is used
*DASH	A dash (-) character is used

Tone dial time

Sets the value returned by the [%DIALTIME](#) communications script function. This is intended to be used by the script in an ATD command to control the dialing time when a tone call is made. When a call is made to this phone, the call will hang-up if not answered in the period of time specified. Tone calls are made using the '[Alarm tones, if phone](#)' parameter of the Send Text Message (**SNDTXTMSG**) command, or the same field in a Send Text Message (SNDTXT) action. Specify a time value in the range 10-300 seconds.

NOTE: The time is measured from the point the call request is made via the GSM not from the point when the phone actually starts ringing. Setting this value has no effect unless the communication script uses the %DIALTIME function.

Msg send authority

Specifies whether this phone is allowed to send SMS messages to this system and if so, what authority scheme is used.

*NONE	This phone is not allowed to send SMS messages to this system. If any are sent, they are logged on the IBMi and ignored
-------	---

*PHONE	This phone may send SMS messages to this system. *PHONE authority is used. With *PHONE authority, just possession of the phone is deemed sufficient authority to send SMS messages. Should the phone be lost or stolen, you must rely on the ignorance of the new possessor regarding the ability to send SMS messages to your system, until you are able to disable or delete the phone using the Work with Phones display
*USER	This phone may send SMS messages to this system. *USER authority is used. With *USER authority, a user profile is associated with the phone and when any SMS messages are sent to this system, the password for that user must also be sent. With *USER authority, SMS commands sent to your system are run by the Action Monitors, using the user profile specified

NOTE: See [Examples of SMS Command Authority](#) for typical scenarios of this in practice.

User profile

Specifies the user profile used to run commands from this phone when *USER authority is being used.

NOTE: Required if user is selected as the SMS Send Authority.

When *PHONE authority is being used, the Action Monitors run the command under their own profiles, usually QSYSOPR.

Type of authority

Specifies the type of authority required to run commands received via SMS from this phone.

*GEN	General authority required. The phone may run any command that the user profile has authority to run via private, group or special authority
*PVT	Private authority required. The phone may only run commands to which the user profile has private authority
*LIST	List authority required. The phone may only run the commands specifically authorized on the phone opcodes screen (page 2 of this display). In addition, general authority is required

Allow SMS commands

Specifies whether this phone allowed to send commands to be run on the system.

*YES	This phone can send SMS commands
*NO	This phone is prevented from sending SMS commands

Allow SMS replies

Specifies whether this phone is allowed to send a reply to an inquiry message using the Reply by Alert ID (**RPYALT**) command.

*YES	This phone can use the RPYALT command. If 'Allow SMS commands' is set to *NO , this command is an exception
*NO	This phone is prevented from using the RPYALT command

Send SMS acknowledge

Specifies whether to return a text message indicating the status of a command request. If enabled, the system sends a message indicating either the successful completion of the command or an error indicating why the command could not be run or failed when run.

*YES	Acknowledgments are sent
*NO	Acknowledgments are not sent

Command opcode

Specifies the opcode use by this phone to indicate a command in an SMS message.

This parameter defaults to the value specified by system default [HMC/SMSCMDOPCODE](#). The shipped value of this system default is **CMD**.

To use the opcode in an SMS message, type the opcode **followed immediately by a period (.)** and then the command text. For example: **ENDQPGMR.ENDSBS QPMGR *IMMED**. The opcode is not case sensitive.

NOTE: The command fails if the opcode is not followed immediately by a period (.)

Alert reference code

Specifies the opcode used by this phone to indicate an alert reference in an SMS message.

This parameter defaults to the value specified by system default [HMC/SMSREFOPCODE](#). The shipped value of this system default is **REF**. To use the opcode in an SMS message, type the opcode followed immediately by a full stop (period) and then the alert ID. The alert ID specified is then available in the '&REF' replacement variable. The opcode is not case sensitive.

Password (Pwd) opcode

If the cell phone is set to use a specific user in order to run a command, then the SMS containing the command must also include the password of the user profile, otherwise the command cannot be run. This opcode is the code that has to be put into the SMS text message to identify where the password is situated.

EXAMPLE:

`cmd.Rlsjob qbatch pwd.mypassword.`

The 'pwd' is the opcode that identifies 'this is the password to use'.

NOTE: Required if user is selected as the SMS Send Authority.

Times allowed to send

Specifies when messages may be sent to this phone. If a message is sent to this phone outside of the allowed times, the message is not sent until the allowed time is reached. This setting can be overridden by sending the message with *HIGH Message priority.

*ANY	Messages may be sent at any time
*CAL	A calendar is used to determine when messages may be sent
time	Enter a specific time range between which the sending of messages is allowed. If the end time is earlier than the start time, the end time refers to the following day

NOTE: If the phone forms part of an escalation list, it is ignored if not allowed to send messages and the next applicable device in the escalation list is used instead.

Calendar

When 'Times allowed to send' is set to *CAL, specify the calendar that is used to determine when messages may be sent.

NOTE: See [Work with Calendars](#) for more information relating to this feature.

You are now ready to add opcodes to this phone.

NOTE: If you do not add opcodes at this stage you can re-open the phone using option **2=Change** from the [Work with Phones](#) main display.

Functions on the Add Phone display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

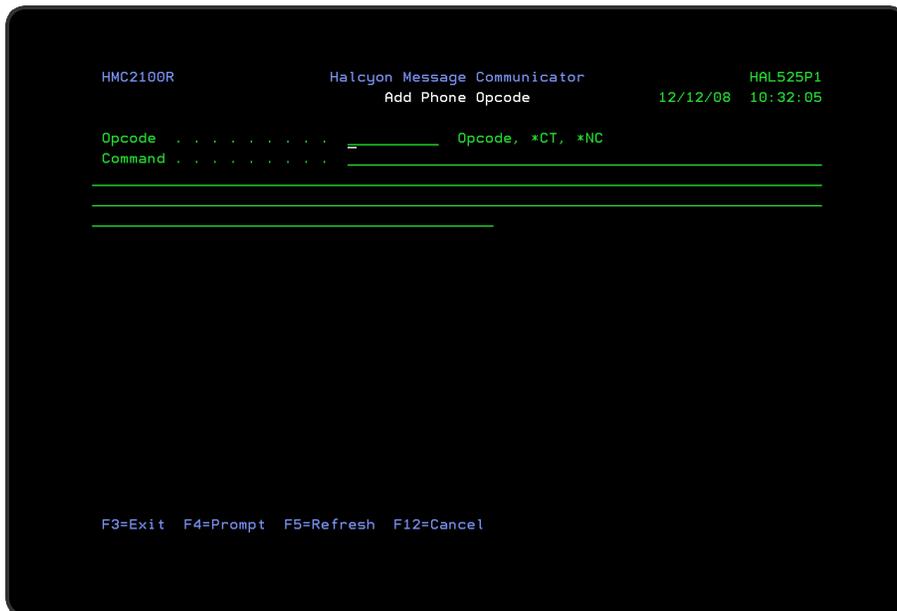
Adding a Phone Opcode

Adding a phone opcode is achieved using page 2 of the [Add Phone](#) display. When adding a new phone, the initial display is empty.

Getting there

Use **F6=Add** to add a new opcode.

NOTE: An opcode is an abbreviation for an IBMi command.



Parameters on the Add Opcode display

The following parameters are available on the Add Opcode display.

Opcode

This is the unique name of the opcode, or is a special value (*CT or *NC). Multiple entries with each of the special values are allowed. The special values are used in conjunction with *LIST authority.

opcode	Specify a unique opcode
*CT	Containing. The command parameter should contain part of a command name, or *ALL

*NC	Not containing. The command parameter should not contain part of a command name
------------	---

When ***LIST** authority is specified, the user can run any opcode defined on this screen and also any command specified by a ***CT** line that is not also specified by an ***NC** line.

Opcode examples

RLS RLSJOBQ JOBQ (QGPL/QBATCH)

***CT HLDJOBQ**

User can use the **RLS** opcode and can use the **CMD** opcode to run any **HLDJOBQ** command. User cannot use the **CMD** opcode to run a **RLSJOBQ** command.

***CT JOBQ**

***CT OUTQ**

User can use the **CMD** opcode to run any command whose name contains **JOBQ** or **OUTQ**, for example, **HDLOUTQ**, **RLSJOBQ** and so on.

***CT *ALL**

***NC PWRDWNSYS**

***NC DLT**

***NC END**

User can use the **CMD** opcode to run any command except **PWRDWNSYS** or any command whose name contains **DLT** or **END**.

NOTE: In addition, the user profile that will run the commands (controlled by ***USER** or ***PHONE** authority mode) must have ***USE** authority to the command.

Command

When an Opcode is specified in the 'Opcode' parameter, this is the command that is run when that opcode is used. You can run any command that can be run in the ***EXEC** environment subject to authority. Avoid long running commands, unless submitting them using the Submit Job (**SBMJOB**) command as this may adversely impact performance of the Action Monitors.

When *CT is specified in the 'Opcode' parameter, the command parameter should be set to *ALL to authorize all commands, or to a command part to authorize the commands that generically match that part.

When *NC is specified in the 'Opcode' parameter, this parameter should be set to a command part to de-authorize the commands that generically match that part. *NC entries de-authorizes some of the commands authorized by *CT entries. Using a *NC entry with no *CT entries has no effect.

When specifying a generic command for a *CT or *NC entry, do not type * to indicate generic.

With an opcode command, you may use replacement variables (but not Substitution Variables). Replacement variables are &P1 to &P4 and &REF.

Variables &P1 to &P4 are replaced by positional parameters 1 to 4 sent in an SMS message. Variable &REF is replaced by value following the REF opcode in an SMS message.

Example 1: ENDSBS command

Opcode definition:

```
end ENDSBS SBS(&P1) OPTION(*CNTRLD) DELAY(&P2)
```

Text message (*PHONE authority mode):

```
end.mysbs 60
```

Text message (*USER authority mode):

```
end.mysbs 60 pwd.xyz
pwd.xyz end.mysbs 60
```

Command actually run:

```
ENDSBS SBS(MYSBS) OPTION(*CNTRLD) DELAY(60)
```

Example 2: RPYALT command

Opcode definition:

```
rpy RPYALT ALERT(&P1) REPLY(&P2)
```

Text message (*PHONE authority mode):

```
rpy.12345 c
```

Command actually run:

```
RPYALT ALERT(12345) REPLY (C)
```

Example 3: RPYALT command (alternative):**Opcode definition:**

```
rpy RPYALT ALERT(&REF) REPLY(&P1)
```

Text message (*PHONE authority mode):

```
rpy.c ref.12345  
ref.12345 rpy.c
```

Command actually run:

```
RPYALT ALERT(12345) REPLY(C)
```

NOTE: A plus sign (+) indicates that only part of the command is shown. Use option **5=Display** to view the complete command.

Examples of SMS Command Authority**To only be able to receive alerts on your cell phone (no reply option):**

1. Ensure that you have a valid phone entry.
2. Change the 'SMS Send Authority' parameter to *NONE. This ensures that the phone cannot send message replies or i5 commands into the system.

To receive alerts and reply to inquiry messages on your cell phone but prevent IBM i commands from being run:

1. Ensure that you have a valid phone entry.
2. Ensure that the 'SMS Commands' parameter is set to *NO.
3. To reply to alerts received on the phone use the default syntax;
REF.12345.RPY.I

(where 12345 is the unique alert ID associated with the alert received and 'I' is the reply that you want to give).

To be able to send IBMi commands via SMS from your cell phone in addition to receiving and replying to alerts. There are two methods that can be used to achieve this:

Restriction by User

1. Ensure that you have a valid phone entry.
2. Enter *PHONE in the 'SMS Send Authority' parameter. Anybody now using this cell phone can then send IBMi commands into the IBMi. These commands run under the Primary Communications Monitor job, which runs under QSYSOPR by default.
3. If *USER is selected in the 'SMS Send Authority' parameter, you are prompted for a valid user profile to associate with the cell phone. Each time you want to run an IBMi command directly from the phone, you must use the following syntax:

PWD.WINTER CMD.RLSJOBQ.QBATCH

Where 'Winter' is the password associated with the entered IBMi user profile, in order to release the job QBATCH.

Restricting the commands available to the user:

1. Follow the previous 3 steps.
2. In the 'Type of Authority' parameter enter *PVT. This only allows the running of commands to which the selected user profile has authority.
3. To further restrict commands, select *LIST in the 'Type of Authority' parameter. This ensures that only the commands added on the second page of this display can be run (assuming that the user is authorized to run them).

Acknowledging and Closing Alerts via SMS Opcodes

To be able to acknowledge and close alerts via SMS, opcodes of ACK (Acknowledge) and CLS (Close) must be created.

Getting there

For existing phones, use **2=Change** from the [Work with Phones](#) display followed by **F6=Add** against the phone

For new phones use **F6=Add** on the Work with Phones display followed by **F6=Add** on the second page of the Add Phone display. You can now enter the details of the required opcode parameters.

Acknowledge alerts opcode

To create an opcode that allows you to acknowledge alerts via SMS for this phone, enter the following and press **Enter**:

Opcode	ACK
Command	ACKALT ALERT(&REF)

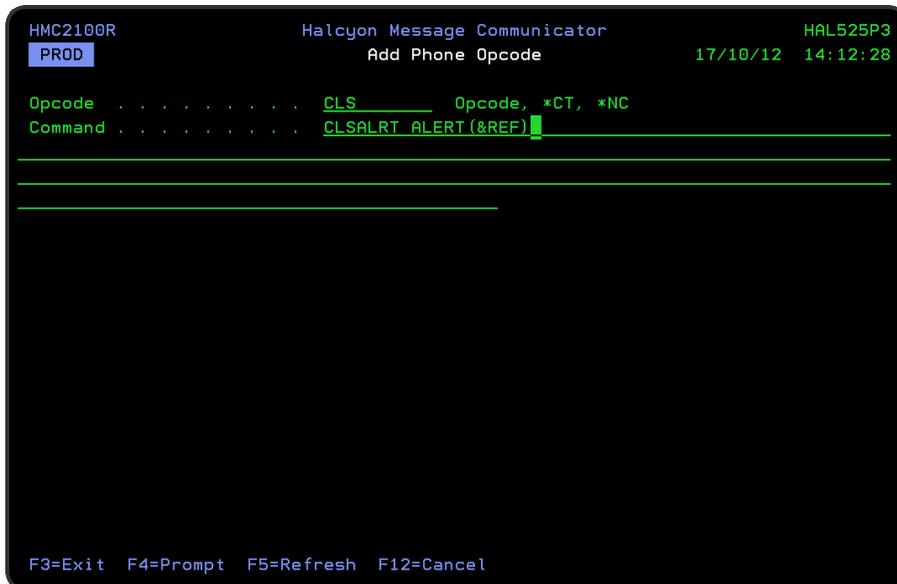
Example of use

Using, as an example; **Ref.1234ack.** puts the alert (reference: 1234) into an acknowledged status which stops any further actions from occurring.

Close alerts opcode

To create an opcode that allows you to close alerts via SMS for this phone, enter the following and press **Enter**:

Opcode	CLS
Command	CLSALT ALERT(&REF)



Example of use

Using, as an example; **Ref.1234cls.** puts the alert (reference: 1234) into a closed status which stops any further actions from occurring.

Work with Pagers

You can send text messages to numeric pagers. Before you can use a pager, you must add a named pager definition. This definition stores details such as the pager number, service provider and so on. You then refer to the pager by name when you want to send a message, set up a broadcast group or use any other similar functionality.

The Work with Pagers display shows the existing pagers that have been set up and provides options for maintaining these as well as provision for adding further pager instances.

Getting there

To begin working with pagers, select option **11=Work with Pagers** from the Message Communicator main menu.

```

HMC2200R                               Halcyon Message Communicator           HAL720P2
MANL                                     Work with Pagers                       29/08/17  12:02:03
Position to . . . :                   
Type options, press Enter.
2=Change 4=Delete 5=Display 6=Release 7=Hold 8=Where used
9=Send message 10=Authority 13=Communications log
Opt Name      Description      Status
--- OPSPAGER   Demo pager
--- PGR_HALCYON Halcyon Pager

F8=Exit F5=Refresh F6=Add F12=Cancel F18=Bottom F22=Print
Bottom

```

Parameters on the Work with Pagers display

The following parameters are available on this display.

Position to

Use this parameter to enter a pager name or partial name from which the top of the list is then displayed.

Name

Displays the name of the pager. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the pager.

Status

Displays the current status of the pager. If 'Held' is displayed in this parameter then messages are not forwarded to the pager to which the Held status applies.

Using the Work with Pagers display

The following options are available when working with pagers. Type the option number in the Opt column against the required pager.

Change

Use option **2=Change** to open the Change Pager display which allows you to change the attributes of a pager that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Pager](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Pagers display. Press **Enter** on this display to delete the selected pagers.

Display

Use option **5=Display** to open the Display Pager display which shows the pager detail.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Release

Use option **6=Release** to open the Confirm Release of Pagers display. Press **Enter** on this display to release the selected pagers.

Hold

Use option **7=Hold** to open the Confirm Hold of Pagers display. Press **Enter** on this display to hold the selected pagers.

NOTE: Messages are not sent to Held pagers.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, rosters, broadcast groups and escalation lists that specify this pager as a message device.

```

HMC2200R              Halcyon Message Communicator              HAL525P1
                       Work with Pagers                        15/12/08 09:46:46

Type options, press Enter.
2=Change 3=Hold 4=Delete 5=Display 6=Release 8=Where used

Opt Name      Descript
8 BRAHIMPAGER  BRAHIMPA
- BRAHIMPAGERXXXX Brahim T
- OPSPAGER     Test Pag
- RURU         ufdsu

      Display Message Device Where Used
      Device name . . . . . : BRAHIMPAGER
      Device type . . . . . : *PAGER

      Item name      Number      Item type
      BRAHIMBCG     . . . . . *CALLGRP
      BRAHIMCALLR   . . . . . *CALLRTA

      F12=Cancel

      Bottom

F3=Exit F5=Refresh F6=Crea
    
```

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Send Message

Use option **9=Send Message** to open the Send Text Message display which allows you to send a text message to the selected message device. See [Send Text Message](#) for more information.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the MSGDEV function for the selected phone.

NOTE: *SECADM special authority is required to use this option.

Communications Log

Use option **13=Communications Log** to display the Communications Log showing all of the communications requests for the selected device. See [Display Communications Log](#) for more information.

Functions on the Work with Pagers display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Pager display which allows you to enter the details of a new pager.

NOTE: See [Adding a Pager](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

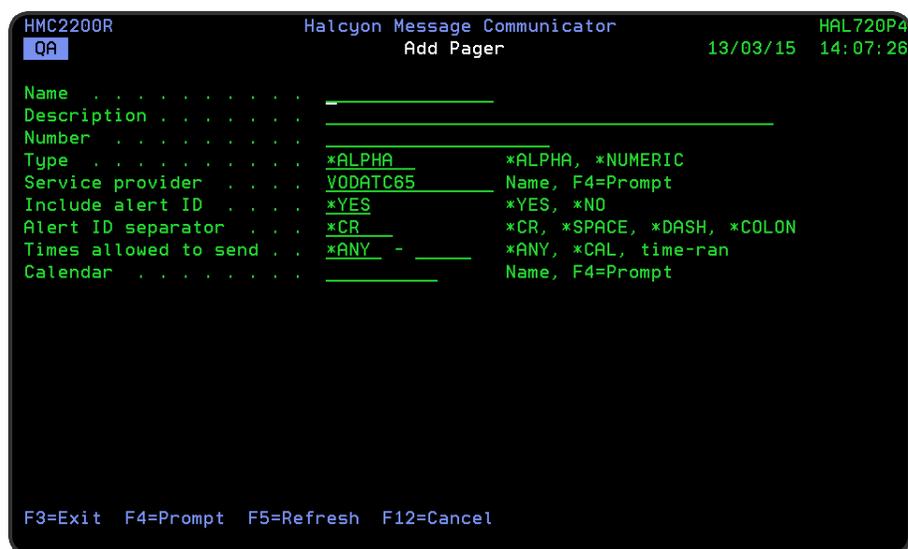
Use **F22=Print** to invoke the Print Pagers (**PRTPAGERS**) command to produce a Pager report that lists all pagers defined on this system.

Adding a Pager

You may add unlimited pager entries, although each must have a unique message device name.

Getting there

To add a new pager, use **F6=Add** from the main Work with Pager display.



Parameters on the Add Pager display

The following parameters are available on this display.

Name

Enter a name for the new pager. This must be unique amongst message devices. The name can begin with an alphabetic or numeric character. Any of the following special characters can be used.

- Space
- Asterisk
- Hash

- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

Description

Enter a textual description for the pager.

NOTE: The name of an individual or the purpose of the pager (such as 'Out of Hours') is recommended.

Number

Enter the pager number. The number must consist of digits but may be formatted using intermediate spaces or hyphens (-) and may have an international number prefix (+).

Type

Specifies the type of pager.

*ALPHA	Alphanumeric pager capable of displaying short text messages
NUMERIC	Numeric pager capable of displaying the caller's phone number and a limited number of characters comprising 0 to 9., '' and '#'. Unsupported characters are not displayed and therefore the message should be a mutually understood numeric code

Service provider

Specifies the service provider to be used with this pager.

NOTE: This must have been previously entered on the [Work with Service Providers](#) display.

Include alert ID

Specifies whether to include the alert ID (if applicable) to any alert messages sent to this pager. The default setting is *YES.

Alert ID separator

Only displayed if the 'Include alert ID' parameter is set to *YES. Specifies the characters to insert as a separator between the alert ID and the message text. This is used to stop the two parameters from merging and potentially making the text unreadable.

*CR	A carriage return character (Hex 0D) is used
*SPACE	A space (Hex 40) is used
*COLON	A colon (:) character is used
*DASH	A dash (-) character is used

Times allowed to send

Specifies when messages may be sent to this pager. If a message is sent to this pager outside of the allowed times, the message is not sent until the allowed time is reached. This setting can be overridden by sending the message with *HIGH Message priority.

NOTE: If the pager forms part of an escalation list, it is ignored if not allowed to send messages and the next applicable device in the escalation list is used instead.

*ANY	Messages may be sent at any time
*CAL	A calendar is used to determine when messages may be sent
time	Enter a specific time range between which the sending of messages is allowed. if the end time is earlier than the start time, the end time refers to the following day

Calendar

When 'Times allowed to send' is set to *CAL, specify the calendar that is used to determine when messages may be sent.

NOTE: See [Work with Calendars](#) for more information relating to this feature.

Use **F4=Prompt** to display the Select Service Provider pop-up window listing the current service providers from which a choice can be made.

Press **Enter** to add the new pager and return to the Work with Pagers main display.

Functions on the Add Pager display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

The following parameters are available on this display.

Position to

Use this parameter to enter an email address name or partial name from which the top of the list is then displayed.

Name

Displays the name of the email address. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the email address.

Status

Displays the current status of the email address. If 'Held' is displayed in this parameter then messages are not forwarded to the email address to which the held status applies.

Using the Work with Email Addresses display

The following options are available when working with email addresses. Type the option number in the Opt column against the required email address.

Change

Use option **2=Change** to open the Change Email Address display which allows you to change the attributes of an email address that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding an Email Address](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Email Addresses display. Press **Enter** on this display to delete the selected email addresses.

Display

Use option **5=Display** to open the Display Email Address display which shows the email address detail.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Release

Use option **6=Release** to open the Confirm Release of Email Addresses display. Press **Enter** on this display to release the selected email addresses.

Hold

Use option **7=Hold** to open the Confirm Hold of Email Address. Press **Enter** on this display to hold the selected email addresses.

NOTE: Messages are not sent to Held email addresses.

Where Used

Use option **8=Where Used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, rosters, broadcast groups and escalation lists that specify this email address as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Send Message

Use option **9=Send Message** to open the Send Text Message display which allows you to send a text message to the selected message device. See [Send Text Message](#) for more information.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `MSGDEV` function for the selected phone.

NOTE: *SECADM special authority is required to use this option.

Communications Log

Use option **13=Communications Log** to display the Communications Log showing all of the communications requests for the selected device. See [Display Communications Log](#) for more information.

Functions on the Work with Email Addresses display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Email Address display which allows you to enter the details of a new email address.

NOTE: See [Adding an Email Address](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

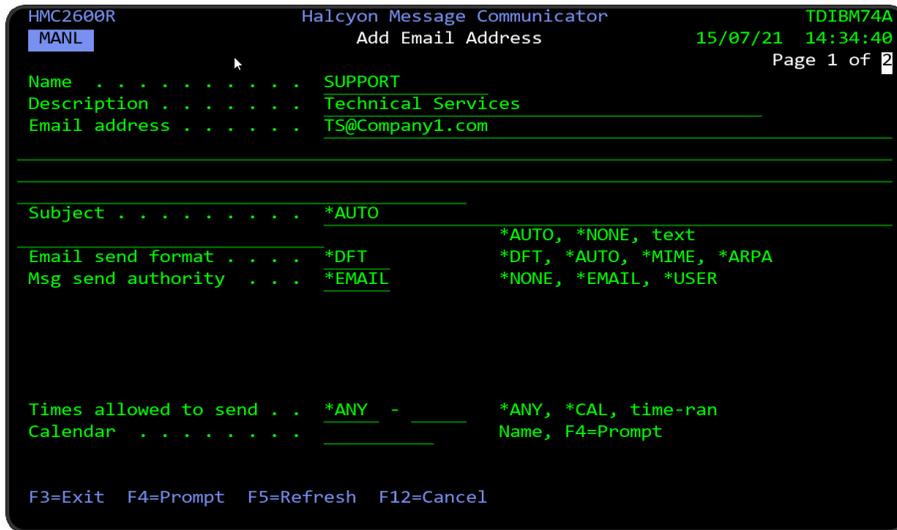
Use **F22=Print** to invoke the Print Email Addresses (`PRTEMLADR`) command to produce a detailed report of all Email Addresses defined on the system.

Adding an Email Address

You may add unlimited email addresses, although each must have a unique message device name.

Getting there

To add a new email address, use **F6=Add** from the Work with Email Addresses display.



Parameters on the Add Email Address display

The following parameters are available on this display.

Name

Enter a name for the new email address. This must be unique amongst message devices. The name can begin with an alphabetic or numeric character. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

Description

Enter a textual description for the email address.

NOTE: The name of an individual or the purpose of the email address is recommended.

Email address

Enter the email address of the recipient.

Subject

Specifies the default subject text for the following commands and actions. The text entered here is used when the 'Subject' parameter in the command or action is set to *AUTO. This parameter only applies when the 'Subject' has not been specifically overridden via a SNDTXT, EMAILSPLF or EMAILSTMF action on a rule or action schedule.

- Ad-Hoc Message (**ADHOCMSG**) command
- Ad-Hoc Message - Not Validated (**ADHOCMSGNV**) command
- Send Pager Message (**SNDPGRMSG**) command
- Send Text Message (**SNDTXTMSG**) command
- Send Text Message (SNDTXT) action
- Email Spooled File (EMAILSPLF) action
- Email Stream File (EMAILSTMF) action

NOTE: The entry in this parameter does not affect messages sent using the Send Email Message (**SNDEMLMSG**) command.

*AUTO	The subject text is comprised of the first sentence of the message text. Specifically, the beginning of the text up to the first occurrence of a period (.) followed by a space is used
*NONE	There is no subject text
text	Type the wording of the subject text. The text may include substitution variables. If any specified substitution variables are out of context when used, the variable names remain as part of the subject text

NOTE: The maximum subject length after any substitution variables have been resolved is 44 characters using distribution services. characters when using distribution services. If MSF or SMTP is used, the maximum subject length is 80 characters provided all characters can be encoded using CCSID 367. If not then CCSID 1208 (UTF-8) encoding is used and the maximum length is 40 characters.

Email send format

Specifies the message format used by Message Communicator when sending an email via an external SMTP server.

This setting only affects emails sent by Message Communicator, meaning those running the Send Text Message (**SNDTXTMSG**) command or by a **SNDTXT**, **EMAILSPLF** or **EMAILSTMF** action. It has no effect on emails not sent by Message Communicator, for example, emails sent using IBM's Send Distribution (**SNDDST**) or Send SMTP E-mail Message (**SNDSMTPEMM**) commands, or Halcyon's Send Email Message (**SNDEMLMSG**) command.

*DFT	System default HMC/EMAILFORMAT determines the format used
*AUTO	MIME format is used if attachments are being sent. Otherwise ARPA format is used
*MIME	Emails sent via an external SMTP server use Multipurpose Internet Mail Extensions (MIME) format
*ARPA	Emails sent via an external SMTP server use ARPA Internet Text format. This format does not support the sending of attachments or the Importance flag

NOTE: This setting has no effect on emails sent by Message Communicator via IBM Distribution Services or IBM Mail Server Framework (MSF).

Msg send authority

Specifies whether this email address is allowed to send messages to this system and if so what authority scheme is used.

*NONE	This email address is not allowed to send messages to this system. If any messages are sent, they are ignored but logged on the IBMi
*EMAIL	This email address is allowed to send messages to this system and Email address authority is used. See Type of Authority for more information. A valid 'From address' is considered sufficient authority to send messages. Commands sent to the system are run by the Action Monitors, usually running as QSYSOPR, using their own authority. See EMAIL message authority for more information

*USER	This email address is allowed to send messages to this system and *USER authority is used. In this instance, a user profile is associated with the email address and when any messages are sent to this system. the password for that user must also be sent. Commands sent to the system are run by the Action Monitors, using the specified user profile. See *USER message authority for more information
-------	--

NOTE: Only the first line of an inbound email is processed.

Times allowed to send

Specifies when messages may be sent to this email address. If a message is sent to this email address outside of the allowed times, the message is not sent until the allowed time is reached. This setting can be overridden by sending the message with *HIGH Message priority.

*ANY	Messages may be sent at any time
*CAL	A calendar is used to determine when messages may be sent
time-ran	Enter a specific time range between which the sending of messages is allowed. If the end time is earlier than the start time, the end time refers to the following day. A check is made that the 'From' and 'To' times are sufficient to cover the email retry period defined in system defaults HMC/EMAILRETRY and HMC/EMAILRETRYINTV .

NOTE: You cannot use an Email device with "Times allowed to send" within a Roster or Escalation List. Also, if a list such as a Broadcast Group includes a "Times allowed to send" Email device then it will be treated as EMAILBULKSEND *NO for every device on the List.

Calendar

When 'Times allowed to send' is set to *CAL, specify the calendar that is used to determine when messages may be sent.

NOTE: See [Work with Calendars](#) for more information relating to this feature.

Additional parameters available on this display are determined by the selection within the 'Msg send authority' parameter.

*EMAIL message authority

The following parameters are available when *EMAIL message authority is selected as the message send authority.

Type of authority

Specifies the type of authority required to enable the running of commands received from this email address.

*GEN	General authority is required. This email address may run any command to which the user profile running the command has authority including private, group or special authority
*PVT	Private authority is required. The email address may only run commands to which the user profile running this command has private authority
*LIST	List authority is required. The email address may only run commands specifically authorized in the Opcodes section of this display. In addition, general authority is also required

Allow commands

Specifies whether this email address is allowed to send commands to be run on this system.

*YES	This email address can send commands
*NO	This email address is not allowed to send commands

Allow replies

Specifies whether this email address is allowed to send a reply to an inquiry message using the 'Reply by Alert ID (RPYALT) command.

*YES	This email address can use the RPYALT command. If 'Allow Commands' is set to *NO, this command is an exception
*NO	This email address is not allowed to use the RPYALT command

Send acknowledge

Specifies whether to return a text message indicating the status of a command request. If enabled, the system sends a message indicating either the successful completion or failure of the command.

*YES	Acknowledgments are sent
*NO	Acknowledgments are not sent

Command opcode

Specifies the opcode used by this email address to indicate a command in a message. This parameter defaults to the value specified by system default [HMC/SMSCMDOPCODE](#). The shipped value of this system default is CMD.

To use the opcode in a message, type the opcode **followed immediately by a period (.)** and then the command text. For example:

```
ENDQPGMR.ENDSBS QPGMR *IMMED
```

The opcode is not case sensitive.

NOTE: The command fails if the opcode is not followed immediately by a period (.)

Alert reference opcode

Specifies the opcode used by this email address to indicate an alert reference in a message. This parameter defaults to the value specified by system default [HMC/SMSREFOPCODE](#). The shipped value of this system default is REF. To use the opcode in a message, type the opcode **followed immediately by a period (.)** and then the alert id. The alert id specified is then available in the &REF replacement variable. The opcode is not case sensitive.

NOTE: The operation fails if the opcode is not followed immediately by a period (.)

Use **Page Down** to display the email opcodes display on which you can add, delete and change opcodes for the selected email address. See [Adding an Email Opcode](#) for more information.

*USER message authority

The following parameters are available when *USER message authority is selected as the message send authority.

User profile

Specifies the user profile used to run commands sent from this email address when *USER authority is being used.

Type of authority

Specifies the type of authority required to enable the running of commands received from this email address.

*GEN	General authority is required. This email address may run any command to which the user profile running the command has authority including private, group or special authority
*PVT	Private authority is required. The email address may only run commands to which the user profile running this command has private authority
*LIST	List authority is required. The email address may only run commands specifically authorized in the Opcodes section of this display. In addition, general authority is also required

Allow commands

Specifies whether this email address is allowed to send commands to be run on this system.

*YES	This email address can send commands
*NO	This email address is not allowed to send commands

Allow replies

Specifies whether this email address is allowed to send a reply to an inquiry message using the 'Reply by Alert ID (**RPYALT**)' command.

*YES	This email address can use the RPYALT command. If 'Allow Commands' is set to *NO , this command is an exception
*NO	This email address is not allowed to use the RPYALT command

Send acknowledge

Specifies whether to return a text message indicating the status of a command request. If enabled, the system sends a message indicating either the successful completion or failure of the command.

*YES	Acknowledgments are sent
*NO	Acknowledgments are not sent

Command opcode

Specifies the opcode used by this email address to indicate a command in a message. This parameter defaults to the value specified by system default [HMC/SMSCMDOPCODE](#). The shipped value of this system default is CMD. To use the opcode in a message, type the opcode **followed immediately by a period (.)** and then the command text.

For example:

```
ENDQPGMR.ENDSBS QPGMR *IMMED
```

The opcode is not case sensitive.

NOTE: The command fails if the opcode is not followed immediately by a period (.)

Alert reference opcode

Specifies the opcode used by this email address to indicate an alert reference in a message. This parameter defaults to the value specified by system default [HMC/SMSREFOPCODE](#). The shipped value of this system default is REF. To use the opcode in a message, type the opcode **followed immediately by a period (.)** and then the alert id. The alert id specified is then available in the &REF replacement variable. The opcode is not case sensitive.

NOTE: The operation fails if the opcode is not followed immediately by a period (.)

Password opcode

Specifies the opcode used by this email address to indicate a password. This must be sent when the Message send authority is set to *USER.

Use **Page Down** to display the email opcodes display on which you can add, delete and change opcodes for the selected email address. See [Adding an Email Opcode](#) for more information.

Functions on the Add Email Address display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

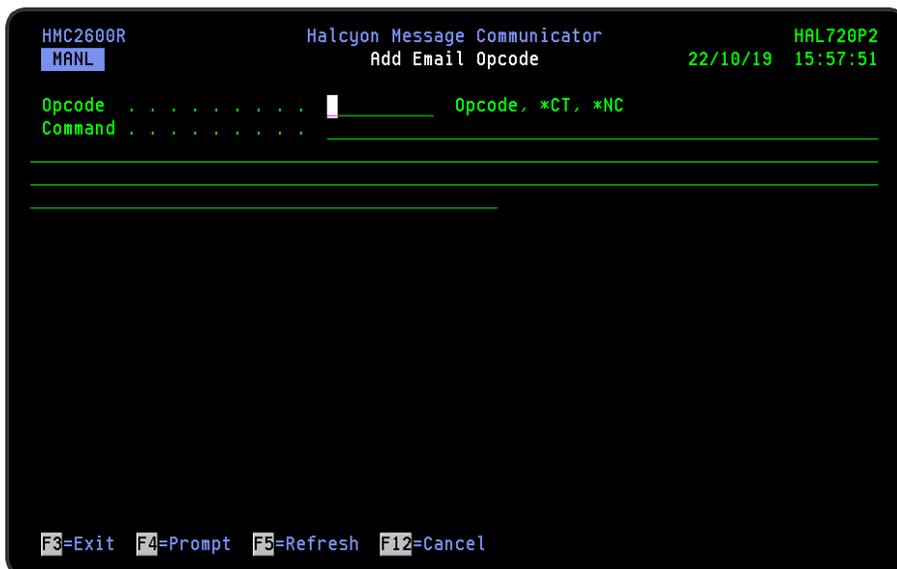
Adding an Email Opcode

Adding an email opcode is achieved using page 2 of the Add Email Address display. When adding a new email address, the initial Add Email Opcode display is empty.

Getting there

Use **F6=Add** on this display to add a new opcode.

NOTE: An opcode is an abbreviation for an IBMi command.



Opcode

This is the unique name of the opcode, or is a special value (*CT or *NC). Multiple entries with each of the special values are allowed. The special values are used in conjunction with *LIST authority.

opcode	Specify a unique opcode
*CT	Containing. The command parameter should contain part of a command name, or *ALL
*NC	Not containing. The command parameter should contain part of a command name

When *LIST authority is specified, the user can run any opcode defined on this screen and also any command specified by a *CT line that is not also specified by an *NC line.

NOTE: See [Opcode examples](#) for detailed examples of how Opcodes can be used.

Work with Message Queue Recipients

A message queue recipient is a recipient who can be contacted by sending a message to an IBMi message queue on the local system or on a connected remote location. The advantage of using a message queue recipient is that they can be added to broadcast groups, rosters, call schedules and escalation lists. A message queue recipient can also be used within a SNDTXT Action on a Rule or Action Schedule.

The resulting message is sent as a genetic message to the message queue. This means that there is no associated message identifier or message file.

Getting there

Select option **13=Work with Message Queue Recipients** from the Message Communicator main menu. Alternatively, use the Work with Message Queue Recipients (**WRKMSGQRCP**) command.

```

HMC2900R              Halcyon Message Communicator              HAL720P2
MANL                  Work with Message Queue Recipients      29/08/17 12:23:16
Position to . . . : 
Type options, press Enter.
2=Change 4=Delete 5=Display 6=Release 7=Hold 8=Where used
9=Send message 10=Authority 13=Communications log
Opt Name              Description              Status
QAMSGQ_QA_5P3        QA Message Queue
F3=Exit F5=Refresh F6=Add F12=Cancel F18=Bottom F22=Print
Bottom
  
```

Parameters on the Work with Message Queue Recipients display

The following parameters are available on this display.

Position to

Use this parameter to enter a message queue recipient name or partial name from which the top of the list is then displayed.

Name

Displays the name of the message queue recipient. This name must be unique amongst all message devices.

Description

Displays a brief textual description to identify the message queue recipient.

Using the Work with Message Queue Recipients display

The following options are available when working with message queue recipients. Type the option number in the Opt column against the required message queue recipient.

Change

Use option **2=Change** to open the Change Message Queue Recipients display which allows you to change the attributes of a message queue recipient that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Message Queue Recipient](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Message Queue Recipients display. Press **Enter** on this display to delete the selected message queue recipients. It is not possible to delete a message queue recipient that is in use by another message device or rule.

Display

Use option **5=Display** to open the Display Message Queue Recipient display which allows you to view (but not amend) the details of the selected message queue recipients.

Release

Use option **6=Release** to open the Confirm Release Message Queue Recipients display. This allows you to release message queue recipients that are currently in a status of 'Held'. Press **Enter** on this display to release the selected message queue recipients.

Hold

Use option **7=Hold** to open the Confirm Hold of Email Address. Use this option to place the selected message queue recipients into a status of 'Held'. Any message queue recipient in a status of held is excluded from receiving any messages whether as a standalone message device or included within another message device group. Press **Enter** on this display to hold the selected email addresses.

Where Used

Use option **8=Where Used** to open the Display Message Device Where Used window. This pop-up displays the rules, call schedules, rosters, broadcast groups and escalation lists that specify the selected message queue recipient as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Send Message

Use option **9=Send Message** to open the Send Text Message display which allows you to send a text message to the selected message device. See [Send Text Message](#) for more information.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `MSGDEV` function for the selected phone.

NOTE: *SECADM special authority is required to use this option.

Communications Log

Use option **13=Communications Log** to display the Communications Log showing all of the communications requests for the selected device. See [Display Communications Log](#) for more information.

Functions on the Work with Message Queue Recipients display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Message Queue Recipient display which allows you to enter the details of a new message queue recipient.

NOTE: See [Adding a Message Queue Recipient](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

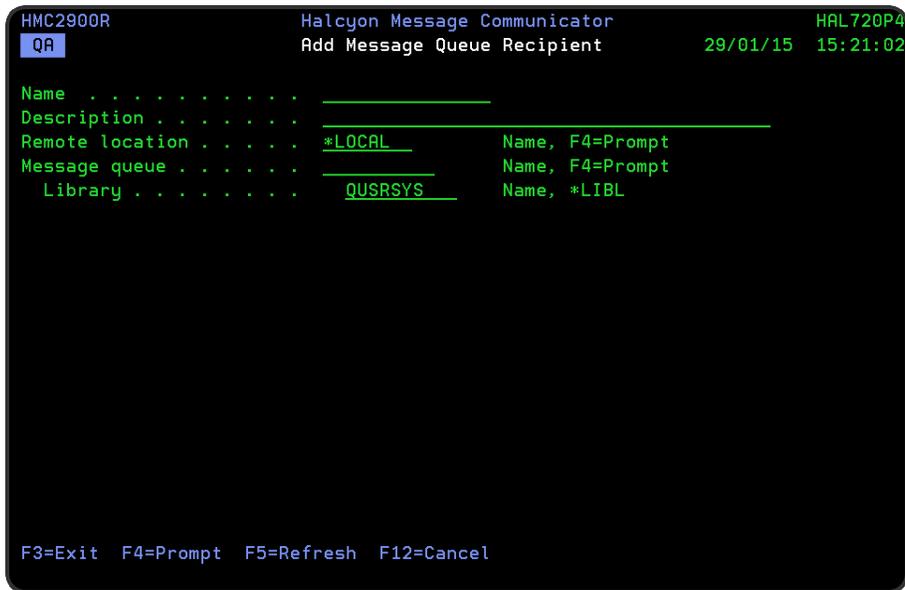
Use **F22=Print** to invoke the Print Message Queue Recipients (**PRTBMSGQRCP**) command to produce a detailed report for all message queue recipients defined on the system.

Adding a Message Queue Recipient

You may add an unlimited number of message queue recipients but each one added must have a unique message device name.

Getting there

To add a new message queue recipient, use **F6=Add** from the Work with Message Queue Recipients display.



Parameters on the Add Message Queue Recipient display

The following parameters are available on the Add Message Queue Recipient display.

Name

Enter a name for the new message queue recipient that is unique amongst message devices. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

Description

Add a textual description to identify this message queue recipient.

Remote location

If the message queue is defined on the local system, leave this parameter at the default setting of *LOCAL. If the message queue is defined on a remote device, enter the name of the remote location or use **F4=Prompt** to display a list of valid remote locations from which a selection can be made.

Message queue

Enter the name of the message queue which must exist on the specified location. If you have already specified the 'Library' parameter, use **F4=Prompt** to display a list of valid message queues from which a selection can be made.

Library

Enter the name of the library in which the selected message queue resides. Use **F4=Prompt** to display a list of valid libraries from which a selection can be made.

ASP

Specify the qualified name of the message queue and the ASP on which it resides.

Press **Enter** to create this message queue recipient and make it available for selection as a message device.

Work with Broadcast Groups

A Broadcast Group is a list comprising multiple message devices, which may be any of the following:

- Pagers
- Phones
- Email addresses
- Broadcast groups*
- Rosters
- Call schedules
- Escalation lists

NOTE: * A broadcast group may refer to another broadcast group but cannot refer to itself.

When an alert is directed to a broadcast group, it is simultaneously sent to all the message devices in that broadcast group.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

If using *MSF as the method of sending emails (see system default [HMC/EMAILMETHOD](#)), the action is completed using a single email rather than as an email per recipient. This improves performance, significantly if an attachment is included. The email address can be assigned as *TO, *CC or *BCC.

The Communications Log splits the details of the Broadcast Group between the email and phones/pagers, showing a single *CALLGRP entry which is for the Broadcast Group. It also displays a single *MAILGRP entry for the email sent to all the email addresses. Use option **5=Display** against the *MAILGRP entry to show the **SNDEMLMSG** command used and the recipients. It then shows, as before, an entry for each phone/pager.

IMPORTANT: When upgrading to this version Message Communicator, all existing email addresses specified on Broadcast Groups are set as *TO.

The Work with Broadcast Groups display shows the existing broadcast groups that have been set up and provides options for maintaining these as well as provision for adding further broadcast group instances.

Getting there

Select option **20=Work with Broadcast Groups** from the Message Communicator main menu.

```

HMC2500R                               Halcyon Message Communicator                               HAL720P4
QA                                     Work with Broadcast Groups                               19/03/15 09:35:40

Type options, press Enter.
2=Change 4=Delete 5=Display 8=Where used 10=Authority

Opt Name                                Description                                High Normal Low
-- NTFY_FTP1                            Notify when *FTP1 Enabled/Disabled
-- NTFY_ODBC1                            Notify when *ODBC1 Enabled/Disabled
-- NTFY_QSECOFR                          End Swap Session for QSECOFR
-- OPSGROUP1                             Demo broadcast group
-- TREVBRDGRP1                           TREVBRDGRP1

F3=Exit F5=Refresh F6=Add F12=Cancel F22=Print
Bottom
    
```

Parameters on the Work with Broadcast Groups display

The following parameters are available on this display.

Name

Displays the name of the broadcast group. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the broadcast group.

Using the Work with Broadcast Groups display

The following options are available when working with broadcast groups. Type the option number in the Opt column against the required broadcast group.

Change

Use option **2=Change** to open the Change Broadcast Group display which allows you to change the attributes of a broadcast group that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Broadcast Group](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Broadcast Group display. Press **Enter** on this display to delete the selected broadcast group.

Display

Use option **5=Display** to open the Display Broadcast Group display which shows the details of the message devices contained within this broadcast group.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, rosters, and escalation lists that specify this broadcast group as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `MSGDEV` function for the selected message queue recipient.

NOTE: *SECADM special authority is required to use this option.

Functions on the Work with Broadcast Groups display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Broadcast Group display which allows you to enter the details of a new broadcast group.

NOTE: See [Adding a Broadcast Group](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

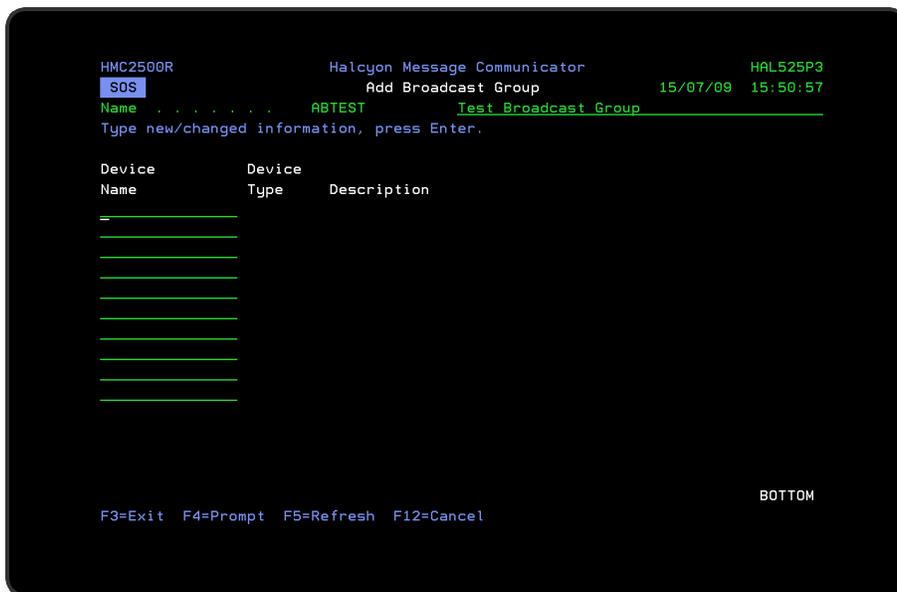
Use **F22=Print** to invoke the Print Broadcast Group (**PRTBRDGRP**) command to produce a detailed report for all broadcast groups defined on the system.

Adding a Broadcast Group

You may add unlimited broadcast groups. Each broadcast group added must have a unique message device name.

Getting there

To add a new broadcast group, use **F6=Add** from the main Work with Broadcast Group display.



Parameters on the Add Broadcast Group display

The following parameters are available on this display.

Name/Description

Enter a name for the new broadcast group that is unique amongst message devices (the name can begin with an alphabetic or numeric character) and a textual description for the broadcast group. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

NOTE: The name of the purpose for which the broadcast group is used is recommended as a description.

Press **Enter** to display parameters where you can enter details of the message devices that form this broadcast group.

Device name

If known, type the name of the message device directly into this parameter and press **Enter** to automatically complete the entries in the other parameters with the associated information of the selected device.

Otherwise, use **F4=Prompt** to open a window from where a message device can be selected.

If the initial allocation of devices has been completed, press **Enter** to open an additional ten lines into which further device names can be added. This facility is also available when using **F4=Prompt**.

NOTE: When the 'Additional devices name' parameters are added, the existing list of entries is sorted into alphabetical order, but retains the current cursor position. This can give the impression that your new entries have been lost, when they have actually been assigned the correct position in the device list.

Device type

Displays the type of message device as defined against the selected device name.

Description

Displays the description of the message device as defined against the selected device name.

Held

If a message device is selected that has a current status of 'Held', this status is displayed to the right of the device.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

When you have finished entering message devices, press **Enter** to add the new broadcast group.

Functions on the Add Broadcast Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Rosters

A roster is a list comprising multiple message devices, which may be any of the following:

- Pagers
- Phones
- Email addresses
- Broadcast groups
- Rosters*
- Call schedules
- Escalation lists

NOTE: * A roster may refer to another roster but cannot refer to itself.

When an alert is sent to a roster, it is sent to the message device in the roster that is currently active. Only one message device within a roster is active at any one time.

The active message device changes when the specified number of days have elapsed after the previous change, and at the specified time.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

To define rosters, you use the Work with Rosters display.

The Work with Rosters display shows the existing rosters that have been set up and provides options for maintaining these as well as provision for adding further roster instances.

Getting there

Select option **21=Work with Rosters** from the Message Communicator main menu.

```

HMC2700R                               Halcyon Message Communicator                               HAL720P2
MANL                                     Work with Rosters                               18/11/15 14:11:20

Type options, press Enter.
2=Change 4=Delete 5=Display 8=Where used 9=Projection 10=Authority

Opt Name      Description                               High Normal Low
_ OPSROTA1    Demo rota change on Monday @ 09:00
_ TREVOR.ROTA Trevor's Rota

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

Bottom

```

Parameters on the Work with Rosters display

The following parameters are available on this display.

Name

Displays the name of the roster. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the roster.

Using the Work with Rosters display

The following options are available when working with rosters. Type the option number in the Opt column against the required roster.

Change

Use option **2=Change** to open the Change Rosters display which allows you to change the attributes of a roster that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Roster](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Roster display. Press **Enter** on this display to delete the selected roster.

Display

Use option **5=Display** to open the Display Roster display which shows the details of the message devices contained within this roster.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, broadcast groups, and escalation lists that specify this roster as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Projection

Use option **9=Projection** to display the devices expected to be the active devices for this roster in future. This projection changes if devices are added to or removed from the roster, the roster settings are modified, or devices already on the roster are held or released.

```

HMC2750R                               Halcyon Message Communicator                               HAL720P2
MANL                                     Roster Projection                                     19/11/15 16:06:33

Roster . . . . . : OPSROTA1           Demo rota change on Monday @ 09:00
Change days . . . : 7

Device      Type      ----- On Call From -----
OPSPHONE1  *PHONE  Monday    16/11/15 00:00
OPSPHONE2  *PHONE  Monday    23/11/15 00:00
OPSPAGER   *PAGER  Monday    30/11/15 00:00
OPSPHONE1  *PHONE  Monday    07/12/15 00:00
OPSPHONE2  *PHONE  Monday    14/12/15 00:00
OPSPAGER   *PAGER  Monday    21/12/15 00:00
OPSPHONE1  *PHONE  Monday    28/12/15 00:00
OPSPHONE2  *PHONE  Monday    04/01/16 00:00
OPSPAGER   *PAGER  Monday    11/01/16 00:00
OPSPHONE1  *PHONE  Monday    18/01/16 00:00
OPSPHONE2  *PHONE  Monday    25/01/16 00:00
OPSPAGER   *PAGER  Monday    01/02/16 00:00
OPSPHONE1  *PHONE  Monday    08/02/16 00:00
OPSPHONE2  *PHONE  Monday    15/02/16 00:00

More . . .

F3=Exit  F12=Cancel

```

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the MSGDEV function for the selected roster.

NOTE: *SECADM special authority is required to use this option.

Functions on the Work with Rosters display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Roster display which allows you to enter the details of a new roster.

NOTE: See [Adding a Roster](#) for more information.

Enter a name for the new roster that is unique amongst message devices (the name can begin with an alphabetic or numeric character) and a textual description for the roster. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

NOTE: : The name of the purpose for which the roster is used is recommended as a description.

Press **Enter** to display parameters where you can enter details of the message devices that form this roster.

Change mode

Specifies how the roster change dates are calculated.

*DAYS	Each roster change occurs after the specified number of days
*MONTH	Each roster change occurs on a specified day in each month

Interval in days (If *DAYS selected as Change mode)

This is the interval in days between each change of active device in the roster. The next roster change occurs this number of days after the date shown in the 'Last Change Date' parameter. When the roster changes, the next message device (excluding any that are held) in the list, with this sequence number, becomes the active message device. If the last message device is currently active, the first message device then becomes the active device at the point of change.

Day of month (If *MONTH selected as Change mode)

Specifies the day of month when the roster changes. The next roster change will be on this day of the month following the date shown for Last Change Date. When the roster changes, the next message device (excluding any that are held) in the list after the message device

with this sequence number will become the active message device, or if the last message device is currently active, the first message device will become the active device.

NOTE: The Message Communicator Monitor must be running in order for the Device to be rotated at the specified day/time.

Change time

Specifies the time of day when the change of active device occurs.

Current device sequence (Dev Seq)

Specifies the sequence number of the currently active message device. You can manually change the sequence number if required.

Last change date

This is the date of the last change of active roster device.

Sequence (Seq)

The sequence numbers define the escalation order of the message devices listed. To change the escalation sequence, change the sequence numbers as required and press **Enter**.

Device name

If known, type the name of the message device directly into this parameter and press **Enter** to automatically complete the entries in the other parameters with the associated information of the selected device.

Otherwise, use **F4=Prompt** to open a window from where a message device can be selected.

Device type

Displays the type of message device as defined against the selected device name.

Description

Displays the description of the message device as defined against the selected device name.

Held

If a message device is selected that has a current status of 'Held', this status is displayed to the right of the device.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

When you have finished entering message devices, press **Enter** to add the new roster.

Functions on the Add Roster display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Call Schedules

A Call Schedule allows a message to be sent to different message devices at different dates and times. Devices in a call schedule may be any of the following:

- Pagers
- Phones
- Email addresses
- Broadcast groups
- Rosters
- Call schedules*
- Escalation lists

NOTE: * A call schedule may refer to another call schedule but cannot refer to itself.

How Call Schedules are resolved

When a message is sent to a call schedule, the schedule entries in the schedule are checked in the order in which they are listed. Either the first, or all the schedule entries found that include the current date and time, are the effective entry.

You can check the coverage provided by any schedule entry using the calendar view, accessed by taking option **5=Display** on the call schedule and option **1=Calendar View** on the required call schedule entry. The calendar view highlights the days on which the selected schedule entry is fully or partially effective. To check the coverage times for a particular day, use the View Day option (key the option over the day of interest and press Enter).

To define call schedules, you use the Work with Call Schedules display.

The Work with Call Schedules display shows the existing call schedules that have been set up and provides options for maintaining these as well as provision for adding further call schedule instances.

Getting there

Select option **22=Work with Call Schedules** from the Message Communicator main menu.

```

HAL4020R                               Halcyon Message Communicator                               HAL720P4
QA                                     Work with Call Schedules                               19/03/15 09:55:28

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 6=Print 8=Where used 10=Authority

Opt Name      Description
-- ACTERR     Action Error
-- MIKE.CSH   TREVOR.CSH
-- OPSSCHED1  Demo call schedule
-- TREVOR.SCD Trevor: Call Schedule

Bottom

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

```

Parameters on the Work with Call Schedules display

The following parameters are shown on the Work with Call Schedules display.

Name

Displays the name of the call schedule.

Description

Displays a brief textual description of the call schedule.

Using the Work with Call Schedules display

The following options are available when working with Call Schedules. Type the option number in the Opt column against the required call schedule.

Change

Use option **2=Change** to open the Change Call Schedule display which allows you to change the attributes of a call schedule that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Call Schedule](#).

Copy

Use option **3=Copy** to copy an existing call schedule. The Confirm Copy of Call Schedule display allows you to enter a new name for the copied call schedule. Press **Enter** to complete the copy action. You can also copy individual call schedule entries within a call schedule. See [Copying specific actions from within an action schedule](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Delete of Call Schedules display. Press **Enter** on this display to delete the selected call schedule.

NOTE: You cannot delete a call schedule that is referenced by another message device.

Display

Use option **5=Display** to open the Display Call Schedule display which shows the list of the schedule entries contained within this call schedule.

You can access the calendar view from this screen. See [Displaying Call Schedules](#) for further information.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Print

Use option **6=Print** to invoke the Print Call Schedules (**PRTCALLSCH**) command which produces a detailed report for the selected call schedule.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the rosters, broadcast groups, and escalation lists that specify this call schedule as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `MSGDEV` function for the selected call schedule.

NOTE: *SECADM special authority is required to use this option.

Functions on the Work with Call Schedules display

The following functions are available when working with call schedules:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Call Schedule display which allows you to enter the details of a new call schedule.

NOTE: See [Adding a Call Schedule](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit the current display and return to the previous display.

F22=Print

Use **F22=Print** to invoke the Print Call Schedules (`PRTCALLSCH`) command which produces a detailed report for all the call schedules defined on the system.

Displaying Call Schedules

By taking option **5=Display** against a call schedule on the [Work with Call Schedules](#) display opens the Display Call Schedule display.

This display shows the name and description of the schedule and the list of schedule entries defined within. Schedules are resolved according to their defined sequence. Therefore, when a message is sent to a call schedule, the first schedule found that includes the current date and time is the effective entry.

NOTE: You cannot change information on this display. To change entries use **Option 2=Change** against the required call schedule on the Work with Call Schedules display.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P1
                                         Display Call Schedule                               15/12/08 16:13:55
Call schedule . . . SUPPORT Tech Support Schedule
Device select . . . *ALL *ALL, *FIRST
Type options, press Enter.
1=Calendar view 5=Display

Opt Seq Description                               Device                               Type
- 10 09:00 - 13:00 Selected days.                TECHSUPPORT *EMAIL
- 20 14:00 - 17:00 Selected days.                TECHSUPPORT *EMAIL
- 30 13:00 - 14:00 Selected days.                TECHMGR *EMAIL
- 40 *ALL                                         NIGHTROTA *CALLRTA

                                         Bottom

F3=Exit F5=Refresh F12=Cancel
    
```

Using the Display Call Schedules display

The following options are available when Displaying Call Schedules. Type the option number in the Opt column against the required call schedule entry.

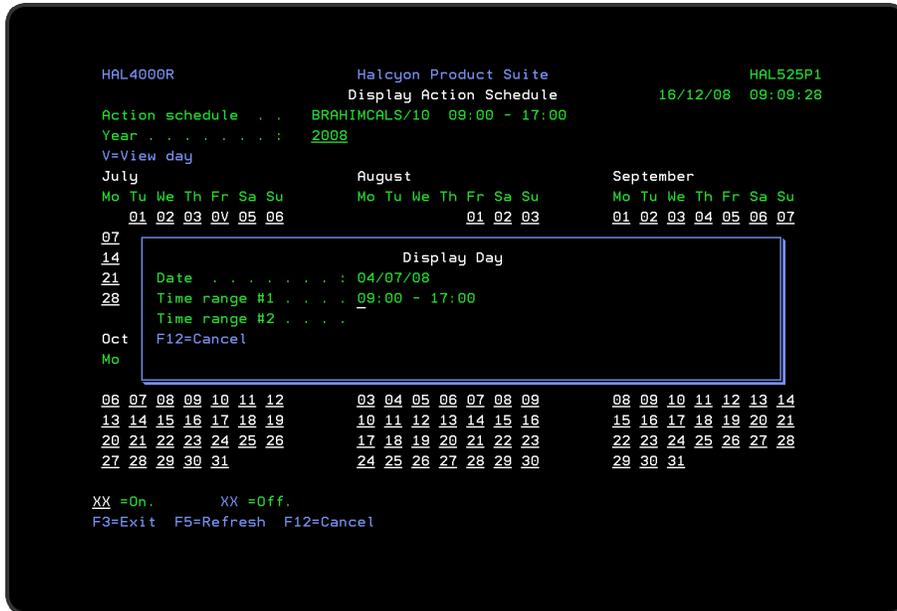
Calendar view

Use option **1=Calendar view** to show the calendar view of the selected schedule entry. This view displays the calendar data using a traditional calendar format and employs the following rules:

- Set days are shown underlined in white or high intensity
- Normal days are shown in blue or normal intensity
- Consecutive non-contiguous days are separately underlined
- Consecutive contiguous days are underlined as a group

Type 'V' over any day and press **Enter** to display the schedule detail.

NOTE: You cannot change entries when in display mode.



NOTE: See [Work with Calendars](#) for more information on how calendars are used within Halcyon products.

Display

Use option **5=Display** on the Display Call Schedule screen to open the Display Call Schedule Entry display. This display allows you to view (but not amend) the details of the selected Call Schedule entry.

```

_HAL4020R          Halcyon Message Communicator          HAL525P1
                   Display Call Schedule Entry          16/12/08 09:21:32
                                                           Page 1 of 2

Entry description . . . . *AUTO

Entry type . . . . . T

Start:
  Time . . . . . 09:00
End:
  Time . . . . . 17:00

Effective dates . . . . *NOMIN - *NOMAX

                Mo Tu We Th Fr Sa Su
Effective days . . . . . Y Y Y Y Y Y Y

Message device . . . . . BRAHIM          *PHONE

F3=Exit  F5=Refresh  F12=Cancel

```

Functions on the Display Call Schedule Entry display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

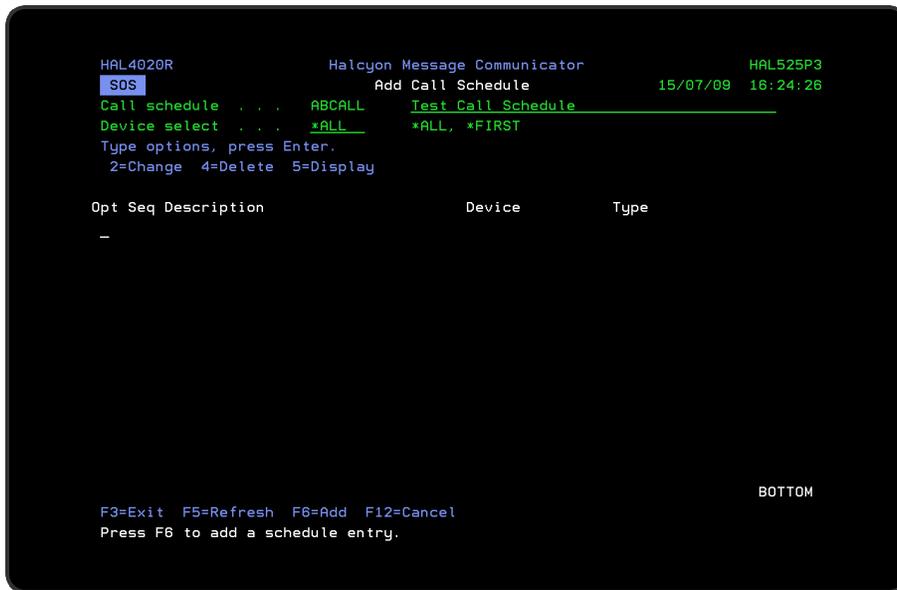
Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Call Schedule

You may add unlimited call schedules. Each call schedule added must have a unique message device name.

Getting there

To add a new call schedule, use **F6=Add** from the main Work with Call Schedules display.



Parameters on the Add Call Schedule display

The following parameters are available on the Add Call Schedule display.

Name/Description

Enter a name for the new call schedule and a textual description. The name can begin with an alphabetic or numeric character.

TIP: The name of the purpose for which the call schedule is used is recommended as a description.

Device select

Specifies which device in a Call Schedule is selected.

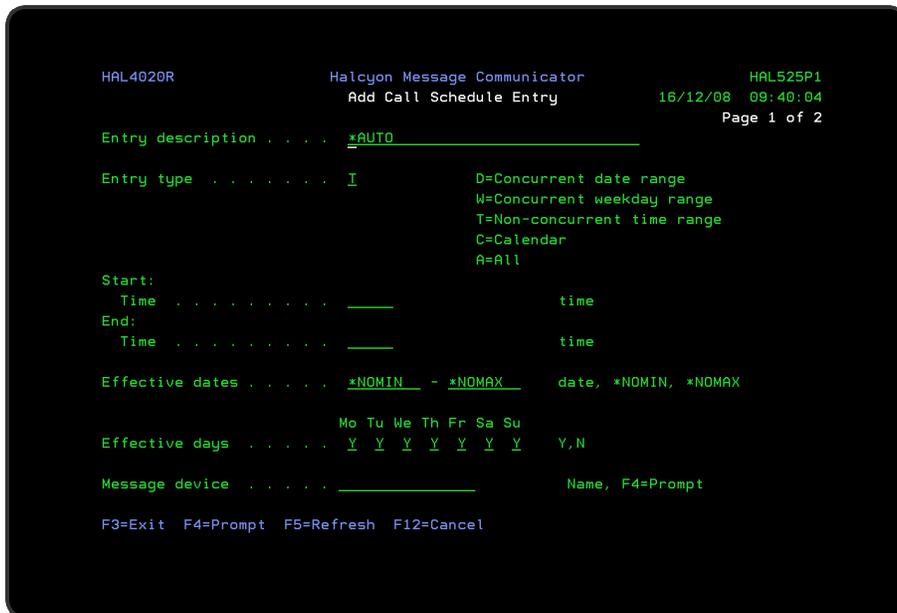
*ALL	Specifies that all the devices that are applicable to the current date and time are selected
*FIRST	Specifies that only the first (lowest sequence number) device that is applicable to the current date and time is selected.

TIP: To change the order of the schedule entries, type new sequence numbers and press Enter.

Press **Enter** to add the call schedule. You are now ready to add schedule entries that form the call schedule.

Adding Call Schedule Entries

Press **F6=Add** to add a schedule entry to the call schedule.



Parameters on the Add Call Schedule Entry display

The following parameters are available on this display.

Entry description

Specifies the description of the schedule entry. You can enter a textual description but if the special value *AUTO is used, a summary of the schedule is used as the description.

Entry type

Specifies the type of schedule entry.

D=Concurrent date range	Defines a single range starting at a specified date and time and running continuously to another date and time
W=Concurrent weekday range	Defines a single ranges starting a specified weekday and time and running continuously to another weekday and time up to 7 days later. The same range repeats every week. The same range repeats every week. The range may be contained within a week, for example, Mon-Fri, or may start one week and end the next, for example, Fri-Mon

T=Non-concurrent time range	Specifies repeating ranges starting at a specified time and running continuously to another time up to 24 hours later. The same range repeats on the days specified by the 'Effective Days' parameters. The range may also be limited to certain dates by the 'Effective Dates' parameters. The range may be contained within a day, for example 0900-1700, or may start one day and end the next, for example 1900-0600
C=Calendar	Specifies that the date and times defined on a calendar are used (Normal mode) or that the date and times not defined on a calendar are used (Inverse mode)
A=All	Specifies that the range lasts all day, every day

Type an entry type from those listed and press **Enter**. Subsequent parameters displayed on this page depend on the selected entry type.

Concurrent date range parameters

NOTE: These parameters are only displayed if 'D' is selected as the entry type.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P3
                                     Add Call Schedule Entry                               29/03/11  10:18:49

Entry description . . . . . *AUTO
Entry type . . . . . D                  D=Concurrent date range
                                       W=Concurrent weekday range
                                       T=Non-concurrent time range
                                       C=Calendar
                                       A=All

Start:
  Date . . . . . _____ date
  Time . . . . . 00:00 time
End:
  Date . . . . . _____ date
  Time . . . . . 23:59 time

Message device . . . . . _____ Name, F4=Prompt
Delay sending . . . . . N Y,N
F3=Exit F4=Prompt F5=Refresh F12=Cancel
Start Date is required.
    
```

Start and End Date/Time

Enter the 'Start date' and 'Time' and the 'End date' and 'Time' of the required range. The end time must be later than the start time although the same date may be specified for both 'Start' and 'End date' parameters.

Message device

The name of the message device. Message devices of any type are valid in a call schedule. A call schedule may refer to another call schedule but cannot refer to itself. Use **F4=Prompt** to display a list of available message devices.

Delay sending

Specifies whether messages are sent immediately or delayed until the end of the period covered by this call schedule entry. When a message is sent to a Call Schedule and the delayed sending option issued, the messages are added with Scheduled instead of Pending status, with the schedule date/time set to the time required. This does not apply if the message priority is *HIGH.

NOTE: This parameter cannot be set if Device Select is *FIRST or Entry Type is All.

Concurrent Weekday Range parameters

NOTE: These parameters are only displayed if 'W' is selected as the entry type.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P3
Add Call Schedule Entry                 29/03/11  10:59:09

Entry description . . . . . *AUTO
Entry type . . . . . W                 D=Concurrent date range
                                       W=Concurrent weekday range
                                       T=Non-concurrent time range
                                       C=Calendar
                                       A=All

Start:
  Day . . . . . Mon                   day of week
  Time . . . . . 00:00                 time
End:
  Day . . . . . Fri                   day of week
  Time . . . . . 23:59                 time

Message device . . . . . _____ Name, F4=Prompt
Delay sending . . . . . N             Y,N
F3=Exit F4=Prompt F5=Refresh F12=Cancel
Message device is required.
    
```

Start and End Date/Time

Enter the 'Start weekday' and 'Time' and 'End weekday' and 'Time' of the required range. For the weekday parameters, type sufficient beginning letters to uniquely

identify the required day. (for example, just typing 'T' is insufficient). If the end day is an earlier weekday than the 'Start day', it applies to the following week.

Message device

The name of the message device. Message devices of any type are valid in a call schedule. A call schedule may refer to another call schedule but cannot refer to itself. Use **F4=Prompt** to display a list of available message devices.

Delay sending

Specifies whether messages are sent immediately or delayed until the end of the period covered by this call schedule entry. When a message is sent to a Call Schedule and the delayed sending option issued, the messages are added with Scheduled instead of Pending status, with the schedule date/time set to the time required. This does not apply if the message priority is *HIGH.

NOTE: This parameter cannot be set if Device Select is *FIRST or Entry Type is All.

Non-concurrent date range parameters

NOTE: These parameters are only displayed if 'T' is selected as the entry type.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P3
                                     Add Call Schedule Entry                               29/03/11  11:00:44

Entry description . . . . . *AUTO
Entry type . . . . . I                D=Concurrent date range
                                       W=Concurrent weekday range
                                       T=Non-concurrent time range
                                       C=Calendar
                                       A=All

Start:
  Time . . . . . 09:00                time
End:
  Time . . . . . 17:00                time

Effective dates . . . . . *NOMIN_ - *NOMAX_    date, *NOMIN, *NOMAX
                               Mo Tu We Th Fr Sa Su
Effective days . . . . . Y Y Y Y Y Y Y      Y,N

Message device . . . . . _____    Name, F4=Prompt
Delay sending . . . . . N                Y,N
F3=Exit F4=Prompt F5=Refresh F12=Cancel
Message device is required.
    
```

Start/End time

Enter the 'Start' and 'End time' of the required range. If the end time is earlier than the start time, it applies to the following day.

Effective dates

Effective dates are optional but may be used to limit ranges to within a particular range of dates.

Effective days

Effective days use a 'Y' to specify on which weekdays the time ranges start.

NOTE: A range may end on a day that is not selected.

Message device

The name of the message device. Message devices of any type are valid in a call schedule. A call schedule may refer to another call schedule but cannot refer to itself. Use **F4=Prompt** to display a list of available message devices.

Delay sending

Specifies whether messages are sent immediately or delayed until the end of the period covered by this call schedule entry. When a message is sent to a Call Schedule and the delayed sending option issued, the messages are added with Scheduled instead of Pending status, with the schedule date/time set to the time required. This does not apply if the message priority is *HIGH.

NOTE: This parameter cannot be set if 'Device select' is *FIRST or 'Entry type' is All.

Calendar parameters

NOTE: These parameters are only displayed if 'C' is selected as the entry type.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P3
                                     Add Call Schedule Entry                               29/03/11  11:06:48

Entry description . . . . . *AUTO
Entry type . . . . . C                D=Concurrent date range
                                       W=Concurrent weekday range
                                       T=Non-concurrent time range
                                       C=Calendar
                                       A=All
                                       Name, F4=Prompt
Calendar . . . . . _____
Calendar mode . . . . . N            N=Normal
                                       I=Inverse

Message device . . . . . _____   Name, F4=Prompt
Delay sending . . . . . N            Y,N
F3=Exit F4=Prompt F5=Refresh F12=Cancel
Calendar Name is required.
    
```

Calendar

Enter the name of the calendar to use.

Calendar mode

Enter the calendar mode to use. When calendar mode is N=Normal, the dates and times set on the calendar are used. When calendar mode is I=Inverse, the dates and times not set on the calendar are used.

NOTE: See [Work with Calendars](#) for more information on how calendars operate within Halcyon products.

Message device

Specifies the message device to be used for this call schedule entry. Message devices of any type are valid in a call schedule. A call schedule may refer to another call schedule but cannot refer to itself.

Delay sending

Specifies whether messages are sent immediately or delayed until the end of the period covered by this call schedule entry. When a message is sent to a Call Schedule and the delayed sending option issued, the messages are added with

Scheduled instead of Pending status, with the schedule date/time set to the time required. This does not apply if the message priority is *HIGH.

NOTE: This parameter cannot be set if 'Device select' is *FIRST or 'Entry type' is All.

All Mode

In 'All' mode, the time range lasts all day every day. There are no parameters with this mode. This mode is intended to be used as the last schedule entry to catch all time periods not allocated to any previous entries.

Press **Enter** to add the schedule entry.

Using the Add Call Schedule display

The following options are available when adding call schedules. Type the option number in the Opt column against the required call schedule.

Change

Use option **2=Change** to open the Change Call Schedule Entry display which allows you to change the attributes of a call schedule entry that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Call Schedule](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Call Schedule Entries display. Press **Enter** on this display to delete the selected call schedule.

Display

Use option **5=Display** to open the Display Call Schedule Entry display which shows the details of the selected schedule entry contained within this call schedule.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Functions on the Add Call Schedule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Call Schedule Entry display from where a new call schedule entry can be added.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to invoke the Print Call Schedules (**PRTCALLSCH**) command to produce a detailed report for the call schedule displayed.

Copying Specific Entries From Within a Call Schedule

It is possible to copy specific entries from one call schedule to another or the same call schedule. This is done via the **2=Change** option against the required call schedule on the [Work with Call Schedules](#) display.

Getting there

To copy a specific entry or entries from an existing schedule, select **3=Copy** against the required entries and press **Enter** to open the Confirm Copy of Call Schedule Entries display.

```

HAL4020R                               Halcyon Message Communicator                               HAL525P3
PRD                                     Confirm Copy of Call Schedule Entries          14/07/10  11:20:25

Type information and press Enter to confirm your choices for 3=Copy.
Press F12 to return to change your choice.

  To call schedule . . .  *SAME_____

Opt Name      Seq
 3  OPSSCHED1  010

BOTTOM

F12=Cancel

```

To call schedule

The default setting is to copy entries into the same schedule. To specify another call schedule, over-type *SAME with the name of an existing call schedule.

Press **Enter** to confirm the Copy action.

The copied call schedule entry is assigned a sequence number of the current highest sequence number +10. If required, this can be adjusted after the Copy action has completed.

Functions on the Confirm Copy of Call Schedule Entries display

The following functions are available on this display.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Exporting Call Schedules

You can export call schedules from one system to another by using the Export Call Schedule (**EXPCALLSCH**) command. Data is exported via the method specified in [HAL/NETXFERMODE](#). If this is set to *NETMGR, corresponding export status messages will be prefixed with *NETMGR for easy identification.

NOTE: An exported Call Schedule could be invalid on the remote environment as it may not have the same device names or other parameters defined. After export it is highly recommended that you check the Call Schedule on the remote environment and correct any errors.

Getting there

From the command line type: **EXPCALLSCH** and press **F4**. The Export Call Schedules display opens.

```

Export Call Schedules (EXPCALLSCH)

TYPE CHOICES, PRESS ENTER.

To system . . . . . _____

Call schedule . . . . . *ALL_____ Character value, *ALL
+ FOR MORE VALUES
Replace . . . . . *NO_____ *YES, *NO
To remote location or group . . . _____ Name
To environment . . . . . PROD_____ Character value

BOTTOM
F3=EXIT F4=PROMPT F5=REFRESH F12=CANCEL F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
    
```

Parameters on the Export Call Schedules Command display

The following parameters are available on this display.

To system

Specifies the system to which the call schedules are to be exported.

name/address	Specifies the remote system name to which to export the call schedules. Type an IP address, or a name which has been mapped to an IP address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the call schedule is to be exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the entry in the 'To Remote Location' parameter

Call schedule

Enter the names of the call schedules that you wish to export. Up to 32 call schedules can be entered for this parameter.

*ALL	All call schedules are exported
name	Enter the name of the call schedule to export

Replace

Specifies whether to replace existing call schedules if necessary.

*NO	If an existing call schedule with the same name already exists, then that call schedule is not exported and the original remains unchanged
*YES	If an existing call schedule with the same name already exists, it is replaced with the call schedule being exported

Press **Enter** to begin the export or use **F10=Additional Parameters** to display further parameters.

To remote location or group

If ***RMTLOC** is specified in the 'To system' parameter, this parameter specifies the name of the remote location or remote location group. If a remote location is specified, it must have system type ***I5**.

If a remote location group is specified, the call schedules are exported to all the remote locations defined in that remote location group.

To environment

When ***RMTLOC** is not specified in the 'To system' parameter, this parameter specifies the name of the environment on the remote system to which the call schedule is exported. When ***RMTLOC** is specified in the 'To system' parameter, this parameter is not used.

Press **Enter** to begin the export of call schedules.

Functions on the Exporting Call Schedules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Work with Escalation Lists

An Escalation List is a list comprising multiple message devices, which may be any of the following:

- Pagers
- Phones
- Email addresses
- Broadcast groups
- Rosters
- Call schedules

NOTE: An escalation list cannot refer to another escalation list.

When an alert message is sent to an escalation list, the message is immediately sent to the first message device in the list. Unless the alert is closed in the meantime, the message is then sent to the second message device in the list after the specified escalation time has elapsed.

The message is then forwarded to additional message devices in the list after further intervals, until the alert is closed.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

The Work with Escalation Lists display shows the existing escalation lists that have been set up and provides options for maintaining these as well as provision for adding further escalation list instances.

Getting there

Select option **23=Work with Escalation Lists** from the Message Communicator main menu.

```

HMC2400R                               Halcyon Message Communicator                               HAL720P4
QA                                       Work with Escalation Lists                               19/03/15 10:06:05

Type options, press Enter.
2=Change 4=Delete 5=Display 8=Where used 10=Authority

Opt Name      Description                                     High Normal Low
-- ESCLIST1   Demo escalation list
-- TREVOR.ESC Trevor: Esc from Email to SMS

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print
Bottom

```

Parameters on the Work with Escalation Lists display

The following parameters are available on this display.

Name

Displays the name of the escalation list. This name must be unique amongst all message devices.

Description

Displays a brief textual description of the escalation list.

Using the Work with Escalation List display

The following options are available when working with escalation lists. Type the option number in the Opt column against the required escalation list.

Change

Use option **2=Change** to open the Change Escalation List display which allows you to change the attributes of an escalation list that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding an Escalation List](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Escalation List display. Press **Enter** on this display to delete the selected escalation list.

Display

Use option **5=Display** to open the Display Escalation List display which shows the details of the message devices contained within this escalation list.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Where used

Use option **8=Where used** to open the Display Message Device Where Used window. This pop-up displays the call schedules, rosters, and escalation lists that specify this escalation list as a message device.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Authority

Use option **10=Authority** to open the Work with Item Authority display allowing you to maintain the item level user authorities to the `MSGDEV` function for the selected escalation list.

IMPORTANT: *SECADM special authority is required to use this option.

Functions on the Work with Escalation Lists display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add escalation list display which allows you to enter the details of a new escalation list.

NOTE: See [Adding an Escalation List](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to invoke the Print Escalation List (**PRTESCLST**) command to produce a detailed report of all escalation lists defined on the system.

Adding an Escalation List

You may add unlimited escalation lists, although each must have a unique message device name.

Getting there

To add a new escalation list, use **F6=Add** from the main Work with Escalation List display.



Parameters on the Add Escalation List display

The following parameters are available on this display.

Name/Description

Enter a name for the new escalation list that is unique amongst message devices (the name can begin with an alphabetic or numeric character) together with a textual description. Any of the following special characters can be used.

- Space
- Asterisk
- Hash
- Dash
- Open bracket
- Close bracket
- Forward slash
- Underscore

NOTE: The name of the purpose for which the escalation list is used is recommended as a description.

Press **Enter** to display parameters where you can enter details of the message devices that form this escalation list.

Device name

If known, type the name of the message device directly into this parameter and press **Enter** to automatically complete the entries in the other parameters with the associated information of the selected device.

Otherwise, use **F4=Prompt** to open a window from where a message device can be selected.

Escalate after

Specifies the interval, in minutes, between each escalation. This entry can be set between 1 and 999 minutes.

Repeat list

Specifies whether the escalation list starts again with the first recipient after the last recipient in the list has been processed.

N	Do not repeat the list after the last device is processed and stop sending messages
Y	Repeat the list after the last Device is processed. When the last device has been processed, a message is sent to the first device on next escalation and so on in a continuous loop

If set to 'Y' the only way to stop continuous processing of the escalation list is:

- To Acknowledge the Alert. This cancels any outstanding Actions including continuing escalation.
- To Close or Delete the Alert.
- To cancel the escalation list within the Message Communicator Communications Log using option **4=Cancel** against the *ESCLIST Device Type.

Sequence (Seq)

The sequence numbers define the escalation order of the message devices listed. Sequence numbers are defined in units of 10, the lowest number being the first in the sequence.

Device type

Displays the type of message device as defined against the selected device name.

Description

Displays the description of the message device as defined against the selected device name.

Held

If a message device is selected that has a current status of 'Held', this status is displayed to the right of the device.

NOTE: Messages are not sent to any pagers, phones or email addresses that are held.

When finished entering message devices, press **Enter** to add the new escalation list.

Functions on the Add Escalation List display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Service Providers

Service providers provide the airtime service for cell phones and pagers. You need to determine which service provider supports each cell phone or pager to which you may want to send messages.

Many service providers use the same paging protocols, but some use non-standard protocols. With some service providers it is critical to get the modem speed exactly correct or the messages sent will fail to get through.

Setting up the service provider correctly for your particular cell phone or pager is the first step in setting up message paging in general. This is achieved using the Work with Service Providers display.

The Work with Service Providers display shows the existing service providers that have been set up and provides options for maintaining these as well as provision for adding further service providers if and when required.

Getting there

To begin working with service providers, select option **30=Work with Service Providers** from the Message Communicator main menu.

```

HMC2300R          HS Suite Message Communicator          HAL720P4
HS                Work with Service Providers           25/02/15 12:08:28

Type options, press Enter.
2=Change 4=Delete 5=Display

Opt Name          Description          Current activity
                  Description          High Normal Low
- SIEMENSTC35     Terminal Phone Service Provider 0 0 0
- SIEMENSTC65     Terminal Phone Service Provider 0 0 0
- UK02MOBILE      UK 02 Modem to SMS             0 0 0
- UKVODAPAGE      UK Vodafone Modem To Page      0 0 0
- UKVODASMS       UK Vodafone Modem to SMS       0 0 0
- VODATC35        Vodapage Pagers (via TC35)     0 0 0
- VODATC65        Vodapage Pagers (via TC65)     0 0 0

F3=Exit F5=Refresh F6=Add F12=Cancel F22=Print

Bottom
    
```

Parameters on the Work with Service Providers display

The following parameters are available on this display.

Name

Displays the name of the service provider.

Description

Displays a brief textual description of the service provider.

Current activity

Displays the current count of High, Normal and Low priority messages waiting to be sent for *PHONE and *PAGER devices for each defined service provider.

Using the Work with Service Provider display

The following options are available when working with service providers. Type the option number in the Opt column against the required service providers.

Change

Use option **2=Change** to open the Change Service Provider display which allows you to change the attributes of a service provider that was previously defined.

NOTE: For more information relating to the parameters on this display please see [Adding a Service Provider](#).

Delete

Use option **4=Delete** to open the Confirm Delete of Service Provider display. Press **Enter** on this display to delete the selected service provider.

Display

Use option **5=Display** to open the Display Service Provider display which shows the full details of the service provider.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Functions on the Work with Service Providers display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Service Provider display which allows you to enter the details of a new service provider.

NOTE: See [Adding a Service Provider](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to invoke the Print Service Providers (**PRTSVCPRV**) command to produce a detailed report showing all service providers defined on the system.

Adding a Service Provider

To add a new service provider, use **F6=Add** from the main Work with Service Provider display.

```

HMC2300R          Halcyon Message Communicator          HAL720P4
QA                Add Service Provider                  13/03/15  14:33:49

Name . . . . . _____
Description . . . . . _____
Script, or *SNPP . . . . . _____ Name, *SNPP, F4=Prompt
Modem phone number . . . . . _____
Alternative phone no. . . . . *NONE
Max msgs per session . . . . . *NOMAX          1-999, *NOMAX
Maximum message length . . . . . 230          32-230
Message overflow . . . . . *OFF             *FWD, *REV, *OFF
Maximum retries . . . . . 99                0-999
Message retry interval . . . . . 60          10-3600 secs
Password . . . . . *NONE
Baud rate . . . . . *CMNRSC                 *CMNRSC, 50, 75, 110, 150...

Comms resources . . . . . *ANY _____ Name, *ANY, F4=Prompt
_____

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=Maintain script
    
```

Parameters on the Add Service Provider display

The following parameters are available on this display.

Name

Enter a name for the new service provider. The name can begin with an alphabetic or numeric character.

Description

Enter a description for the new service provider.

Script

Either enter the name of a script or use **F4=Prompt** to display scripts from which a choice can be made. The script is used to send the message to a phone or pager. Alternatively, use *SNPP to send the message via an SNPP (Simple Network Paging Protocol) server.

The following scripts are supplied with Halcyon Message Communicator:

ACCURA56K	Support for a service provider that uses a Hayes Accura 56K Modem
AUTOSYNC	Support for a service provider that uses a modem connection via *AUTOSYNC
DISPATCH	Support for mass sending of SMS messages via GSM. Does not include error handling

DT	Support for a service provider that uses the Deutsche Telekom Protocol
EHS6RTV	Script for Gemalto EHS6T retrieve message
EHS6SND	Script for Gemalto EHS6T send message
INTMODDIAL	Script for internal modem to dial phones and play tunes
INTMODSMS	Support for a service provider that uses an Internal Modem and sends messages via SMS
INZGSM	Support for a service provider to initialize/reset a GSM. Create a service provider that uses the script and then create a phone that uses the service provider. When you need to restart the GSM you can send a message using the SNTXT action to the phone which then runs the script. This script simply initializes/resets the GSM. It does not send an SMS
MULTITECH	Support for Multi-tech modems
NULLMODEM	Support for a service provider that uses a modem connection via *NULL. *NULL is a permanent cable connection to a service provider
02MOBILE	Support for a service provider that uses an 02 modem and sends messages via SMS
TAP	Support for a service provider that uses the Telelocator Alphanumeric Protocol
TC35RTV	Support for a service provider that uses Siemens TC35/65 to retrieve messages
TC35SND	Support for a service provider that uses TC35/65 to send messages
UCP	Support for a service that uses the Universal Computer Protocol
VODAPAGE	Support for a service provider that uses the Vodapage Protocol
VODASMS	Support for a service provider that uses a Vodafone Modem to send messages via SMS
VODATC35	Support for a service provider that uses a modem connection via *V250

Modem phone number

This is the service provider's modem telephone number. The number may be formatted for clarity using intermediate spaces or hyphens (-). These are ignored when the phone number is used.

The number may be prefixed with an IDD (International Direct Dialing) code, comprising a plus (+) sign and one or more digits. If no IDD prefix is typed as part of the number, the default IDD prefix as defined in the [HMC/DFTIDDPREFIX](#) system default is used if an international format number is required.

NOTE: When defining a terminal phone service provider, specify *NONE for this value.

Alternative phone number

This is an alternative modem telephone number, if available. If no alternative number is provided, specify *NONE. The number may be formatted for clarity using intermediate spaces or hyphens (-). These are ignored when the phone number is used.

The number may be prefixed with an IDD (International Direct Dialing) code, comprising a plus (+) sign and one or more digits. If no IDD prefix is typed as part of the number, the default IDD prefix as defined in the [HMC/DFTIDDPREFIX](#) system default is used if an international format number is required.

NOTE: When defining a terminal phone service provider, specify *NONE for this value.

Max messages per session

Specifies the maximum number of messages that this service provider accepts in a single session. If the service provider has no limit, specify *NOMAX.

Maximum message length

Specifies the maximum number of bytes that can be displayed by pagers supplied by this service provider. If a message exceeds this length it can be truncated or sent as multiple messages.

Message overflow

This parameter works in conjunction with the 'Maximum message length' parameter to specify what happens to SMS messages that exceed the maximum message length.

- *NO** A message that exceeds the maximum message length for this service provider is truncated to a single message
- *YES** A message that exceeds the maximum message length for this service provider is split into multiple SMS messages and an informational message is sent to the [Message Log](#)

WARNING: If you have manually amended any of the existing message scripts, by using **F13=Maintain scripts** on the Change Service Provider display, the existing scripts are replaced whenever an upgrade of Message Communicator is undertaken. The original scripts held within QSCRIPTS in the HMC library retain their existing name followed by an underscore. You must either manually re-apply your changes to the new scripts or rename the original scripts and forgo the use of this functionality.

Maximum retries

Specifies the maximum number of retries that are made for a failed send attempt.

Message retry interval

This is the time to wait after a send attempt has failed before retrying. A send failure may be caused by:

- The local resource is shared and was being used at the time
- The service provider's modem was busy at the time

Password

If applicable, this is the password allocated by the service provider. If no password is required, specify *NONE.

Baud rate

Specifies the line speed in bits per second.

*CMNRSC	The default baud rate, parity, data bits and stop bits defined in the communications resource are used
baud	Specify the line speed. Valid speeds are 50, 75, 110, 150, 300, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 76800 and 115200

NOTE: If you select an individual baud rate rather than *CMNRSC, you can also set the individual parity, data bits and stop bits parameters.

Parity

Specifies the type of parity used for error checking. If parity is used, a parity bit is added to each byte of data so that the total number of bits set to 1 is odd or even.

*NONE	Parity is not used
*ODD	Odd parity is used
*EVEN	Even parity is used

Data bits

Specifies the number of bits in each byte that are used for data.

Stop bits

This is the number of stop bits added to each byte of data. Stop bits are used to keep the line synchronized.

Comms resource

Lists the communications resources that can be used with this service provider.

*ANY	Any applicable communications resource can be used. This allows pagers to use any communications resource with device type *MDM and allows phones to use any communications resource with device type *GSM
COMx	Specify the communications resource to use

NOTE: See [Work with Communications Resources](#) for more information.

When finished entering the required details, press **Enter** to add the new service provider.

Functions on the Add Service Providers display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=Maintain scripts

Use **F13=Maintain scripts** to create and maintain the scripts used in sending messages via this service provider.

NOTE: See [Display Communications Script Help](#) for more information.

Work with Communications Resources

Devices that can be identified as communications resources can be either:

- **EMAIL** (A virtual email resource via an auxiliary communications monitor)
- **NET-GSM** (A GSM data terminal connected via an ethernet connection and IP Address rather than a traditional V.24 cable)
- **POP** (A virtual resource for handling incoming emails allowing for 2-way communication with an IBMi)
- **OAUTH** (A virtual resource for handling emails using the OAUTH protocol)
- **Resource** (Any other communications resource, such as a modem)

Up to nine communications resources can be defined. To define communications resources, you use the Work with Communications Resources display.

The Work with Communications Resources display shows the existing communications resources that have been set up and provides options for maintaining these as well as provision for adding further communications resources if and when required.

Getting there

Select option **31=Work with Communications Resources** from the Message Communicator main menu.

IMPORTANT: The communications resource that is shipped with Message Communicator is in a held state by default. Use option **6=Release** to make it available for use.

```

HMC2800R                               Halcyon Message Communicator           HAL525P3
                                         Work with Communications Resources   17/02/20  13:38:52

Type options, press Enter.
2=Change 4=Delete 5=Display 6=Release 7=Hold

Device Device
Opt Name Type Name Description Current Network Status
- COM1 *NETGSM NetGSM: EHS6 02 - UK 3G-18
- COM2 *NETGSM NetGSM: PLS62T 02 - UK 4G-62
- COM3 *MDM ZQACOM3 Held
- COM8 *EMAIL Email Helper
- COM9 *EMAIL Email Helper

F6=Exit F5=Refresh F6=Add F12=Cancel F22=Print
BOTTOM
    
```

Parameters on the Work with Communications Resources display

The following parameters are available on this display.

Name

Displays the name of the communications resource.

Device type

Specifies the type of device attached to this communications resource.

*NETGSM	Network connected GSM terminal
*POP	Virtual Post Office Protocol email server for 2-way email provision with IBMi
*EMAIL	A virtual resource for handling emails. See 2-way email for more information
*OAUTH	A virtual resource for handling emails using the OAUTH protocol. See Using the OAuth2 Protocol to Receive and Send Emails from Microsoft Office365 Accounts .
*MDM	A modem connected as an available resource,

Description

Displays the description of the communications resource.

Current network (NetGSM devices only)

If the resource is not held, the default network for the GSM may be shown. This is the network that the GSM uses if no script commands are used to select a specific network.

*NONE	The GSM is unable to connect to a network
blank	Network information is unavailable
name	Network name
00 000	If two or three digit numbers are shown instead of a network name, these represent the MCC and MNC codes of the network. These are displayed if the GSM does not have these codes in its internal network table. A firmware update may correct this issue

Status/ Signal quality

This indicates the resource status.

*HELD	This resource is currently held. Held resources are not used by Message Communicator
--------------	--

If the resource is not held, the current signal technology and quality may be shown. Values range from 0 to 31. The larger the value, the better the signal quality. The value may be prefixed by 2G, 3G or 4G to indicate the signal technology used.

0	-113dBm or less
1 to 30	-111dBm to -53dBm
31	-51dBm or greater
99 or blank	unknown

Using the Work with Communications Resource display

The following options are available when working with communications resources. Type the option number in the Opt column against the required Communications Resource.

Change

Use option **2=Change** to open the Change Communications Resource display which allows you to change the attributes of a communications resource that was previously defined. The parameters on this display are the same as those used when adding a communications resource.

NOTE: See [Adding a Communications Resource](#) for more information.

Delete

Use option **4=Delete** to open the Confirm Delete of Communications Resource display. Press **Enter** on this display to delete the selected communications resource.

Display

Use option **5=Display** to open the Display Communications Resource display which shows the full details of the communications resource.

NOTE: You cannot change the entries on this screen while in display mode. To change settings use option **2=Change**.

Release

Use option **6=Release** to release the communications resource from a held status. Using this option opens the Confirm Release of Communications Resource display. Press **Enter** to confirm or **F12** to cancel.

Hold

Use option **7=Hold** to put a communications resource into a held status. Using this option opens the Confirm Hold of Communications Resource display. Press **Enter** to confirm or **F12** to cancel.

Communications resources that are in a status of 'held' are ignored by the Halcyon Primary and Auxiliary Communication Monitors but can still be used by the **STRCOMTRM** command.

Functions on the Work with Communications Resources display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to display the Add Communications Resource display which allows you to enter the details of a new communications resource.

NOTE: See [Adding a Communications Resource](#) for more information.

F12=Cancel

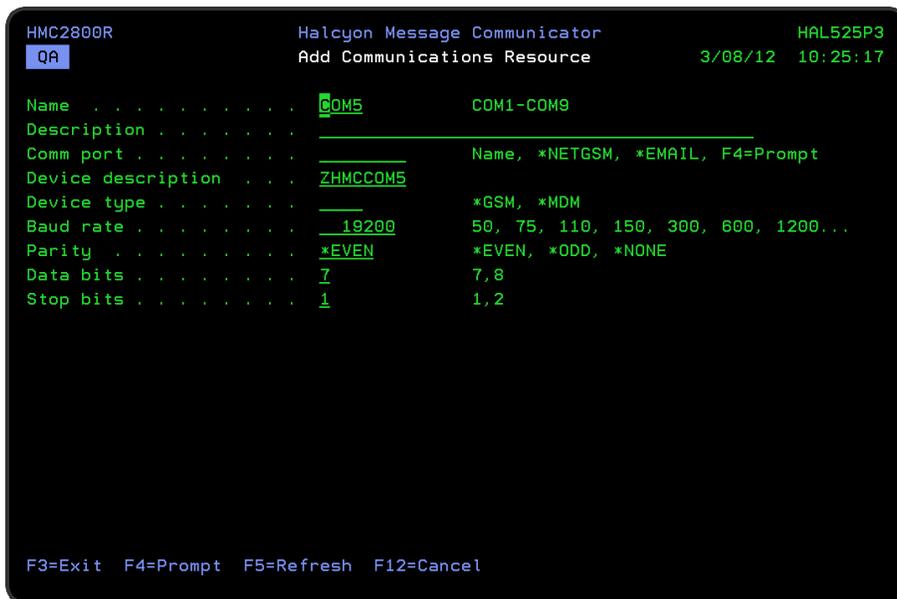
Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to invoke the Print Communications Resources (**PRNCRMRS**) command to produce a detailed report of all communications resources defined on the system.

Adding a Communications Resource

To add a new communications resource, use **F6=Add** from the main Work with Communications Resource display.



Parameters on the Add Communications Resource display

The following parameters are available on this display.

Name

Enter a name for the new communications resource. This automatically defaults to the next unused communications resource and must be in the range COM1 to COM9.

Description

Enter a textual description for the new communications resource.

Comm port

This is the hardware resource used with this communications resource.

<p>*EMAIL</p>	<p>Specifies a virtual resource for handling emails. This allows dedicated auxiliary monitors to share the workload when sending emails. This is intended for use at locations that process a high volume of emails or for the multi-threading of email notifications for resilience.</p> <p>The *EMAIL auxiliary monitors are controlled by the Primary Communications Monitor. See Auxiliary Communications Monitors for more information. Also see system default HMC/SMTPSERVERRATE for information on how to manage the flow of emails through SMTP Servers</p>
<p>*NETGSM</p>	<p>Specifies that a NETGSM device is used. See NETGSM devices on the Comm port</p>
<p>*POP</p>	<p>Specifies a virtual resource for handling emails. See POP devices on the Comm port</p>
<p>*OAUTH</p>	<p>Specifies a virtual resource for handling emails using the OAUTH protocol. The *OAUTH resource is used to enable email send and retrieval from a mail user configured within a Microsoft Azure/Entra ID tenant. You will need access to your tenant via the Azure/Entra ID portal to get the values required. See OAUTH devices on the Comm port</p>
<p>resource</p>	<p>Specify the hardware resource used or use F4=Prompt to display a list of available hardware resources from which a choice can be made. See GSM devices on the Comm Port</p>

NOTE: See [Auxiliary Communications Monitor](#) and [2-way email](#) for more information.

Further parameters on this display, except the *EMAIL option, depend on the selection made in the 'Comm port' parameter.

NETGSM devices on the Comm port

The following additional parameters are available when *NETGSM is selected in the 'Comm port' parameter.

Net-GSM IP address

Specify the IP Address of the NET-GSM device used by this communications resource.

Net-GSM port

Specify the IP port number of the NET-GSM device used by this communications resource.

Connect timeout

Specify the connection timeout period, between 2 and 60 seconds, when attempting to connect to the NET-GSM device used by this communications resource.

Retrieve interval

This is the interval between each retrieve of received messages from the NET-GSM terminal.

*NONE	Messages received by the NET-GSM terminal are never retrieved
1-60	Specify the minutes between each retrieval of received messages

NOTE: If you are using the NET-GSM terminal as a dedicated resource, and it fails (such as losing power), then it is recommended that you set the Retrieve Interval to *NONE until the problem is rectified. (This stops unwanted messages being generated into the Message Log).

Password

This parameter is used to enter the details of any PIN code or password that may be needed to activate the SIM within the NET-GSM device. Note that the entry in this parameter does not affect the password parameter within the Service Provider display.

*NONE	No password is required
password	Specify the password or PIN code for the SIM card

Retrieve script

When GSM retrieves are enabled (Retrieve interval not *NONE), this field is used to specify the script used retrieve messages from the GSM terminal. Use **F4=Prompt** to select from a range of valid scripts.

NOTE: This parameter is only displayed if the 'Retrieve interval' parameter is not set to *NONE.

Status script

This parameter can be used to specify the script used to retrieve GSM status information. The script is run at the interval specified in system default [HMC/GSMSTRTVINTV](#).

*NONE	A status script is not run for this GSM
name	Specify the name of the status script. The default script is RTVGSMSTS

NOTE: On upgrade, new version of scripts TC35RTV and TC35SND are installed. Existing scripts are renamed TC35RTV_ and TC35SND_ respectively and have the retrieve status information removed. Any changes previously made to these scripts will need to be applied to the new versions. Likewise, on upgrade, all existing GSM resources are set to use the RTVGSMSTS script.

Character set

The entry in this parameter sets the value returned by the %CHARSET communications script function. This is then used by the communications script to determine which character set to use.

*GSM	Returns GSM indicating that the GSM default alphabet (GSM 03.38) should be used
*UCS2	Returns UCS2 indicating that the hexadecimal representation of the UCS2 character set should be used. Each character is sent or received as a 4 character string with the range 0000-FFFF

IMPORTANT: Setting this value has no effect unless the communications script has been coded to read the appropriate %CHARSET function and take action accordingly.

GSM Phone number

This parameter is used to identify the GSM subscriber number as obtained from the SIM. The number is only displayed if the information has been retrieved using the appropriate AT commands in the GSM retrieve script.

When you have finished entering the required details on this page, press **Page Down** to add any required Network Message Text.

NOTE: Only used if the 'Retrieve interval' parameter is not set to *NONE.

Network message text

When GSM retrieves are enabled (see [Retrieve interval](#)), these three parameters can be used to specify the text used to identify network messages. When a message ID is received from an unknown sender, the senders phone number is compared to the three messages entered here. If any match is made, the message is then treated as a network message. If no match is made, the message is treated as being from an unknown sender and is reported using message ID HMC0136.

NOTE: Only displayed if the 'Retrieve interval' parameter is not set to *NONE.

TIP: Network Messages are sent by your service provider and typically report problems with a previous send attempt such as an invalid phone number, out of funds or expired contract. The correct text is usually 'Network Msg' or similar. If the actual text is not known, leave this parameter blank, until a network message is received. The correct text can then be determined from the HMC0136 message when it is received in the Message Log.

GSM devices on the Comm port

The following additional parameters are available when the direct attachment of a GSM terminal on a communications port via a V.24 cable is selected (for example, CMN01) in the 'Comm port' parameter.

Device description

This is the name of the configuration object used with this communications resource and is automatically defined.

Device type

Specify the device type to be used with this communications resource.

*GSM	Locally connected GSM terminal
*MDM	Modem

Baud rate

Enter the line speed in bits per second. Valid line speeds are:

- 50
- 75
- 110
- 150
- 300
- 600
- 1200
- 2400
- 4800
- 7200
- 9600
- 14400
- 28800
- 38400
- 57600
- 76800
- 115200

NOTE: The value in this parameter can be overridden by settings specified for the Service Provider. See [Work with Service Providers](#) for more information.

Parity

Enter the type of parity used for error checking. If parity is used, a parity bit is added to each byte of data so that total number of bits set to 1 is odd or even.

*NONE	Parity is not used
*ODD	Odd parity is used
*EVEN	Even parity is used

NOTE: The value in this parameter can be overridden by settings specified for the Service Provider. See [Work with Service Providers](#) for more information.

Data bits

Specify the number of bits in each byte that are used for data.

NOTE: The value in this parameter can be overridden by settings specified for the Service Provider. See [Work with Service Providers](#) for more information.

Stop bits

Specify the number of stop bits added to each byte of data. Stop bits are used to keep the line synchronized.

NOTE: Note: The value in this parameter can be overridden by settings specified for the Service Provider. See [Work with Service Providers](#) for more information.

Dialing prefix (Modem device types only)

Specify the dialing prefix, if any, that is required to obtain an outside line. For example, from within an internal phone system it is typically necessary to dial 9 to obtain an outside line. If no dialing prefix is required, specify *NONE.

Flow control

Specifies the type of flow control used.

*NO	Flow control is not used
*YES	Software flow control is used, using RTS and CTS signals
*HARDWARE	Hardware flow control is used, using RTS and CTS signals

Line type

Specifies the type of line connection used by this communications resource.

*INTMODEM	Use the integrated modem interface
*NONSWTPP	Use a non-switched point-to-point line
*SWTPP	Use a switched point-to-point line

Retrieve interval

This is the interval between each retrieve of received messages from the GSM terminal.

*NONE	Messages received by the GSM terminal are never retrieved
1-60	Specify the minutes between each retrieval of received messages

NOTE: If you are using the GSM terminal as a dedicated resource, and it fails (such as losing power), then it is recommended that you set the Retrieve Interval to *NONE until the problem is rectified. (This stops unwanted messages being generated into the Message Log).

Password

This parameter is used to enter the details of any PIN code or password that may be needed to activate the SIM within the GSM device. Note that the entry in this parameter does not affect the password parameter within the Service Provider display.

*NONE	No password is required
password	Specify the password or PIN code for the SIM card

Retrieve script

When GSM retrieves are enabled (Retrieve interval not *NONE), this field is used to specify the script used retrieve messages from the GSM terminal. Use **F4=Prompt** to select from a range of valid scripts.

NOTE: This parameter is only displayed if the 'Retrieve interval' parameter is not set to *NONE.

Status script

This parameter can be used to specify the script used to retrieve GSM status information. The script is run at the interval specified in system default [HMC/GSMSTSRTVINTV](#).

*NONE	A status script is not run for this GSM
name	Specify the name of the status script. The default script is RTVGSMSTS

IMPORTANT: On upgrade, new version of scripts TC35RTV and TC35SND are installed. Existing scripts are renamed TC35RTV_ and TC35SND_ respectively and have the retrieve status information removed. Any changes previously made to these scripts will need to be applied to the new versions. Likewise, on upgrade, all existing GSM resources are set to use the RTVGSMSTS script.

Character set

The entry in this parameter sets the value returned by the %CHARSET communications script function. This is then used by the communications script to determine which character set to use.

*GSM	Returns GSM indicating that the GSM default alphabet (GSM 03.38) should be used
*UCS2	Returns UCS2 indicating that the hexadecimal representation of the UCS2 character set should be used. Each character is sent or received as a 4 character string within the range 0000-FFFF

NOTE: Setting this value has no effect unless the communications script has been coded to read the appropriate %CHARSET function and take action accordingly.

Shared

Specify whether the comm port used by this communications resource is shared with other applications.

*YES	The comm port is shared with other applications. The configuration objects are varied on when needed and varied off again afterward. This allows other applications to use the resource when it is not being used by Message Communicator. If the resource is needed by the Message Communicator, the send attempt fails. Therefore, service providers using this resource should be configured to allow entries
*NO	The comm port is dedicated to Message Communicator use. The configuration objects are varied on if required but are not varied off

GSM Phone number

NOTE: Only used if the 'Retrieve interval' parameter is not set to *NONE.

This parameter is used to identify the GSM subscriber number as obtained from the SIM. The number is only displayed if the information has been retrieved using the appropriate AT commands in the GSM retrieve script.

POP devices on the Comm port

The following additional parameters are available when *POP is selected in the Comm port parameter.

Mail server (POP3)

Specify the host name or IP Address of the POP3 mail server.

Port

Specify the telnet port to be used to connect to the mail server. The default port is 110.

Connection type

Specifies the POP server connection type.

*SECURE	Use this setting to establish a secure connection by connecting to a secure port (typically 985) using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1
*STARTTLS	Use this setting to establish a secure connection using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1 by connecting to a plain text port and then upgrading the connection to secure using STARTTLS
*PLAIN	Use this setting to establish a plain text connection by connecting to a plain text port (typically 110)

NOTE: Transport Layer Security (TLS) can use TLS v1.2 or v1.3 when communicating with servers to send email

Account name

Specify the account name or an email address required to log on to the mail server.

Password

Specify the password required to access the mail server.

Password to verify

Re-enter the mail server password for verification process.

Retrieve interval

Specifies how often to check for new mail. Enter the required interval (in minutes) between which checks are made for new mail.

Logging level

Specifies the amount of information that is written to the communications log each time the mail server is contacted.

*QUIET	Summary information is logged
*VERBOSE	Fully detailed information is logged

Press **Enter** to create and add the new communications resource.

OAuth devices on the Comm Port

Large attachments (up to 150Mb) are supported when using OAuth to send emails.

OAuth Server Name (SNI)

Specifies the host name of the OAuth mail server.

Retrieve Interval

Specifies how often to check for new mail. Enter the required interval (in minutes) between which checks are made for new mail.

Tenant ID

Specifies the Microsoft Azure/Entra ID Tenant ID.

TIP: Use copy+paste from the Microsoft Azure Portal.

Client ID

Specifies the Microsoft Azure/Entra ID Client ID.

TIP: Use copy+paste from the Microsoft Azure Portal.

Client Secret

Specifies the Microsoft Azure/Entra ID Client secret.

TIP: Use copy+paste from the Microsoft Azure Portal.

NOTE: The Client secret is only visible when first entered, when the resource is created. This field entry is never shown in display or change mode.

Functions on the Add Communications Resource display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F13=Maintain scripts

Use **F13=Maintain scripts** to create and maintain the scripts used when working with communications resources.

NOTE: See [Display Communications Script Help](#) for more information.

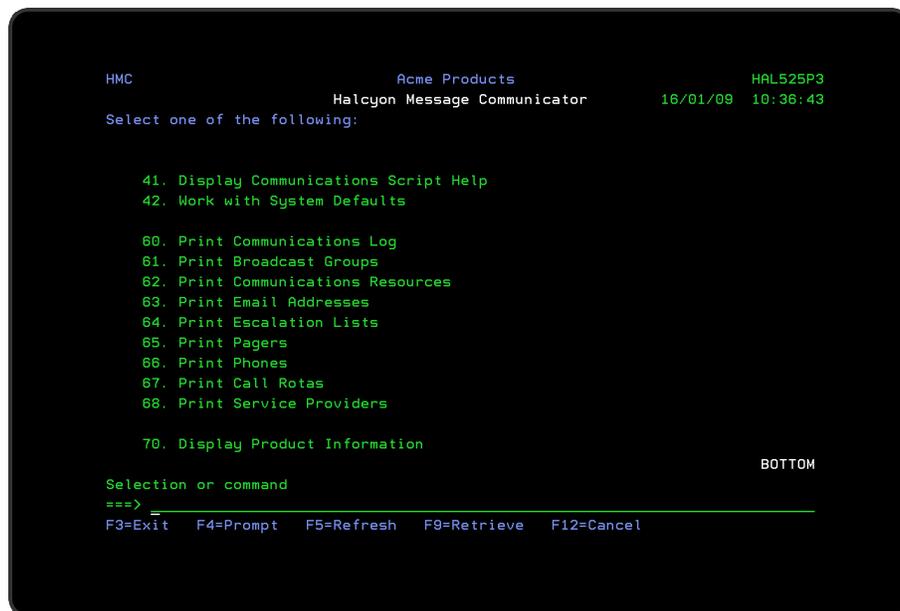
Message Communicator Reports

Message Communicator allows you to print the details of your product configuration.

Each report is available to print separately from the Message Communicator main menu.

Getting there

Select option **40=Reports** on the Message Communicator menu.

A screenshot of a terminal window showing the Message Communicator Reports menu. The window title is "Acme Products Halcyon Message Communicator". The menu lists options 41 through 88, with option 70 highlighted. The prompt "Selection or command" is followed by a cursor and a horizontal line. The bottom of the screen shows function key shortcuts: F3=Exit, F4=Prompt, F5=Refresh, F9=Retrieve, and F12=Cancel.

```
HMC                               Acme Products                       HAL525P3
                                Halcyon Message Communicator          16/01/09  10:36:43
Select one of the following:

41. Display Communications Script Help
42. Work with System Defaults

60. Print Communications Log
61. Print Broadcast Groups
62. Print Communications Resources
63. Print Email Addresses
64. Print Escalation Lists
65. Print Pagers
66. Print Phones
67. Print Call Rotas
68. Print Service Providers

70. Display Product Information

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Functions on all Printing Options

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Print Message Log

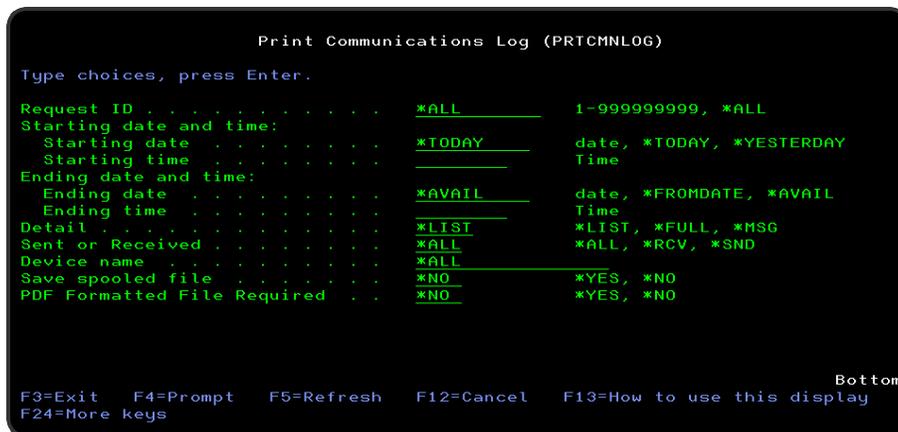
NOTE: See Reports Menu - [Print Message Log](#) for information regarding the parameters on this display.

Print Communications Log

The Print Communications Log (**PRTCMNLOG**) command prints a communications log report which shows the communications requests and activity that have been logged by Message Communicator.

Getting there

Select option **2=Print Communications Log** from the Message Communicator Reports menu.



Parameters on the Print Communications Log display

The following parameters are available on this display.

Request Id

Specifies the request ID (comms ID) of the data that you want to print.

*ALL	All requests for comms IDs are printed
1-999999999	Specify the individual comms ID

Starting date

Specifies the beginning date of the communication requests that you want to print.

*AVAIL	The report begins with the first available messages (earliest date)
*TODAY	The report begins with the first available messages for the current date
*YESTERDAY	The report begins with the first available messages from the previous day
date	Specify the beginning date in the date format as specified for your job. For example, YMD (6 byte character in Year, Month, Day), MDY (6 byte character in Month, Day, Year), DMY (6 byte character in Day, Month, Year), or JUL (Julian 5 byte character in yyddd where yy is the year number and ddd is the day number within the year)

Starting time

Specifies the beginning time of the communication requests that you want to print. If no time is specified, 00:00 is assumed. Use the HHMM format.

Ending date

Specifies the ending date of the communication requests that you want to print.

*AVAIL	The report ends with the last available message (latest date)
*FROMDATE	The report ends with the last available message for the beginning date specified in the 'From date' parameter
date	Specify the end date in the same format as that used in the 'Starting date' parameter

Ending time

Specifies the ending time of the communication requests that you want to print. If no time is specified, 23:59 is assumed. Use the HHMM format.

Detail

Specifies the amount of detail that the report contains.

<p>*LIST</p>	<p>The *LIST report uses one line for each communications request logged and comprises:</p> <p>Log Date (date the communication was started) Log Time (the time the communication was started) System (name of the Halcyon environment that requested this message send. *LOCAL indicates the local environment, otherwise the name represents the remote system. Parameter is blank for received data) Device (for send data, this is the name of the communications device to which the message was sent. this may be the name of a phone, pager, email address, broadcast group, call schedule, roster or escalation list Type (for send data, this is the type of device in the 'Device name' parameter. The type may be *PHONE, *PAGER, *EMAIL, *CALLGRP, *CALLSCH, *CALLRTA, or *ESCLIST) Status (status of the communication) Comms ID (ID that uniquely identifies each comms request) Alert ID (if the communications request was invoked by an alert using the SNDTXT action, this represents the unique alert ID Action ID (if the communications request was invoked by an alert using the SNDTXT action, this ID uniquely identifies the action within the alert</p>
<p>*FULL</p>	<p>The *FULL report uses one line per communications request logged as per *LIST report and further details of:</p> <p>Request ID (comms ID of the original communications request) Parent ID (comms ID of the parent communications request) End Date (date this communication ended and changed to Completed or Error status) End Time (time this communication ended and changed to Completed or Error status) Request System (name of the Halcyon environment that requested this message send)</p>
<p>*MSG</p>	<p>The *MSG report includes all the information output by the *LIST report but only for messages that were sent (or were attempted to send) or received messages. The actual messages that were sent or received are also included</p>

Sent or received

Specifies whether the report is for sent or received items only, or both.

<p>*ALL</p>	<p>All items are listed</p>
<p>*RCD</p>	<p>Only received data is listed</p>
<p>*SND</p>	<p>Only sent data is listed</p>

Device name

Specifies whether the report is restricted to a particular device name or generic* device name. Note that receiving device names are always in the form *COMn.

*ALL	All device names are listed
*ADHOC	Specifies messages sent to a user-defined email address rather than a predefined message device
*COM1 - *COM9	Specifies an individual input device name as defined on the Work with Communications Resources display
*TERMINAL	Specifies communications terminal data
name*	Specify a simple or generic device name

TIP: Press **F9** to see additional parameters on this display.

Domain

Specifies the user-defined email domain name in conjunction with a device name value of *ADHOC.

Email address

Specifies the user-defined email address in conjunction with device name value of *ADHOC.

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR. The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (Only added if the file name already exists)
--------------	--

path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command
-------------	---

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print System Defaults

NOTE: See Reports Menu - [Print System Defaults](#) for information regarding the parameters on this display.

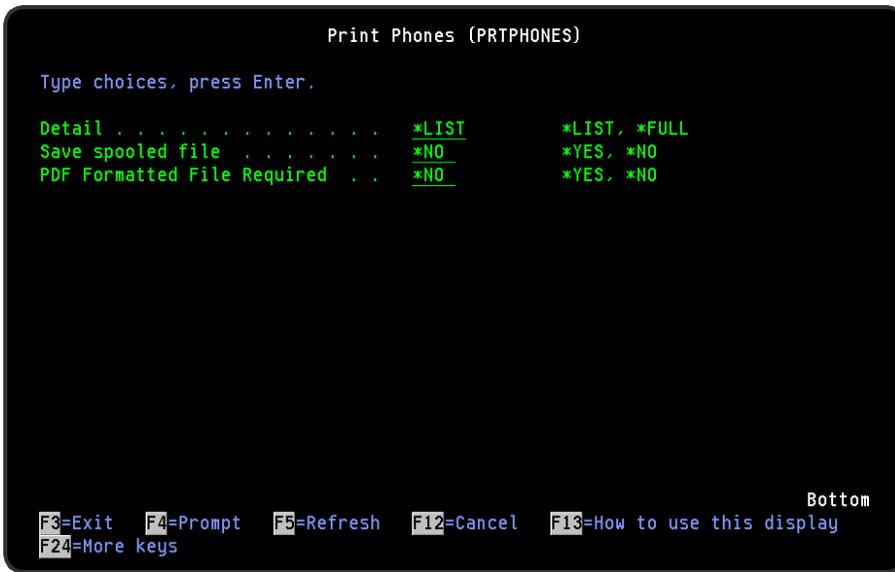
Print Phones

The Print Phones (**PRTPHONES**) command prints the phones report.

This report shows all cell phones that have been defined on the system which can be used for sending and receiving messages. Messages are not sent to phones with a status of 'Held'.

Getting there

Select option **10=Print Phones** from the Message Communicator Reports menu.



Parameters on the Print Phones display

The following parameters are available on this display.

Detail

Specifies the amount of detail that the report contains.

<p>*LIST</p>	<p>The *LIST report uses one line per phone. This shows: Name (the name by which the phone is referred) Description Number (the actual phone number of the cell phone) Service Provider MS Send Authority (specifies if the phone is permitted to send messages to the system and if so, what authority scheme is used) Status (messages are not sent to held phones)</p>
<p>*FULL</p>	<p>The *FULL report uses one line for each phone and also includes: Type of Authority (specifies the type of authority required to run commands received via SMS from this phone) Allow SMS Commands (specifies whether this phone is permitted to send commands to be run on the system) Allow SMS Replies (Specifies whether this phone is permitted to send a reply to an inquiry message using the Reply by Alert ID (RPYALT) command) Send SMS Acknowledge (Specifies whether to return a text message indicating the status of a command request) Command Opcode (Specifies the opcode used by this phone to indicate a command in an SMS message)</p>

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. the existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Pagers

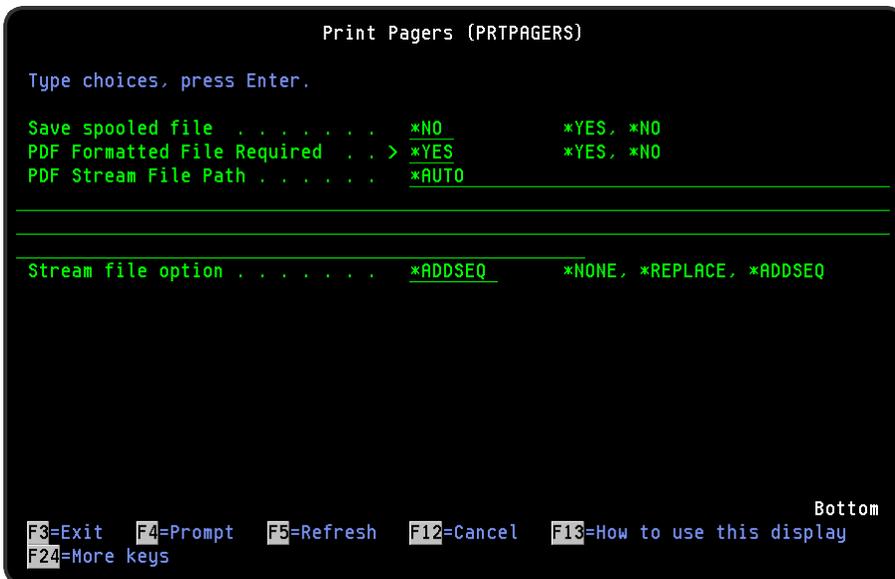
The Print Pagers (**PRTPAGERS**) command prints the pagers report.

This reports shows all pagers that have been defined on the system and details:

- **Pager** (the name by which the pager is referred)
- **Description**
- **Pager number**
- **Service provider**
- **Status** (messages are not sent to held pagers)

Getting there

Select option **11=Print Pagers** from the Message Communicator Reports menu.



Parameters on the Print Pagers display

The following parameters are available on this display.

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name name in the directory is Report_YYYY-MM-DD_SSS.pdf. This where: Report is the report name, YYYY-MM-DD is the date the date the report was created (except for date based reports where it the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix.pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

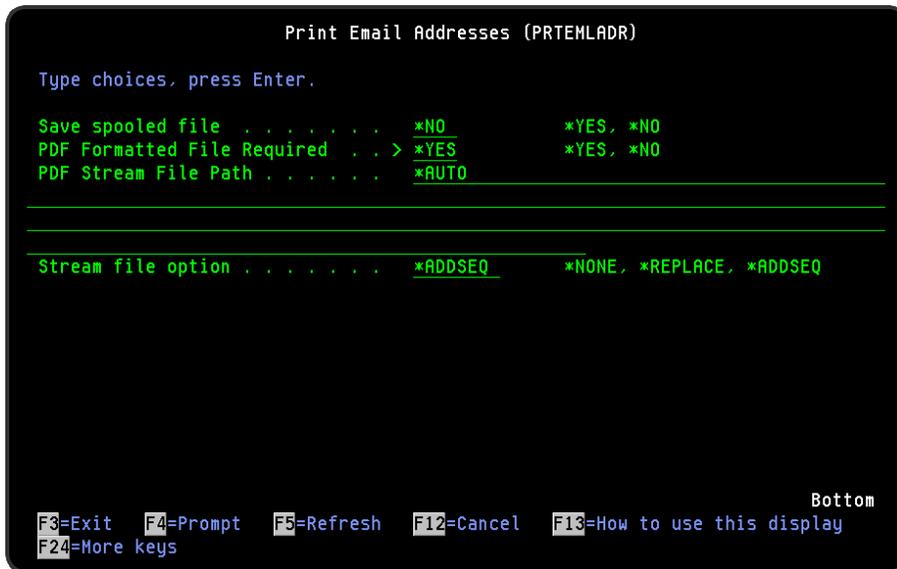
*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Email Addresses

The Print Email Addresses (**PRTEMLADR**) command prints the email addresses report. This report shows all email addresses that have been defined on the system.

Getting there

Select option **12=Print Email Addresses** from the Message Communicator Reports menu.



Parameters on the Print Email Addresses display

The following parameters are available on this display.

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

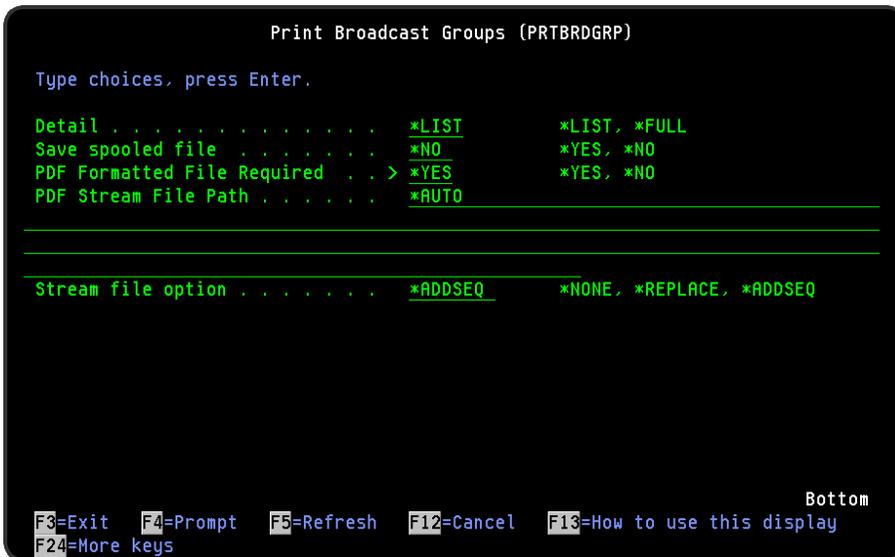
*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Broadcast Groups

The Print Broadcast Groups (**PRTBRDGRP**) command prints the broadcast groups report. This report shows all broadcast groups that have been defined on the system.

Getting there

Select option **20=Print Broadcast Groups** from the Message Communicator Reports menu.



Parameters on the Print Broadcast Groups display

The following parameters are available on this display.

Detail

Specifies the amount of detail to put on the report.

*LIST	Uses one line per broadcast group
*FULL	Prints the broadcast group and the attached message devices that are activated when an alert message is sent to that broadcast group. Message devices in a broadcast group may be pagers, phones, email addresses, rosters, escalation lists and other broadcast groups

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where; Report is the report name, yy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Rosters

The Print Rosters (**PRTROSTERS**) command prints the rosters report.

This report shows all rosters that have been defined on the system. A roster is a list comprising multiple message devices.

Getting there

Select option **21=Print Rosters** from the Message Communicator Reports menu.

```

Print Rosters (PRTROSTERS)

Type choices, press Enter.

Detail . . . . . *LIST      *LIST, *FULL
Save spooled file . . . . . *NO      *YES, *NO
PDF Formatted File Required . . > *YES  *YES, *NO
PDF Stream File Path . . . . . *AUTO

-----

Stream file option . . . . . *ADDSEQ  *NONE, *REPLACE, *ADDSEQ

-----

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
Bottom
    
```

Parameters on the Print Rosters display

The following parameters are available on this display.

Detail

Specifies the amount of detail that the report contains.

*LIST	<p>The *LIST report uses one line for each roster. This shows:</p> <ul style="list-style-type: none"> Name (the name by which the roster is known) Description Interval (interval in days between each change of active device in the roster) Change time (time of day when the active change occurs) Seq (sequence of the currently active message device) Last change date (date of the last change of active roster device)
*FULL	<p>The *FULL report uses one line for each roster but also includes:</p> <ul style="list-style-type: none"> Message devices attached to the roster (for each device the report lists escalation sequence order) Name (name of the device type) Description (device type description) Status (messages are not sent to held devices)

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

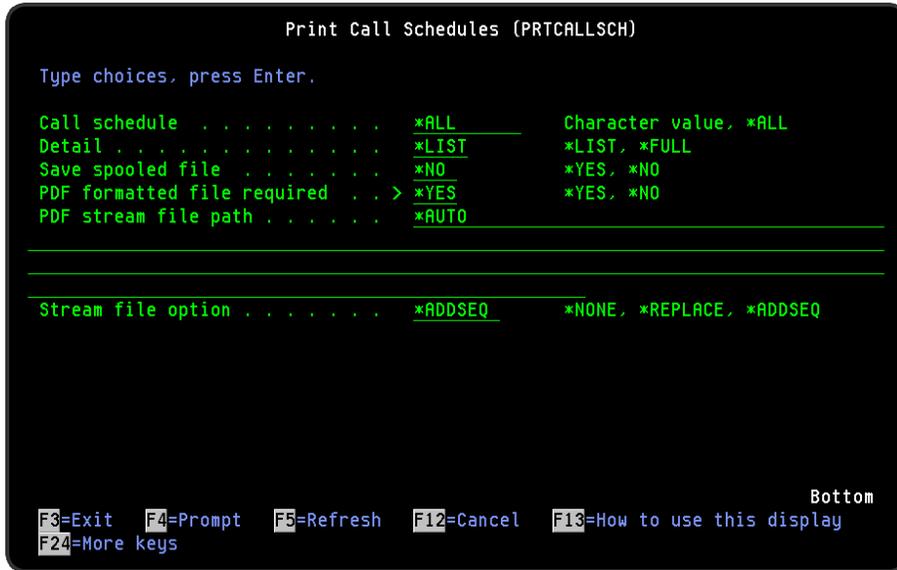
*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Call Schedules

The Print Call Schedule (**PRTCALLSCH**) command prints a call schedule report which shows the Call Schedules that have been created.

Getting there

Select option **22=Print Call Schedules** from the Message Communicator Reports menu.



Parameters on the Print Call Schedules display

The following parameters are available on this display.

Call schedule

Specify the call schedule to be printed.

*ALL	All call schedules are printed
Character value	Specify the call schedule to be printed

Detail

Specify the amount of detail to put on the report

*LIST	The *LIST report uses one line for each schedule and comprises the schedule name, description and which action in a schedule is selected
--------------	--

*FULL	The *FULL report display the call schedule sequence, schedule description, action to be performed, type, start and end time, effective dates and effective days
--------------	---

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten.
--------------	---

*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

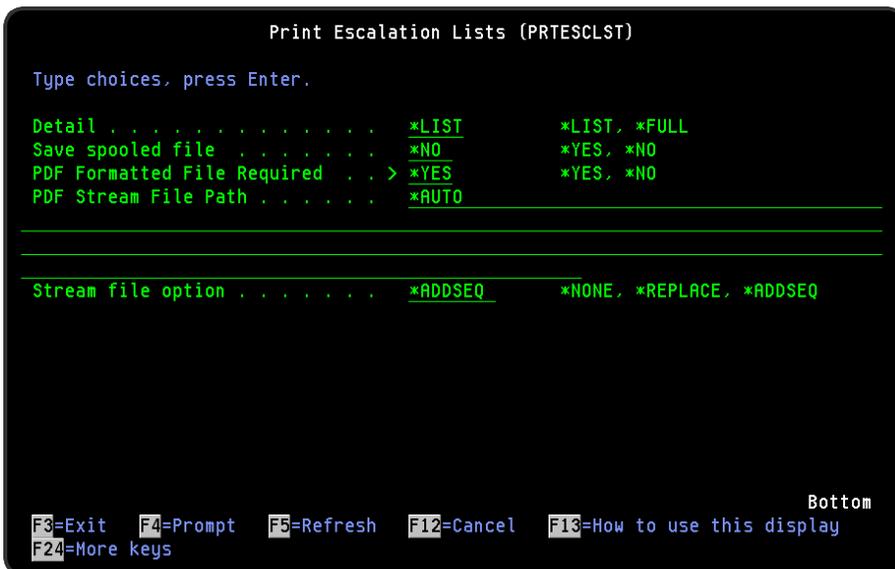
Print Escalation Lists

The Print Escalation List (**PRTESCLIST**) command prints the escalation lists report.

This report shows all escalation lists that have been defined on the system.

Getting there

Select option **23=Print Escalation Lists** from the Message Communicator Reports menu.



Parameters on the Print Escalation Lists display

The following parameters are available on this display.

Detail

Specifies the amount of detail that the report contains.

*LIST	The *LIST report uses one line for each escalation list. This shows: Name (the name by which the escalation list is referred) Description Esc Interval (the interval in minutes between each escalation)
*FULL	The *FULL report prints one line for each escalation list and also lists, in sequence: Message devices (attached to the escalation list (showing the sequence number) Device Name Device Type Description Status (messages are not sent to a held device)

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command.

Stream file option

Specifies the checking options to perform for the stream file that is created.

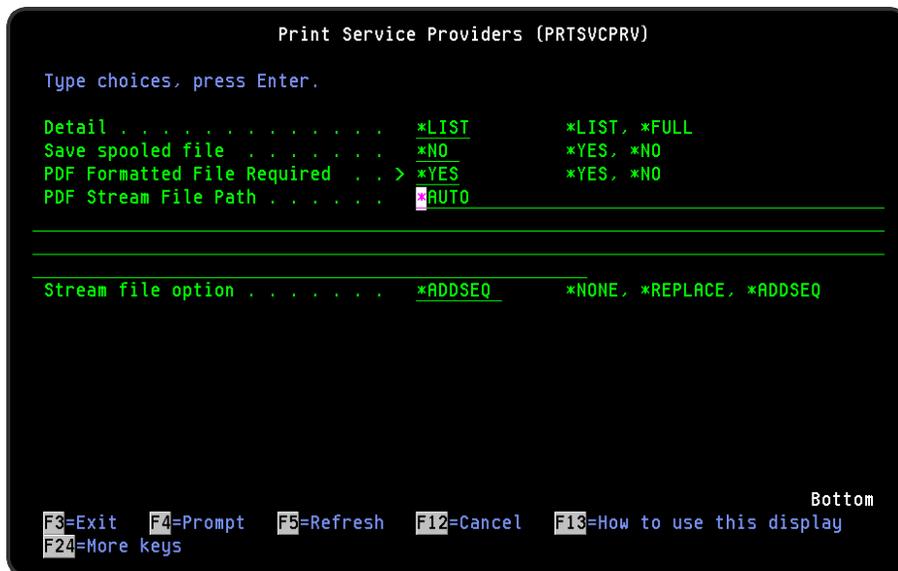
*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. the existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Service Providers

The Print Service Providers (**PRTSVCPRV**) command prints the service providers report. This report shows all service providers that have been defined on the system for use with phones or pagers.

Getting there

Select option **30=Print Service Providers** from the Message Communicator Reports menu.



Parameters on the Print Service Providers display

The following parameters are available on this display.

Detail

Specifies the amount of detail that the report contains.

*LIST	<p>The *LIST report uses one line for each service provider. This shows:</p> <p>Name (name of the service provider) Description Script (name of the script used to send a message to the phone or pager) Modem phone (service provider's modem telephone number) Alt phone (alternative modem telephone number, if available) Msg length (maximum number of retries made for a failed send attempt) Max retry (maximum number of retries made for a failed send attempt)</p>
*FULL	<p>The *FULL report uses one line for each service provider but also includes:</p> <p>Message retry interval (time to wait before retrying after a send attempt has failed) Password (password assigned by the service provider) Protocol (paging protocol used by this service provider) Comms resources (communication resources that can be used with this service provider)</p>

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	<p>The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR. the file name in the directory is Report_yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)</p>
path	Specify the complete directory where the stream file is created. if the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

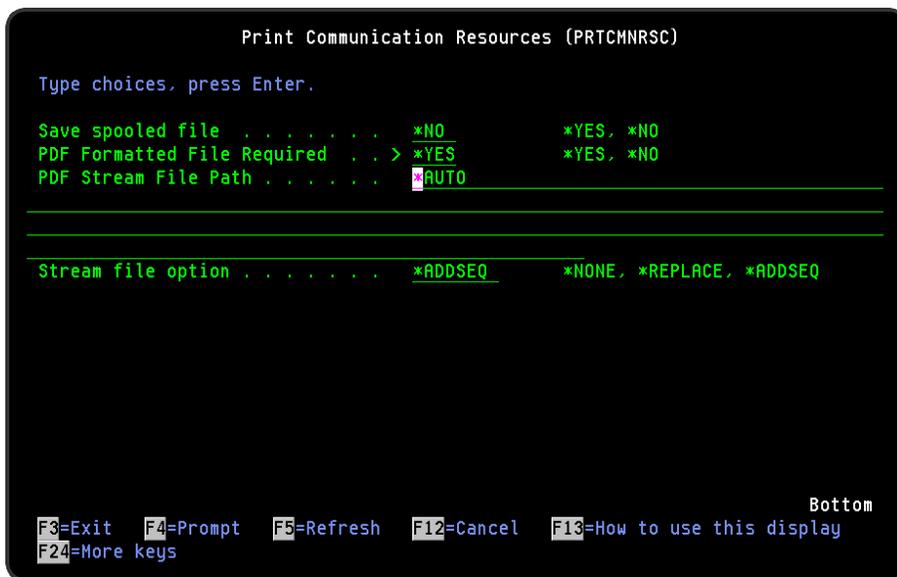
Print Communications Resources

The Print Communications Resources (**PRTCMMNRSC**) command prints the communications resources report.

The report shows all the Communications Resources that have been defined on the system. The report details the Comms Port, attached Device Type, Device Description, whether or not the Comms Port is shared with other applications, Baud Rate, Parity, Data Bits, Stop Bits, Retrieve Interval and Script.

Getting there

Select option **31=Print Communications Resources** from the Message Communicator Reports menu.



Parameters on the Print Communications Resources display

The following parameters are available on this display.

Save spooled file

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not saved on the output queue after it is produced
*YES	The spooled file data is kept on the output queue until it is deleted. After the file is produced the status changes from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. the existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Message Communicator Utilities

Message Communicator - Utilities contains menu options that allow you to start an interactive terminal session with the communications device attached to a specified communications resource or send a text message.

Getting there

Select option **41=Utilities Menu** from the Message Communicator main menu.



```
HMCUTIL                               Halcyon - A division of HelpSystems
                                     Halcyon Message Communicator           5/12/23  08:29:23
                                     Utilities Menu

Select one of the following:

  1. Start Communications Terminal
  2. Send Text Message

 10. Work with Communication Scripts
 11. Display Communications Script Help

 20. Display Message Sender GUI Data Log

                                     Bottom

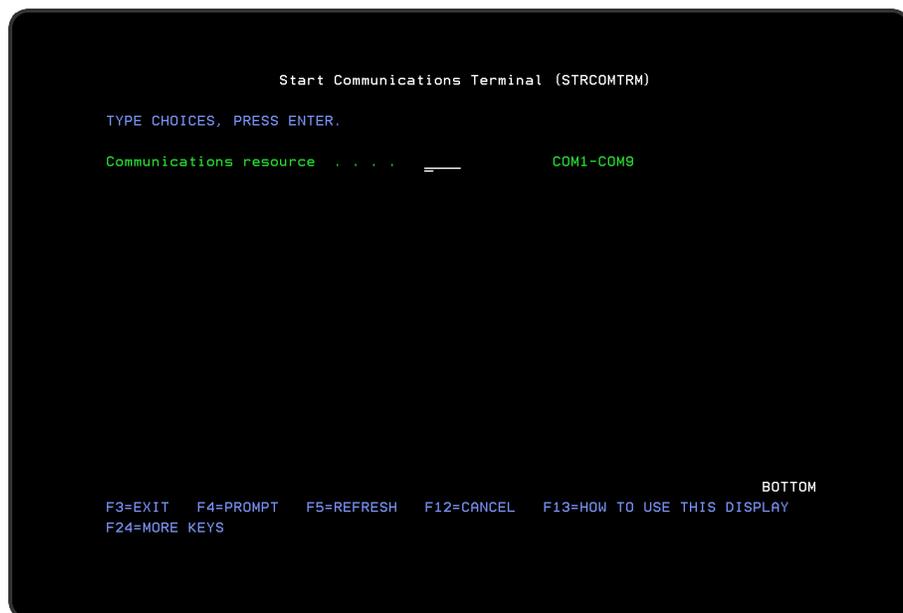
Selection or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Start Communications Terminal

The Start Communications Terminal (**STRCOMTRM**) command allows you to start an interactive terminal session with the communications device attached to a specified communications resource.

Getting there

Select option **1=Start Communications Terminal** from the Message Communicator - Utilities menu to open the Start Communications Terminal display.



Parameters on the Start Communications Terminal display

The following parameters are available on this display.

Communications resource

Specify the name of the communications resource to use. The resource must have previously been defined using the [Work with Communications Resources](#) display and must not be in use.

If the resource is not shared, the [Primary Communications Monitor](#) should be ended before running this command.

Press **Enter** to begin the terminal session.

Functions on the Start Communications Terminal display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Communications Terminal

The Communications Terminal display allows interactive communications with a GSM or modem attached to a communications resource. This display allows the user to send commands to a communications device and see the response data. The user can also see the parameterized response data as used by Message Communicator scripts.

The Communications Terminal provides a means of testing a communications device and also provides a means of trying out commands when developing a Message Communicator script.

Commands and responses shown on this display are also logged in the [Communications Log](#).

Getting there

The Communications Terminal display is shown when an active session to a Communications Resource is activated using option **1=Start Communications Terminal** from the Message Communicator Utilities menu.

```

HMC1300R                                     Halcyon Message Communicator
HMC1300R                                     Communications Terminal
                                           HAL720P2
                                           19/06/19 10:38:05
Previous AT commands and messages:
19/06/19 10:38:05 * Communications resource COM3 not available.

Enter an AT command.
==> |
Exit  Reset  F10=Display system variables  F12=Cancel  F18=Set time-out  F17=Top  F16=Bottom  F21=Command line
Bottom
    
```

Parameters on the Communications Terminal display

The following parameters are available on this display.

Date

The date that a command, message or response was logged.

Time

The time that a command, message or response was logged.

Information Type

Indicates the type of information being displayed.

>	Indicates a command typed by a user and sent to a communications device
<	Indicates response data received from a communications device
*	Indicates an informational message logged by the Communications Terminal display

Data

This is the command, response data or message.

AT Command

Type a command and press **Enter** to send a command to the communications device.

For example, to reset a communications device, type:

ATZ <Enter>

When you press **Enter**, the command you typed is sent to the communications device. This command and any response is added to the messages logged in the upper part of the screen. If no response is received, a time-out occurs. You can set the duration of this time-out using **F16=Set Time-Out**.

The special command **QUIT** terminates the Communications Terminal session along with **F3=Exit** and **F12=Cancel**.

Functions on the Communications Terminal display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F7=Reset

Releases and reallocates the communications device. If any settings have been changed using the [Work with Communications Resources](#) display since the Communications Terminal was started, they are applied when **F7=Reset** is used. If the communications device could not be allocated when the Communications Terminal was started, **F7=Reset** can be used to make another attempt to allocate it.

F11=Display System Variables

Opens the Display System Variables display.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=Set Time-Out

Opens the Set Communications Time-Out display.

F17=Top

Refreshes the display and positions to the first page of information.

F18=Bottom

Refreshes the display and positions to the last page of information.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

Send Text Message

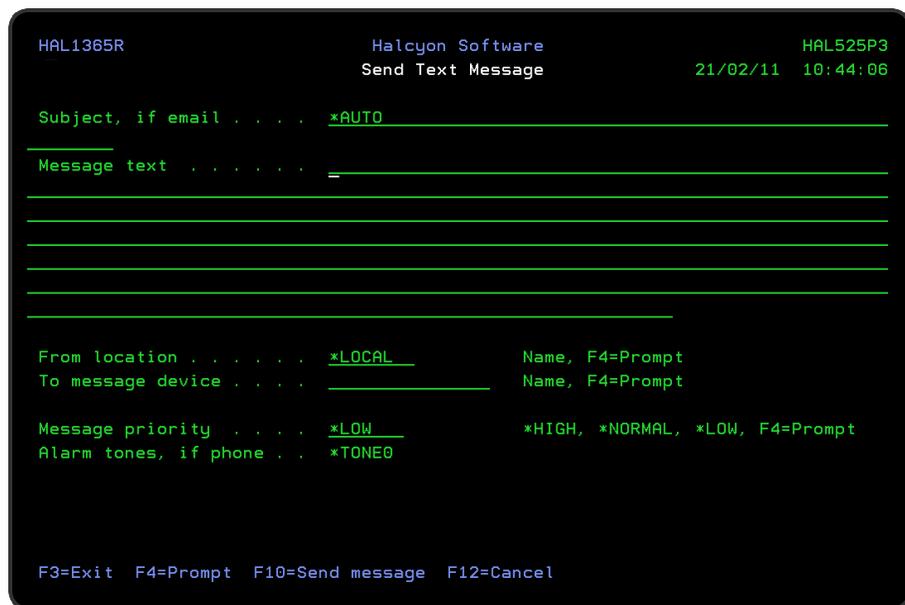
The Send Text Message option allows you to send a text message to a message device such as a cell phone, pager or email address.

NOTE: The method used to send the text message, if sent as an email, is controlled by the system default [HMC/EMAILMETHOD](#).

NOTE: Emails that fail to be sent on the first attempt can be resent using settings within systems defaults, [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

Getting there

Select option **2=Send Text Message** from the Message Communicator- Utilities menu to open the Send Text Message display.



Parameters on the Send Text Message display

The following parameters are available on this display.

Subject, if email

If the message is being sent via email, this parameter specifies the subject of the message. If the message is not being sent by email then this parameter is ignored.

*AUTO	The subject is defined as the first sentence of the message
text	Enter the text for the subject parameter

Message text

Enter the text of the message. A maximum of 1024 characters can be specified. However, the actual maximum length that can be sent may be shorter, dependent on the device to which the message is being sent.

From location

Specifies the name of the location as specified on the Work with Remote Locations display from which the message originates.

*LOCAL	The message is sent from the local system
location	The message is sent from the location specified

To message device

Specifies the name of the message device to which the message is to be sent. The message device may be the name of a specific cell phone, pager or email address, or it may be the name of a broadcast group, call schedule, rosters or escalation list. If an escalation list is used, the message is only sent to the first device listed in the escalation list and no escalation is progressed since there is no associated alert.

Message priority

Specifies the priority used to send the message to the message device. When a message is sent to a cell phone or pager and there is a queue of messages waiting to be sent, Message Priority is used to determine the order in which messages are sent. When a message is sent as an email, Message Priority specifies which distribution queue is used and also specifies the message importance.

*HIGH	The message is sent with High priority. Emails are set to High importance
*NORMAL	This message is sent with Normal priority. Emails are set to Normal importance
*LOW	The message is sent with Low priority. Emails are set to Low importance

Alarm tones, if phone

If the message is being sent to a cell phone, the entry in this parameter specifies whether a voice call is sent to the phone prior to the message being sent and which tone to use. If the message is being sent to any device other than a cell phone, the entry in this parameter has no effect. In order to work, the %TONES functionality must be present in the Communications Script, otherwise this parameter has no effect.

WARNING: The %TONES functionality is automatically included in Communications Script; TC35SND supplied with Halcyon Message Communicator. If you have assigned a bespoke script to your Service Providers or the assigned script does not include the changes to support Call-Before SMS functionality, this feature will not work.

NOTE: The tones played for *TONE1 through *TONE4 are defined within the TC35SND script. Therefore, if you want to change these you must manually update the script. The maximum number of tones that can be played within a tone set is 21.

When the Call-Before functionality is enabled, the script performs a voice call to the cell phone prior to sending the SMS. If the call is answered, a series of tones are played, the call hangs up and then the SMS message is sent. If the call is not answered, an error is returned and the SMS message is not sent. However, if retries are enabled, further attempts may be made later.

*NONE	%TONES is set to 0. Call-Before functionality is not required
*TONE1-4	%TONES is set at a value between 1 and 4. Any one of these values indicate that Call-Before is active. The script uses the different values to determine which series of tones to send

Press F10 to send the text message.

Functions on the Send Text Message display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F10=Send message

Use **F10=Send Message** to send the text message.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Send Text Message (SNDTXTMSG) Command

Typing the command; **SNDTXTMSG** directly onto the command line allows the use of more parameters than are available with the menu version of the command as accessed from Message Communicator - Utilities and as previously described.

WARNING: The Message Communicator Monitor runs as QSECOFR adopted authority when sending job logs as email attachments.

NOTE: Emails that fail to be sent on the first attempt can be resent using settings within system defaults [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

Getting there

Type **SNDTXTMSG** on the command line and press **F4**.

```

Send Text Message (SNDTXTMSG)
Type choices, press Enter.
Message text . . . . . > 'Test message'
-----
To message device . . . . . > TREVOR.PHN.MOB
Alert ID . . . . . *NONE      1-999999999, *NONE
From location . . . . . *LOCAL    Character value, *SELECT
Service provider . . . . . *DFT
Message priority . . . . . *LOW      *HIGH, *NORMAL, *LOW, *SELECT
Subject, if email . . . . . *AUTO
-----
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

Restricted Tasks Manager support

[Restricted Tasks Manager](#) supports the sending of emails via an external SMTP server while in a restricted state using this command but you **MUST** manually start TCP/IP first, as part of the Task Group for example.

Parameters when using the SNDTXTMSG Command

The following parameters are available on this display.

Message text

Enter the text of the message. A maximum of 1024 characters can be specified. However, the actual maximum length that can be sent may be shorter, dependent on the device to which the message is being sent.

The special value of *NONE can be entered in this parameter to send a tone-only message, without a follow-up SMS, to a phone. This is designed for use with land lines. Alarm tones must be specified.

To message device

Specifies the name of the message device to which the message is to be sent. The message device may be the name of a specific cell phone, pager or email address, or it may be the name of a broadcast group, call schedule, roster or escalation list. If an escalation list is used, the message is only sent to the first device listed in the escalation list and no escalation is progressed since there is no associated alert.

msgdev	Enter the name of the message device
*ALERTED	The message is sent to all message devices that have already been sent a message by local actions invoked by the alert identified in the 'Alert ID' parameter
*PHONE	The message is sent to the ad-hoc phone number specified in the 'Phone number' parameter
*EMAIL	The message is sent to the ad-hoc email address specified in the 'Email address' parameter
*SELECT	This setting is specified by the user on the prompt screen. This value is only allowed when MSG(*PROMPT) is used

Alert ID

When *ALERTED is specified in the 'To message device' parameter, specify the alert ID of an alert raised by the local system.

*NONE	No alert ID is specified
1-999999999	Enter the alert ID number

From location

Specifies the name of the location as specified on the [Work with Remote Locations](#) display from which the message originates.

*LOCAL	The message is sent from the local system
*SELECT	This setting is specified by the user on the prompt screen. This value is only allowed when MSG(*PROMPT) is used
location	The message is sent from the specified location

Service provider

Specifies the service provider to use when sending a message to a phone or pager defined on the local system.

*DFT	The service provider defined for the phone or pager is used. If sending the message to an ad-hoc phone, the service provider defined in system default HMC/ADHOCSVCPRV is used
name	A specific service provider is used. This can only be specified when 'From location' is set to *LOCAL and when the device specified in the 'To message device' parameter is a phone, pager or the special value *PHONE

Message priority

Specifies the priority used to send the message to the message device. When a message is sent to a cell phone or pager and there is a queue of messages waiting to be sent, message priority is used to determine the order in which messages are sent.

If *HIGH priority is specified the message is sent as soon as possible, but if *LOW or *NORMAL is selected and the phone or pager does not currently accept messages due to the 'Time allowed to send' setting, the message is not sent until the device does accept messages.

When a message is sent as an email, message priority specifies which distribution queue is used and also specifies the message importance.

*HIGH	The message is sent with High priority. Emails are set to High importance
*NORMAL	This message is sent with Normal priority. Emails are set to Normal importance
*LOW	The message is sent with Low priority. Emails are set to Low importance
*SELECT	The setting is specified by the user on the prompt screen. This value is only allowed when MSG(*PROMPT) is used

Subject, if email

If the message is being sent via email, this parameter specifies the subject of the message. If the message is not being sent by email then this parameter is ignored. The entry here overrides any *AUTO subject specified against the email address specified in the 'To message device' parameter.

*AUTO	The subject is defined as the first sentence of the message
text	Enter the text for the subject parameter

Wait for completion

Specifies, when LOCATION (*LOCAL) is not specified, whether to wait for completion of the request.

*YES	The command waits for the remote system to return the result of the request If the remote system indicates a successful request, the command returns If the remote system indicates the request is invalid (for example, because the message device does not exist on the remote system), an escape message is issued If no response is received from the remote system within the time specified for the interactive time-out on the Work with Remote Locations display, an escape message is issued
*NO	The command returns immediately without waiting for the remote system to return the result of the request

IMPORTANT: If the remote system indicates a successful request, this means the remote system has accepted the request as valid and attempts to send the message. A successful request does not indicate that the message has actually been sent.

Phone number

Specifies the ad-hoc phone number to which to send the message when *PHONE is specified as the 'To Message Device' parameter.

The number may be formatted for clarity using intermediate spaces or hyphens (-). These are ignored when the phone number is used.

The number may be prefixed with an IDD (International Direct Dialling) code, comprising a plus (+) sign and one or more digits. If no IDD prefix is typed as part of the number, the default IDD prefix as defined in the system default [HMC/DFTIDDPREFIX](#) is used should an international format number be required.

Email address

Enter the ad-hoc email address to which to send the message when *EMAIL is specified in the 'To message device' parameter.

Email stream file

Specifies the path of the stream file or any other document to be sent as an email attachment. If an attachment is specified, it is sent with all email messages sent by this command whether specified directly or via broadcast group, etc. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

*NONE	No attachment is specified
path	Specify the path of the stream file or other object to attach. For example: EMAILSTMF ('/HALCYON/HALPROD?Report.Csv')

NOTE: Attachments are only allowed for emails sent from the local system. For emails sent from a remote system this parameter must have *NONE specified. Only one attachment can be sent per message. If this parameter is used, then the Email Spooled File parameter must be set to *NONE.

Email spooled file

Specifies the name of the spooled file to be sent as an attachment.

*NONE	No spooled file is attached
name	Specify the name of the spooled file to attach

NOTE: Attachments are only allowed for emails sent from the local system. For emails sent from a remote system this parameter must have *NONE specified. Only one attachment can be sent per message. If this parameter is used, then the Email Stream File parameter must be set to *NONE.

WARNING: Message Communicator may fail on v7.1 or v7.2, when adding an attachment, with error:

```
Not authorized to service program QTMMCTL in QTCP
```

This is due to an IBM issue which requires the following IBM PTF's to be applied:

v7.1 > SI53118

v7.2 > SI53166

Warning message HMC0354 is added to the message Log when the Primary Message Communicator is started without the required PTF being applied.

Press **F10** to specify additional parameters for the spooled file that you want to attach to the email message.

Additional send text message parameters

Press **F10=Additional parameters** to reveal the following parameters that can be used when specifying the details of the text message to send.

Schedule date

Specifies the date when this message should be sent.

*CURRENT	The current date is used
date	Enter the date to be used, with or without separators

NOTE: If Priority (*HIGH) is used, the entry in this parameter is ignored. Call schedules, rosters, etc. are resolved immediately.

Schedule time

Specifies the time when this message should be sent.

*CURRENT	The current time is used
time	Enter the time to be used, with or without separators

NOTE: If Priority (*HIGH) is used, the entry in this parameter is ignored. Call schedules, rosters, etc. are resolved immediately.

Times to send & interval

Specifies the number of times to send this message. The message is repeated at each interval for the number of times specifies or until the alert is closed. If a broadcast group, call schedule, roster or escalation list is specified, the 'Number of Times to Send' parameter applies to all selected phones and pagers. This parameter is ignored if the message is sent as an email.

Alarm tones, if phone

If the message is being sent to a cell phone, the entry in this parameter specifies whether a voice call is sent to the phone prior to the message being sent and which tone to use. If the message is being sent to any device other than a cell phone, the entry in this parameter has no effect. In order to work, the %TONES functionality must be present in the Communications Script, otherwise this parameter has no effect.

WARNING: The %TONES functionality is automatically included in Communications Script; TC35SND supplied with Halcyon Message Communicator. If you have assigned a bespoke script to your Service Providers or the assigned script does not include the changes to support Call-Before SMS functionality, this feature will not work.

NOTE: The tones played for *TONE1 through *TONE4 are defined within the TC35SND script. Therefore, if you want to change these you must manually update the script. The maximum number of tones that can be played within a tone set is 21

When the Call-Before functionality is enabled, the script performs a voice call to the cell phone prior to sending the SMS. If the call is answered, a series of tones are played, the call hangs up and then the SMS message is sent. If the call is not answered, an error is returned and the SMS message is not sent. However, if retries are enabled, further attempts may be made later.

*NONE	%TONES is set to). Call-Before functionality is not required
*TONE1-4	%TONES is set at a value between 1 and 4. Any one of these values indicate that Call-Before is active. The script uses the different values to determine which series of tones to send

Group device types

Specifies the types of the message devices that the message is sent to when the message device is a Call Group.

*ALL	The message is sent to all message devices in the Call Group
*EMAIL	The message is sent to all email addresses in the Call Group
*PHONE	The message is sent to all phones in the Call Group

*PAGER	The message is sent to all pagers in the Call Group
*PHNPGR	The message is sent to all phones and pagers in the Call Group

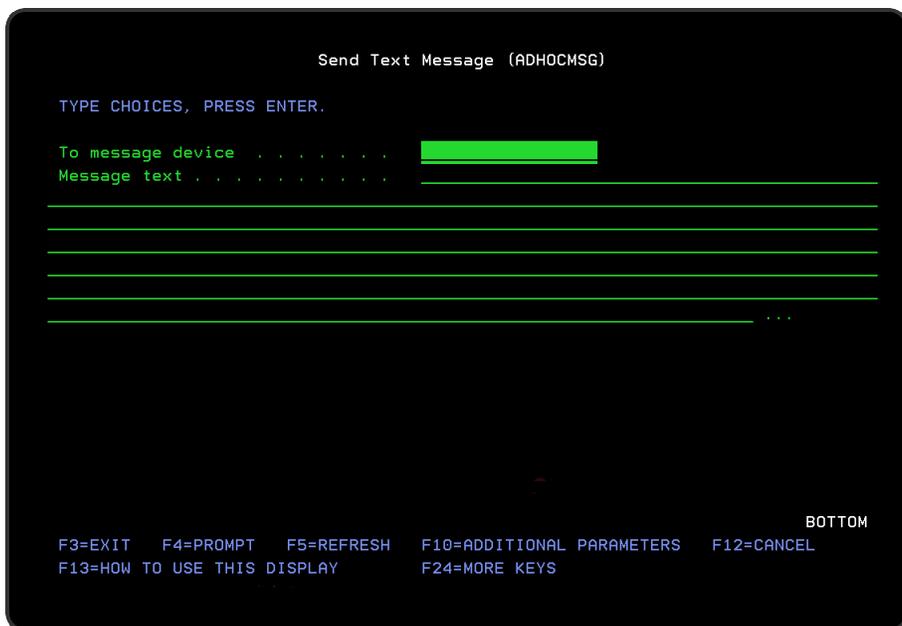
In addition to the menu options, there are two further commands, **ADHOCMSG** and **ADHOCMSGNV** that can be used to send text messages. These commands are provided for reasons of compatibility with previous versions of Message Communicator. It is recommended that option **2=Send text message** is used wherever possible.

ADHOCMSG Command

The **ADHOCMSG** command is used to send a text message to a message device such as a cell phone, email address, escalation list and so on.

Getting there

Type **ADHOCMSG** on the command line and press **F4**.



Parameters on the Send Text Message (ADHOCMSG) command

The following parameters are available on this display.

To message device

Enter the name of the message device to which the message is sent. This can be a cell phone, pager, email address, broadcast group, call schedule, roster or escalation list.

NOTE: If using an escalation list, the message is only sent to the first message device in the escalation list and no escalation occurs as there is no associated alert.

Message text

Enter the text of the message that is being sent. The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 1024 characters can be specified for the message text. However, the actual maximum length that can be sent depends on the actual device the to which the message is sent. Substitution variables may be used in the message text.

NOTE: All other parameters are not used in this version of Message Communicator.

Press **Enter** to send the Ad-hoc text message.

ADHOCMSGNV Command

The **ADHOCMSGNV** command sends a text message to a cell phone. The cell phone does not have to exist as a message device and therefore the number is not validated.

As with the **ADHOCMSG** command, this command is only provided for reasons of compatibility with previous versions of Message Communicator. It is recommended that option **2=Send text message** is used wherever possible.

Getting there

Type **ADHOCMSGNV** on the command line and press **F4**.



Parameters on the Send Text Message (ADHOCMSGNV) Command display

The following parameters are available on the Send Text Message (ADHOCMSGNV) command display.

Phone number

Enter the number of the cell phone to which the message is sent. You can use hyphens to format the number if you want as these are ignored when the command is processed. The number may be prefixed with an IDD (International Direct Dialing) code such as +44 (UK), +49 (Germany), +33 (France) and so on. If no IDD prefix is entered, the default IDD prefix defined in system default [HMC/DFTIDDPREFIX](#) is used if an international format number is required.

Message text

Enter the text of the message that is being sent. The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 1024 characters can be specified for the message text. However, the actual maximum length that can be sent depends on the actual device the to which the message is sent. Substitution variables may be used in the message text.

NOTE: All other parameters are not used in this version of Message Communicator.

Press **Enter** to send the Ad-hoc non-validated text message.

Work with Communication Scripts

Communications Scripts are used to send commands to, and receive commands from, modems and GSM terminals. The Work with Communications Scripts display allows you to create new and edit existing communications scripts.

Getting there

Select option **10=Work with Communication Scripts** from the Message Communicator Utilities menu.

```

WORK WITH MEMBERS USING PDM                                     HAL525P3
FILE . . . . . QSCRIPTS
LIBRARY . . . . . HMCOCs          POSITION TO . . . . .
TYPE OPTIONS, PRESS ENTER.
 2=EDIT      3=COPY  4=DELETE 5=DISPLAY      6=PRINT      7=RENAME
 8=DISPLAY DESCRIPTION 9=SAVE 13=CHANGE TEXT 14=COMPILE 15=CREATE MODULE...

OPT MEMBER      TYPE      TEXT
--  ACCURA56K   TXT       Hayes Accura 56K Modem
--  INTMODSMS    TXT       Internal Modem via SMS
--  02MOBILE     TXT       02 Modem to SMS
--  TC35RTV      TXT       Siemens TC35/65 - Retrieve Messages
--  TC35SND      TXT       Siemens TC35/65 - Send Message
--  TC35SND.TD   TXT       Siemens TC35/65 - Send Message
--  UCP          TXT       UCP test
--  VODAPAGE     TXT       Vodapage
                                          MORE...

PARAMETERS OR COMMAND
==>
F3=EXIT      F4=PROMPT      F5=REFRESH      F6=CREATE
F9=RETRIEVE  F10=COMMAND ENTRY  F23=MORE OPTIONS  F24=MORE KEYS
    
```

Halcyon Message Communicator comes with the following communications scripts pre-defined:

- **ACCURA56K Script** for Hayes Accura 56K Modem
- **AUTOSYNC Script** for Hayes Auto-Sync
- **DISPATCH Script** for mass sending of SMS messages via GSM
- **DT Script** for Deutsche Telekom Protocol
- **EHS6RTV Script** for Gemalto EH6ST retrieve message
- **EHS6SND Script** for Gemalto EHS6T send message
- **INTMODDIAL Script** for internal modem to dial phones and play tones
- **INTMODSMS Script** for internal modem via SMS
- **INZGSM Script** to initialize / reset a GSM
- **MULTITECH Script** for Multi-tech modems

- **NULLMODEM Script** for null modem connection
- **02MOBILE Script** for O2 modem to SMS
- **RTVGSMSTS** for retrieving the GSM status, network and signal
- **TAP Script** for Telelocator Alphanumeric Protocol
- **TAP_ Script** Telelocator Alphanumeric Protocol
- **TC35RTV Script** for Siemens TC35/65 retrieve message
- **TC35RTV_ Script** for Siemens TC35/65 retrieve message
- **TC35RTV __ Script** for Siemens TC35/65 retrieve message
- **TC35SND Script** for Siemens TC35/65 send message
- **TC35SND 2 Script** for Siemens TC35/65 send message
- **UCP Script** for Universal Computer Protocol
- **VODAPAGE Script** for Vodapage
- **VODAPAGE_ Script** for Vodapage
- **VODASMS Script** for Vodafone modem to SMS
- **VDASMS_ Script** for Vodafone modem to SMS
- **VODATC35 Script** for Vodapage via TC35/65

TIP: Prior to editing an existing communications script it is recommended that you first make a copy using option **3=Copy** against the required script and renaming the original. By doing this, you still have a working script to which you can return should the edit cause unexpected issues.

ADMINMSG

The supplied scripts include an ADMINMSG function. Should a script fail, ADMINMSG sends a message to the message queue defined in the system default [HAL/ADMINMSGQ](#).

A default rule; Halcyon SMS/Pager Errors, is included within the QSYSOPR message queue rule group in order to catch messages raised by this function. Remember to change the message queue to that defined in the above system default.

UPGRADE NOTES

During an upgrade, any existing supplied scripts are renamed to include a suffix of underscore, prior to the new scripts being installed.

Halcyon supplied Message Communicator scripts include a warning (see below) at the top of the script stating not to modify the script directly and that a copy should be taken to a new name and that version modified instead.

WARNING: “This script is provided by Halcyon. During an upgrade this script may be replaced by a modified version. If this happens, the previous version will be renamed. If you need to make changes to this script we recommend copying the script, modifying the copy, then changing the Service Provider to point to the new script.”

Display Communications Script Help

Communications Script Help, accessed from option **11=Display Communications Script Help** on the Message Communicator Utilities menu, is used to assist you in defining scripts that send commands to, and retrieve response from, communications hardware such as modems and GSM terminals. The script uses statements and functions to support conditional processing, control flow and error handling.

Script also supports nine substitution variables. The values can be changed within a script, and arithmetic operations can be performed on them, using the Eval statement.

Scripts must be stored as members of file `QSCRIPTS` in the Message Communicator product library.

Statements

Communications Script includes the following statements:

ADMINMSG

The ADMINMSG statement sends a message to the administrator message queue and logs a message to the Message Log. The administrator message queue is defined by system default [HAL/ADMINMSGQ](#).

Format

AdminMsg message

EXAMPLE:

```
AdminMsg 'Message blocked. Subscription is out of credit.'
```

Parameters

Message The text of the message to send

ELSE

The ELSE statement is an optional part of a block IF ENDIF structure. If the IF condition is met, the statements before ELSE are processed. If not, the statements after ELSE are processed.

Format

Else

EXAMPLE:
Else

Parameters

None

END

The END statement causes the script to complete successfully. An END occurs automatically if processing reaches the end of the script. The END statement allows the script to be ended from elsewhere in the script.

Format

End

EXAMPLE:
End

Parameters

None

ENDIF

The ENDIF statement marks the end of a block IF ENDIF structure

Format

Endif

```
EXAMPLE:  
Endif
```

Parameters

None

ERRORMSG

The ERRORMSG statement ends the script abnormally and logs a message to the Message Log.

Format

ErrorMsg message

```
EXAMPLE:  
ErrorMsg 'Script failed.'
```

Parameters

message The text of the message to log in the Message Log

EVAL

The EVAL statement assigns a value to a variable. The value may be a simple value or a 2 operand numeric expression.

Format

Eval Pn = operand1 operator operand2

EXAMPLE:

Eval P1 = 1 Numeric assignment
 Eval P2 = 'Some text' Text assignment
 Eval P3 = %3 + 1 Numeric expression
 Eval P4 = '%5%6' Concatenation

Parameters

Pn	Specifies the variable to which the value is to be assigned. Use P1 - P9
=	The '=' sign is required
operand1	The value to be assigned to the variable or the first operand of a 2 operand numeric expression. The maximum length of text that can be assigned is 256. The range of numeric values that can be assigned is 9999999999.99999 to 9999999999.99999
operator	The operator if a numeric expression is specified Specify one of: + Addition - Subtraction * Multiplication / Division
operand2	The second operand of a 2 operand numeric expression

EXECMSG

The EXECMSG statement requests processing of a message that has been retrieved from a GSM terminal.

Format

ExecMsg sender, message

EXAMPLE:

ExecMsg '%Parm2','%Parm5'

Parameters

sender	Specifies the phone number of the mobile phone that sent the retrieved message. This will usually be obtained using the %PARMn funtion following an OUT statement
message	Specifies the text of the retrieved message. This will usually be obtained using the %PARM function following an OUT statement

GOTO

The GOTO statement causes script processing to continue at the specified label.

Format

Goto label

EXAMPLE:
 below
 Goto Tag1
 (statements)
 :Tag1

Parameters

label	Specifies the label of the script line to which to branch
--------------	---

HOLDRSC

The HOLDRSC statement holds the current communications resource. The resource is then unusable until released using option **6=Release** on the Work with Communications Resources display. This may be used for example to disable a resource if the wrong password is entered, to prevent continuous repeats with the same incorrect password.

Format

Holdrsc

EXAMPLE:

```
Out 'AT+CPIN="%Password(RSC)"',,N
If %Error Then
Holdrsc
ErrorMsg 'GSM password is incorrect.'
Endif
```

IF

The IF statement allows a series of statements to be processed if a condition is met. There are two forms of the IF statement:

Simple IF Format

Format

If value1 comparator value2 Then statement

EXAMPLE:

```
If %1 = 1 Then Goto Tag1
If '%1' = 'OK' Then End
If %Error Then InfoMsg 'Request failed.'
If %Error = %Off Then Goto Ok
```

Parameters

value1	Specifies the first value to be compared
comparator	Specifies the comparator. See below for valid comparators
value 2	Specifies the second value to be compared. The comparator and second value may be omitted, in which case they default to '*NE 0'
Then	The Then clause is required
statement	Specifies the statement to run if the condition is passed

Block IF Format

Format

If value 1 comparator value2 Then

Else

Endif

EXAMPLE:

```
If %Error Then
  ErrorMsg 'Request failed.'
Else
  InfoMsg 'Request successful.'
Endif
```

EXAMPLE:

```
If %1 < 10 Then
  Eval P1 = %1 + 1
  Goto Loop
Endif
```

Parameters

value1	Specifies the first value to be compared
comparator	Specifies the comparator. See below for valid comparators
value 2	Specifies the second value to be compared. The comparator and second value may be omitted, in which case they default to '*NE 0'
Then	The Then clause is required

Comparators

EQ or =	Equal to
GT or >	Greater than
LT or <	Less than
GE or >= or =>	Greater than or equal to

LE or <= or =<	Less than or equal to
NE or <> or =	Not equal to

INFOMSG

The INFOMSG statement logs a message to the Message Log.

Format

InfoMsg message

EXAMPLE:
InfoMsg 'Message sent %Device.'

Parameters

message The text of the message to log in the Message Log

OUT

The OUT statement writes information to communications hardware, such as a GSM terminal or modem, then collects any response. Response data is then available in functions %PARM1 - %PARM6. If the response data does not include the text OK or ACK, an error message is logged to the Message Log and the script fails, unless the failonerror parameter is set to N.

Format

Out data , timeout , failonerror

EXAMPLE:
Out 'ATZ'
Out 'AT T E0 M1 L3 X4 S0=0 S7=30'
Out 'AT+CMGR=1',,,N
Out 'ATD +441234567890',30,N

Parameters

data	The data to send to the communications hardware
timeout	The maximum number of seconds to wait for a response. Valid values are 0-120. This is an optional parameter with a default value of 10. If no response is expected, specify 0 to avoid a time-out being logged
failnoerror	Specifies whether to fail the script if an error is detected
Y	The script fails and an error message is logged to the Message Log if the response data does not include the text OK or ACK
N	Script does not fail. The %ERROR function can be used to check where an error was detected

RESET

The RESET statement disconnects from and reconnects to a network GSM. This can be used to attempt to re-establish a failed connection. This statement has no effect on local GSMs or modems.

Format

Reset

EXAMPLE:
Reset

WARNING: When upgrading, new versions of the TC35RTV and TC35SND scripts are installed. Existing scripts with the same name are renamed to include a suffix of underscore and the new scripts used. If you have made past changes to these scripts you will need to re-apply those changes to the new scripts.

SETINFO

The SETINFO statement is used to report GSM product information obtained using the ATI command. The information thus reported is shown on the Display Communications Resources display.

Format

SetInfo data

EXAMPLE:

```
Out 'ATI'
SetInfo '%Parm1(*END)'
```

Parameters

data	Specifies the data to use. Use the entire data returned by the ATI command
-------------	--

SETNET

The SETNET statement is used to report the network that a GSM is connected to. The network thus reported is shown on the Display Communications Resources display.

Format

SetNet network

EXAMPLE:

```
When using a Siemens TC65 (TM), the AT+COPS? command will report the network name. For other types of GSM, consult your operators manual.
Out 'AT+COPS?'
If '%Parm3' = " Then
SetNum *NONE
Else
SetNum '%Parm3'
Endif
```

Parameters

network	Specifies the current network. If no network is available, specify *NONE
----------------	--

SETNUM

The SETNUM statement is used to report the subscriber's own number, from the SIM, of a GSM terminal device. The number thus reported is shown on the Display Communications Resources display.

Format

SetNum number

EXAMPLE:

When using a Siemens TC65 (TM), the AT+CNUM command will report the subscriber number. For other types of GSM, consult your operators manual.

```
Out 'AT+CNUM',,N
SetNum '%Parm2'
```

Parameters

number	Specifies the subscriber's number
---------------	-----------------------------------

SETQUAL

The SETQUAL statement is used to report the received signal strength of a GSM terminal device. The signal strength thus reported is shown on the Work with Communications Resources display. The SETQUAL statement can be used at any time, but for convenience it is recommended to place it in the receiver script as defined on the Change Communications Resource screen.

Note that a reported signal strength is deemed to be accurate for 15 mins. If the last reported signal strength is more than 15 mins old, it is not shown on the Work with Communications Resources display.

Format

SetQual strength

EXAMPLE:

When using a Siemens TC65 (TM), the AT+CSQ command will report the signal strength. For other types of GSM, consult your operators manual.

```
Out 'AT+CSQ',,N
SetQual '%Parm1'
```

Parameters

Strength	Specifies the received signal strength
-----------------	--

SYNCH

The SYNCH statement attempts to read data from communications hardware, such as a GSM terminal or modem. Any data read is available in functions %PARM1 - %PARM6. If data is received, it is usually response data from an AT command previously sent using the OUT statement, and may indicate that the timeout on that command was not long enough for the operation to be completed.

Format

Synch timeout

```
EXAMPLE:
Synch 10
```

Parameters

timeout	The maximum number of seconds to wait for data. Valid values are 1 - 120. This is an optional parameter with a default value of 10. The statement completes when data is received or when the timeout expires
----------------	---

Label Identifier

Communications Script includes the following label identifier:

```
:label
```

Labels are used to identify branch points within the script.

A label identifier begins with a ':' (colon) and then comprises a label name of up to 10 characters.

Variables

Communications Script also supports up to nine substitution variables.

The substitution variables are referred to as P1 to P9 when assigning a value using the EVAL statement, or %1 to %9 when using the current value. The values can be changed within a script and arithmetic operations can be performed on these values using the EVAL statement. All variables are either character variables with a maximum length of 256 or numeric variables with a valid range of -9999999999.99999 to 9999999999.99999, depending on the value last assigned.

Substitution Variable Examples

Eval P1 = 1

Eval P2 = 2

Eval P3 = 3

Eval P4 = 4

Eval P5 = 'Hello'

Eval P6 = 'there'

Eval P9 = %1 + %2 P9 now has value '3'

Eval P9 = %9 / %4 P9 now has value '0.75'

Eval P9 = %9 - %3 P9 now has value '-2.25'

Eval P9 = '%5%6' P9 now has value 'Hellothere'

Eval P9 = '%5 %6.' P9 now has value 'Hello there.'

Functions

The following functions are available on this display.

%ACK

Returns an ACK control character.

%ASCII

Returns Ascii characters converted from a UCS2 string.

Format

%Ascii(text)

EXAMPLE:

Eval P1='%Ascii('00480065006C006C006F002E')'
Sets P1 to "Hello."

Parameters

text	The UCS2 string to be converted to Ascii. Each UCS2 character is a 4 byte hexadecimal representation of the UCS2 code point in the range 0000-FFFF
-------------	--

%CHARSET

Returns the character set in use as defined in the communications resource.

Return values

GSM	The GSM default alphabet (GSM 03.38) is used
UCS2	The UCS2 character set is in use

EXAMPLE:

Out 'AT+CSCS=%Charset',,N

%CHKSUM

Returns checksum characters for the specified text. Checksum characters are required when sending messages to some service providers.

Format

%Chksum(format,text)

EXAMPLE:

```
Eval P1='%STX%Number(PGR)%CR%Message%CR%ETX'
Eval P2=%ChkSum('ASC','%1')
Out '%1%2',30
```

Parameters

format	The format of the checksum to return
ASC	The checksum is completed as follows: Checksum is calculated by adding the Ascii code points of the text Result is converted to a base 16 number using the ASCII code points 48 to 64 (characters 0123456789;=<=>?) Result is converted to Ebcdic Last 3 characters are returned
DEC	The checksum is computed as follows: Checksum is calculated by adding the Ascii code points of the text Result is divided by 4096 and remainder is retained Decimal value is returned
HEX	The checksum is computed as follows: Checksum is calculated by adding the Ascii code points of the text Result is converted to hexadecimal (Characters 0123456789ABCDEF) Result is converted to Ebcdic Last 3 characters are returned
text	The text whose checksum value is required

%CR

Returns a CR control character.

EXAMPLE:

```
Eval P1='%STX%Number(PGR)%CR%Message%CR%ETX'  
Eval P2=%ChkSum('ASC','%1')  
Out '%1%2',30
```

%DEVICE

Returns the name of the message device (such as a pager or mobile phone) to which the message is being sent.

EXAMPLE:

```
InfoMsg 'Message sent to %Device.'
```

%DIALTIME

Returns the dialing time to be used when making a tone call to a mobile phone. The value for this function is set for each phone using the Work with Phones display. For ad-hoc phones, the value is 10.

EXAMPLE:

```
Out 'ATD%1;',%DIALTIME,N
```

%EOT

Returns an EOT control character.

%ERROR

Returns whether an error was detected by the last OUT statement, such as whether OK or ACK was returned in the response data. Returns '1' if an error was detected or '0' if not.

EXAMPLE:

```
If %Error Then InfoMsg 'Failed to send message.'
```

%ESC

Returns an ESC control character.

%ETX

Returns an ETX control character.

EXAMPLE:

```
Eval P1='%STX%Number(PGR)%CR%Message%CR%ETX'  
Eval P2=%ChkSum('ASC', '%1')  
Out '%1%2',30
```

%GSM

Returns an Ascii string with characters not supported in GSM mode removed.

Format

%GSM(text)

EXAMPLE:

```
Eval P1='%GSM('Error!')'  
Sets P1 to "Error"
```

Parameters

text	The Ascii string to be stripped of non-supported characters
-------------	---

%LASTTRY

Returns 'Y' if this is the last send attempt for this message otherwise returns 'N'. For example, if a service provider allows 3 retries, %LastTry will return 'Y' on the third retry.

EXAMPLE:

```
If %LastTry = N Then InfoMsg 'Send failed. Will try again later.'
```

%MAXLEN

Returns the maximum number of characters that can be sent in a single message. The value returned is the value of the Maximum Message Length field in the Service Provider record when the GSM character set is used. When the UCS2 character set is used, half this value is returned.

EXAMPLE:

```
Out '%Subst(%Message,1,%Maxlen)%Z',30
```

%MAXPART

Returns the number of parts in the message. The value returned depends on the length of the message, the value of the Maximum Message Length field in the Service Provider record, and whether the GSM or UCS2 character set is used.

EXAMPLE:

```
Eval P1 = %MaxPart
```

%MESSAGE

Returns the text of the message to be sent.

EXAMPLE:

```
Out '%Message%Z',30
```

%MSGOVR

Returns the value of the Message Overflow field in the Service Provider record. If Message Overflow is set to *YES' this function returns 'Y'.

```
EXAMPLE:  
If '%MsgOvr' = 'Y' Then Goto SendLoop
```

%MSGPART

Returns part of the text of the message to be sent. The maximum length of each part is the Maximum Message Length specified in the Service Provider when the GSM character set is used, or half that value when UCS2 is used. The message is adjusted to ensure words are no split across adjacent parts.

Format

%MsgPart(part)

```
EXAMPLE:  
Out '%MsgPart(1)%Z',30  
Endif
```

%NAK

Returns a single character with the hexadecimal value 3D. This character is known as Non-Acknowledge.

%NL

Returns an NL (or LF) control character.

%NUL

Returns a NULL control character.

%NUMBER

Returns one of the phone numbers associated with the message currently being sent.

Format

%Number(type,format)

EXAMPLE:

```
Out 'ATD %Number(MDM)',30,N
Eval P1='%STX%Number(PGR)%CR%Message%CR%ETX'
Eval P2=%ChkSum('ASC',%1)
Out '%1%2',30
```

Parameters

type	Specifies which phone number is required
MDM	The main modem number is required as defined in the phone or pager record
ALT	The alternate modem number is required as defined in the phone or pager record
PHN or PGR	The mobile phone number is required as defined in the phone or pager record
format	Specifies the required format of the phone number
I	The phone number is returned in international format. If the number specified in the service provider, phone or pager record does not include an IDD prefix, the IDD prefix defined in the HMC/DFTIDDPREFIX system default is used
L	The phone number is returned as specified in the service provider, phone or pager record

%OFF

Returns a single character with the value '0'.

EXAMPLE:

```
If %Error = %OFF Then
```

%ON

Returns a single character with the value '1'.

EXAMPLE:

```
If %Error = %ON Then
```

%PASSWORD

Returns the password specified in the communications resource or service provider record.

%PASSWORD(RSC) returns the password defined in the communications resource being used.

%PASSWORD(SVC) or **%PASSWORD** returns the password defined in the service provider being used.

%PARMn

Returns response data from the last OUT statement. The response data can be considered to be divided into fields by comma and carriage return delimiters.

The %Parm1 - %Parm6 functions return the response data found between specific pairs of delimiters.

The variants %Parm1(*CR) - %Parm6(*CR) return data starting from the same point as the regular %Parm1 - %Parm6 function but the end point is delimited by carriage return only and not by comma.

The variants %Parm1(*END) - %Parm6(*END) return data starting from the same point as the regular %Parm1 - %Parm6 function but the end point is the end of the returned data.

EXAMPLE:

```
Out 'ATD %Number(MDM)',30,N
If '%Subst('%Parm1',1,7)' <> 'CONNECT' Then
ErrorMsg 'Error - Failed to connect to service provider on %Number(MDM).'
```

%PROVIDER

Returns the name of the service provider being used to send this message.

%RESOURCE

Returns the name of the communications resource being used to send this message.

%STX

Returns a STX control character.

EXAMPLE:

```
Eval P1='%STX%Number(PGR)%CR%Message%CR%ETX'
Eval P2=%ChkSum('ASC',%1')
Out '%1%2',30
```

%SUBST

Returns a substring from a larger string.

Format

%Subst(string,start,length)

EXAMPLE:

```
Out 'ATD %Number(MDM)',30,N
If '%Subst('%Parm1',1,7)' <> 'CONNECT' Then
ErrorMsg 'Error - Failed to connect to service provider on %Number(MDM).'
```

Endif

Parameters

string	Specifies the string from which a part is to be returned
start	Specifies the start position of the substring to return
length	Specifies the length of the substring to return

%SUBVAR

Returns a substitution variable value. The value is returned as formatted text.

Format

%Subvar(varname)

EXAMPLE:
InfoMsg 'Message sent to %Device on %Subvar (DATE) at %Subvar(TIME).'

Parameters

varname	Specifies the name of the substitution variable whose value should be returned
----------------	--

%TONES

Returns the value set by the Alarm Tones (TONES) parameter of the Send Text Message (SNDTXTMSG) command, or the similar field of the Send Text Message (SNDTXT) action. This indicates whether to use call-before when sending a message to a mobile phone, and if so what tones to use. When call-before is requested, the script should perform a voice call to the mobile phone before sending the SMS. If the recipient picks up, the script should then play a series of tones, then hang up and then send the text message. The different values returned by %Tones may be used to select from a number of tone patterns.

EXAMPLE:
If '%Tones = 0 Then Goto NoTones

Return Values

Keyword	Return value
*NONE	0
*TONE1	1
*TONE2	2
*TONE3	3
*TONE4	4

%UCP and %UCP51

Returns UCP (Universal Computer Format) encoding of a message to a specified subscriber number. %UCP uses UCP operation type 01 - Call Input. %UCP51 uses UCP operation type 51 - Submit Short Message. Operation type 01 is obsolete and operation type 51 should be used where possible.

Format

%Ucp(subscriber, message)

%Ucp51(subscriber,message)

EXAMPLE:
Eval P1='%Ucp('01727654321','Hello world.')

Eval P1='%Ucp('%Number(PGR)', '%Message')

Eval P1='%Ucp51('%Number(PGR)', '%Message')

Parameters

subscriber	The subscriber number of the recipient
message	The message text

%UCS2

Returns UCS2 representation of an Ascii text string.

Format

%UCS2(text)

EXAMPLE:

```
Eval P1='%UCS2('Hello.')
```

Sets P1 to "00480065006C006C006F002E"

Parameters

text	The Ascii string to be converted to UCS2. Each UCS2 character is a 4 byte hexadecimal representation of the UCS2 code point in the range 0000-FFFF
-------------	--

%X

Returns a single character with the specified hexadecimal value. The character specified should be in the range X00 to X7F and represents an Ascii character code as per CCSID 819.

Format

%X(hex)

EXAMPLE:

```
Adds a Ctrl+Z to the message. %Z could be used instead.
Out '%Message%X(1A)',30
```

Parameters

hex	Specifies the code point as a hexadecimal number in the range 0 FF
------------	--

%Xlate

Returns a string with specified characters replaced by other characters. The first parameter contains a list of characters that should be replaced, and the second parameter contains their replacements.

For example, if the string contains the third character in 'from', every occurrence of that character is replaced with the third character in 'to'. The third parameter is the string to be translated.

Format

`%Xlate(from,to,string)`

EXAMPLE:

```
Eval P1 = %Xlate('{}','[]','Error {0123} has occurred.')
Result: P1 = 'Error [0123] has occurred.'
```

Parameters

from	Specifies the characters to be replaced. Up to 16 characters can be specified
to	Specifies the corresponding replacement characters
string	Specifies the string to be translated

%Z

(This is the Drop-down text)

Returns a Control-Z (or SUB) control character.

EXAMPLE:

```
Out '%Message%Z',30
```

General Notes

Comments

Lines beginning with a double slash '/' are comment lines and are ignored by the script processor. Blank lines are also ignored.

Quotes

We recommend surrounding variables and functions with single quotes. If the value resolves to blanks or to text containing blanks or special characters, the resolved line may be misinterpreted by the script processor. Quotes are not necessary, but are allowed with numeric variables.

Variable limits

All substitution variables are stored internally as character fields with a length of 256. If a variable can be interpreted as numeric, it is treated as a variable with 15 digits and 5 decimal places.

Statement length

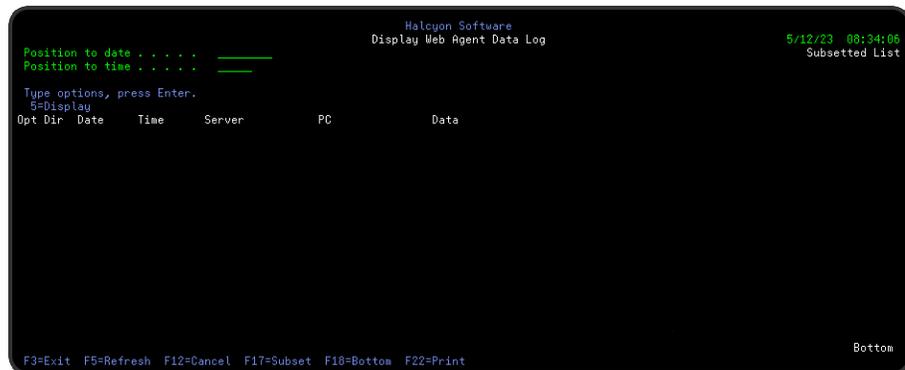
Statements typed in the script have a maximum line length of 120. Statements cannot be continued onto the following line. After substitutions have been resolved, the maximum effective line length is 1024.

Display Message Sender GUI Data Log

The Display Generic Web Agent Data Log display shows the data exchanged between the Generic Web Agents and the web based PC graphical user interfaces.

Getting there

To view the current Message Log take option **20=Display Message Sender GUI Data Log** from the Message Communicator Utilities menu.



Access and Navigation

Messages are displayed in chronological order, most recent last. When you first open this display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested
- Use the **Page Up/Page Down** keys to scroll through the list of messages
- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since this screen was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Message Sender GUI Data Log display

The following parameters are shown on the Display Message Sender GUI Data Log display.

Dir

This is the direction of the data.

SND	Data sent from the generic web agents to the web servers
RCV	Data received by the generic web agents from the web servers

Date

This is date this data was sent or received.

Time

This is time this data was sent or received.

Server

This is name of the Halcyon Remote Location that represents the web server that sent or received this data of behalf of a client PC.

PC

This is name of the client PC - not a Halcyon Remote Location name - that indirectly sent or received this data via a web server.

Data

This is the first few characters of the data that was sent or received. To see the full data, use option **5=Display**.

Using the Display Message Sender GUI Data Log display

The following options are available on the Display Message Sender GUI data Log display.

5=Display

Opens the Display Data Log Entry display which displays the full data for the selected record.

Functions on the Display Message Sender GUI Data Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Opens the Subset Data Log display, allowing you to set or clear the filter fields which restrict the records that are shown on the display.

F18=Bottom

Refreshes the display and positions it at the bottom of the log.

F22=Print

Prompts the Print Web GUI Data Log (**PRTWEBLOG**) command. Amend parameters as required then press **Enter** to print the report.

Send Email Message (SNDEMLMSG) Command

The Send Email Message (SNDEMLMSG) command can be used to send a message to one or more pre-defined email addresses, ad-hoc email addresses, and/or broadcast groups.

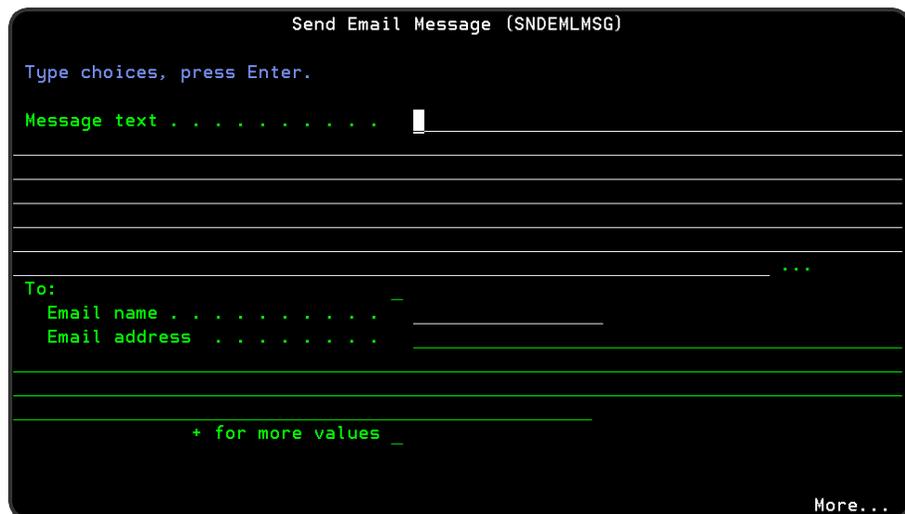
IMPORTANT: When broadcast groups are specified, the message is only sent to the email addresses listed in those broadcast groups.

See system default [HMC/SMTPSERVERRATE](#) for the maximum number of emails that can be sent via an external SMTP server within a one minute time period.

The message is not sent to pre-defined email addresses that are held, except when the *ALL special value is used. Up to 32 stream files and spooled files can be attached and sent with each email message.

Getting there

Type **SNDEMLMSG** on the command line and press F4.



Parameters on the Send Email Message (SNDEMLMSG) Command

The following parameters are available on this display.

Message text

Enter the text of the message being sent. The text must be enclosed in apostrophes if it contains blanks or any other special characters. The maximum message length of the message is 2048 characters provided all characters can be encoded using CCSID 367. If CCSID 367 cannot be used, it is replaced by CCSID 1208 (UTF-8) encoding is used and the maximum message length is restricted to 1024 characters.

Substitution variables may be used in this parameter.

To: Email name

Specifies the recipients of this message. Each recipient can be a pre-defined or ad-hoc email address and/or broadcast group. When broadcast groups are specified, the message is only sent to the email addresses listed in those broadcast groups.

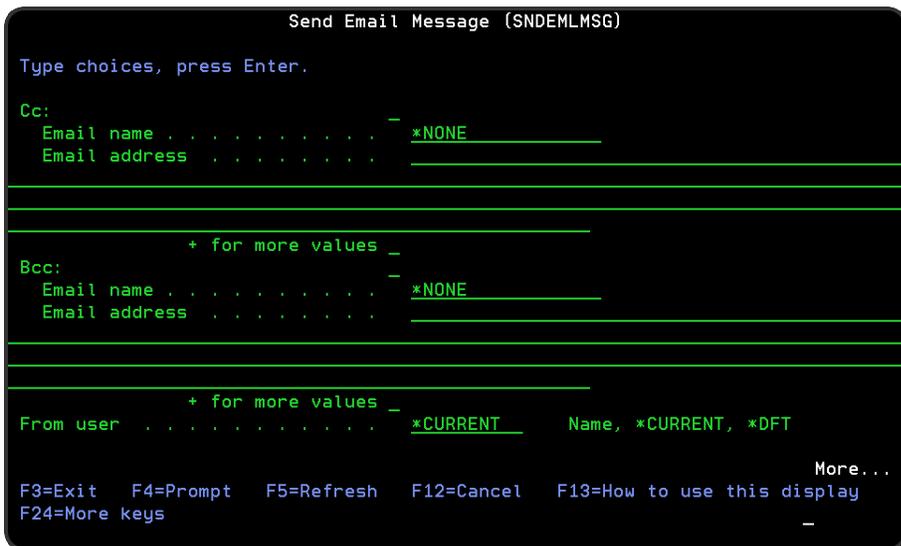
The message is not sent to pre-defined email addresses that are held, except when the *ALL special value is used. Up to 64 separate recipients can be listed in this parameter. Use the '+' symbol in the '+ for more values' parameter to enter additional recipients as required.

*ALL	The message is sent to all pre-defined email addresses
*ALLRLS	The message is sent to all pre-defined email addresses that are no held
*NONE	No recipients are intended for this message
*EMAIL	Specifies that an ad-hoc email address is used. Enter the email address in the 'To: Email address' parameter
name	Enter the name of a pre-defined email address or broadcast group

To: Email address

When *EMAIL is specified in the 'To Email name' parameter, specify the ad-hoc email address to use.

Press **Page Down** to view the second page of parameters for this command.



Cc: Email name

Specifies the carbon copy recipients of this message. Each recipient can be a pre-defined or ad-hoc email address and/or broadcast group. When broadcast groups are specified, the message is only sent to the email addresses listed in those broadcast groups. The message is not sent to pre-defined email addresses that are held, except when the *ALL special value is used. Up to 64 separate recipients can be listed in this parameter. Use the '+' symbol in the '+ for more values' parameter to enter additional recipients as required.

*NONE	No carbon copy recipients are intended for this message
*EMAIL	Specifies that an ad-hoc email address is used. Enter the email address in the 'Email address' parameter
name	Enter the name of a pre-defined email address or broadcast group

Cc: Email address

When *EMAIL is specified in the 'Cc Email name' parameter, specify the ad-hoc email address to use.

Bcc: Email name

Specifies the blind carbon copy recipients of this message. Each recipient can be a pre-defined or ad-hoc email address and/or broadcast group. When broadcast groups are specified, the message is only sent to the email addresses listed in those broadcast groups. The message is not sent to pre-defined email addresses that are held, except when the *ALL special value is used. Up to 64 separate recipients can be listed in this parameter. Use the '+' symbol in the '+ for more values' parameter to enter additional recipients as required.

*NONE	No blind carbon copy recipients are intended for this message
*EMAIL	Specifies that an ad-hoc email address is used. Enter the email address in the 'Email address' parameter
name	Enter the name of a pre-defined email address or broadcast group

Bcc: Email address

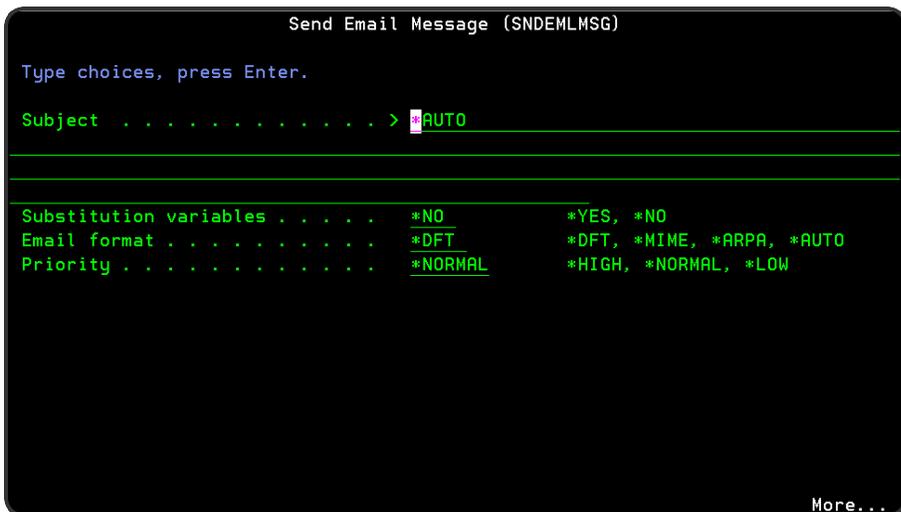
When *EMAIL is specified in the 'Bcc Email name' parameter, specify the ad-hoc email address to use.

From user

Specifies how the sender's email addresses, as seen by the recipient, is selected.

*CURRENT	<p>The sender's email address as seen by the recipient is derived from the user ID of the user profile running this command. The email address uses the following format: uuuuuuuuuu@hhhhhhhhhh.dddddddddd where: uuuuuuuuuu is the user ID of the current user hhhhhhhhhh is the TCP/IP host name of this system dddddddddd is the name of the TCP/IP domain of which this IBMi host is a member</p> <p>The later two values are set by the Change TCP/IP Domain (CHGTCPDMN) command</p>
*DFT	The sender email address seen by the recipient is determined by the entry in system default HMC/EMAILFROMADDR
user	The sender email address seen by the recipient is derived from the user ID specified and as detailed in *CURRENT above. The user running this command must have *USE authority to this user ID

Press Page Down to view the third page of parameters for this command.



Subject

Specifies the subject text for the email message. Substitution variables may be used in this parameter. The maximum subject length is 80 characters provided all characters can be encoded using CCSID 367. If CCSID 367 cannot be used, it is replaced by CCSID 1208 (UTF-8) encoding is used and the maximum subject length is restricted to 40 characters. A subject line of up to 256 characters long can be sent via an external SMTP Server. All characters must be encoded using CCSID 367. If not then CCSID 1208 (UTF-8) encoding is used and the maximum length is 128 characters.

*AUTO	The subject comprises the first sentence of text specified in the 'Message text' parameter. This is specifically the beginning of the text up to the first occurrence of a period followed by a space
text	Enter the text, including substitution variables if required, for the email message subject

Substitution variables

Specifies whether to resolve any substitution variables that have been included in the message text and subject parameters.

*NO	Substitution variables in the 'Message text' and 'Subject' parameters are not resolved. Any apparent substitution variables included in these parameters are treated as normal text
------------	---

*YES	Substitution variables in the 'Message text' and 'Subject' parameters are resolved. If a substitution variable is used that does not exist or an existing variable is used out of context, an error occurs and the message is not sent
-------------	--

Email format

Specifies the format of email messages sent via an external SMTP server (see [Sending an email via an external SMTP/POP Server](#) for more information). This setting has no effect if IBM Mail Server Framework (MSF) is being used.

*MIME	Emails sent to an external SMTP server use Multipurpose Internet Mail Extensions (MIME) format
*ARPA	Emails sent to an external SMTP server use ARPA Internet Text format. The ARPA format does not support attachments or use of the Importance flag. If the attempt to send an email attachment in ARPA format is an interactive job, the request is refused. If the attempt is from a batch job then the attachments are removed and the email updated to include: Attachments were dropped; contact sender for information
*AUTO	MIME format is used if attachments are being sent. Otherwise ARPA format is used
*DFT	System default HMC/EMAILFORMAT determines the format to be used

NOTE: The Email Send Format field in predefined email addresses does not effect the **SNDEMLMSG** command.

Priority

Specifies the priority and importance of the message. This parameter is not used when the Email format parameter is set to *ARPA.

*HIGH	The message is set with high priority and importance
*NORMAL	The message is sent with normal priority and importance. This is the default.
*LOW	The message is sent with low priority and importance

Press **Page Down** to view the fourth page of parameters for this command.



Attach stream files path

Specifies the list of stream files to be sent as email attachments with this message. You can specify up to 32 values for this parameter. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

*NONE	No stream file are sent as attachments with this message
path	Specify the path of the stream file to attach

WARNING: Message Communicator may fail on v7.1 or v7.2, when adding an attachment, with error:

```
Not authorized to service program QTMMCU TL in QTCP
```

This is due to an IBM issue which requires the following IBM PTF's to be applied:

v7.1 > SI53118

v7.2 > SI53166

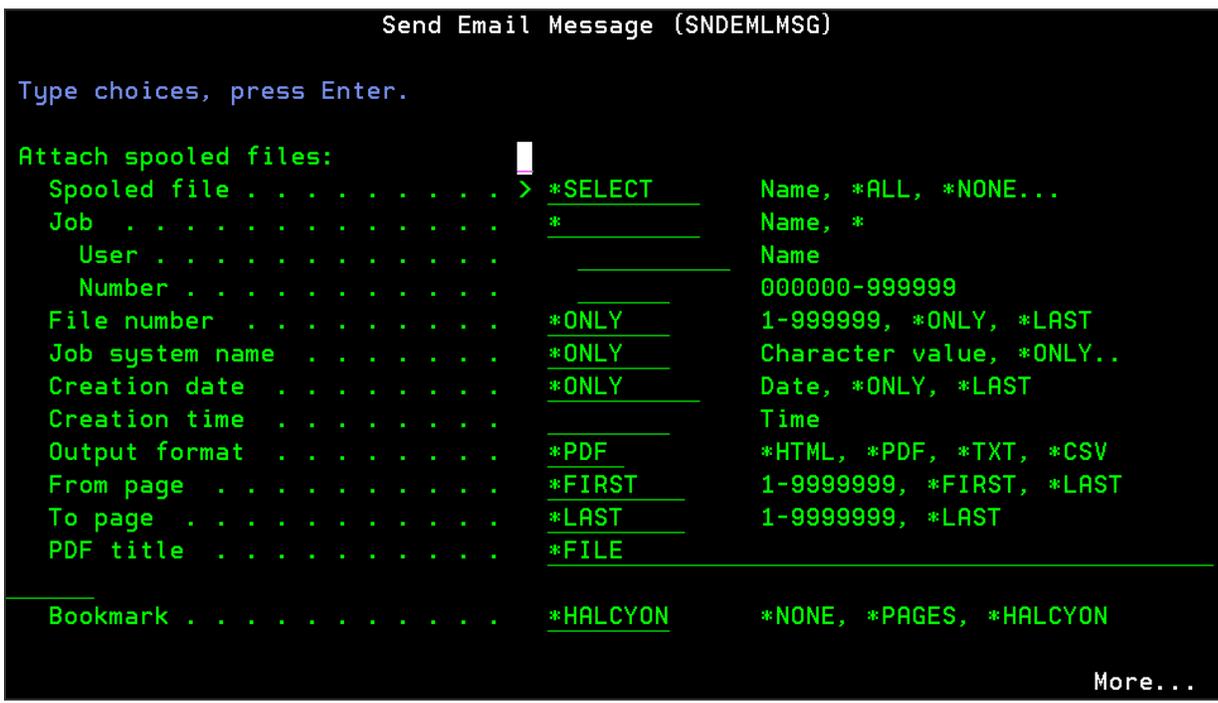
Warning message HMC0354 is added to the message Log when the Primary Message Communicator is started without the required PTF being applied.

Attachment name

Specify the name of the attachment as it appears to the recipient. Use the '+' symbol in the '+ for more values' parameter to enter additional attachment as required.

*FILE	The name of the attachment is taken from the file name in the 'Path' parameter
name	Enter the attachment name

Press **Page Down** to view the fifth page of parameters for this command.



Parameters on this page allow you to convert existing spooled files into stream files and attach them to this email message.

Spooled file

Specifies the list of spooled files to be converted and sent as email attachments with this message. Up to 32 values can be specified for this parameter. Note that when this parameter is set to *ALL or *SELECT, the actual number of spooled file attachments may be more than 32. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

*NONE	No spooled files are sent as attachments with this message
name	Specify the name of the spooled file to attach
*ALL	All the spooled files in the specified job that are in a RDY status are attached
*SELECT	Specifies that all the spooled files in the specified job that are in RDY status and that meet the values specified for the 'Select by Spooled File Name' and 'Select by User Data' elements should be attached

*LAST	The most recently created spooled file in the specified job that is in RDY status is attached
*ACTJOB	Attaches an active jobs report, as created by WRKACTJOB OUTPUT(*PRINT) . This report does not need to exist in advance of this request. The Job, File number, Job system name, Creation date and Creation time elements of this parameter are ignored
*JOBINF	Attached a job information report as created by DSPJOB OPTION (*ALL) OUTPUT(*PRINT) . This report does not need to exist in advance of this request. The File number, Job system name, Creation date and Creation time elements of this parameter are ignored. the Job element of this parameter may be used to specify the job whose information is to be attached
*JOBLOG	Attaches a job log report as created by DSPJOBLOG OUTPUT (*PRINT) . This report does not need to exist in advance of this request. The File number, Job system name, Creation date and Creation time elements of this parameter are ignored. The Job element of this parameter may be used to specify the job whose job log is to be attached. Job logs may be attached even if the job has ended, providing that the job log spooled file still exists on the system
*SYSSTS	Attaches a system status report as created by created by WRKSYSSTS OUTPUT(*PRINT) . This report does not need to exist in advance of this request. The Job, File number, Job system name, Creation date and Creation time elements of this parameter are ignored

Job

Specifies the qualified job name of the spooled file.

*	The job that issued this command is the job used
name	Specify the name of the job

Job user

Specify the user name that identifies the user profile under which the job is run.

Job number

Specify the system-assigned job number within the range 000000-999999.

File number

Specifies the number of the spooled file, from the job whose data records are to be copied.

*ONLY	Only one spooled file in the job has the specified file name. The number of the spooled file is not necessary
*LAST	The spooled file with the highest number and specified file name is used
1=999999	Enter the number of the spooled file of which the data records are to be copied

NOTE: This element is ignored if Spooled file name is *ALL.

Job system name

Specifies the name of the system on which the spooled file was created.

*ONLY	There is only one spooled file matching the specified criteria
*CURRENT	The spooled file was created on the local system
*ANY	The first spooled file matching the criteria specified but disregarding the system name
name	Specify the name of the system on which the spooled file was created

Creation date

Specifies the date on which the spooled file was created.

*ONLY	There is only one spooled file with the specified criteria. The 'Creation time' parameter must be left blank
*LAST	The most recent spooled file with matching attributes. The 'Creation time' parameter must be left blank
Date	Enter the date on which the spooled file was created in 6 character system date format (with or without separators)

Creation time

Specifies the time at which the spooled file was created.

Blank	Leave this parameter blank whenever the 'Creation date' parameter is *ONLY or *LAST
Time	Enter the time at which the spooled file was created in 6 character system time format (with or without separators)

Output format

Specifies the output format of the spooled file data.

*PDF	The spooled file data is converted to Portable Document Format
*HTML	The spooled file data is converted to Hypertext Markup Language format
*TXT	The spooled file data is converted to Text format
*CSV	Comma Separated Values are used. The CSV field definitions are defined on the Work with Report Types display. If the spooled file does not match a defined report type, or no CSV layout has been defined for that report type, the CSV field definitions are determined automatically

NOTE: The *HTML, *TXT and *CSV options require the Halcyon [Spooled File Manager](#) product. The *PDF option also requires the Halcyon Spooled File Manager product if the spooled file type is anything other than *SCS.

From page

Specify the spooled file page number from which the data is copied.

*FIRST	Copy from the first page onwards
*LAST	Copy from the last page onwards
1-9999999	Specify the page number to copy from

NOTE: The entry in this parameter is ignored if Spooled file name is *ALL. In this instance, *FIRST is assumed.

To page

Specify the spooled file page number up to which the copied data is included.

*LAST	Copy to the last page
1-9999999	Specify the page number to which the copied data is included

NOTE: The entry in this parameter is ignored if Spooled file name is *ALL. In this instance, *LAST is assumed.

PDF title

Specifies the title of the PDF document to be created.

*FILE	The value specified for the spooled file name parameter is used as the PDF title
title	Specify the PDF title

NOTE: The entry in this parameter is ignored if Spooled file name is *ALL. In this instance, *FILE is assumed.

Page size name, if AFPDS

Specifies for *AFPDS type spooled files only, the paper size that the image is to be transformed into and the orientation of the image on the page.

*DEFAULT	The standard paper size is used
LETTER	The paper size used is 8.5 x 11 inches
LEGAL	The paper size is 8.5 x 14 inches
EXECUTIVE	The paper size is 7.25 x 10.5 inches
LEDGER	The paper size is 11 x 17 inches
A3	The paper size is 297 x 420mm
A4	The paper size is 210 x 297mm
A5	The paper size is 148 x 210mm
B4	The paper size is 257 x 364mm
B5	The paper size is 182 x 257mm
CONT80	The paper size is 8 inches wide and a continuous form
CONT132	The paper size is 13.2 inches wide and a continuous form

Press **Page Down** to view the sixth page of parameters for this command.

```

Send Email Message (SNDEMLMSG)

Type choices, press Enter.

Orientation, if AFPDS . . . . . _____ *PORTRAIT, *LANDSCAPE
Bookmark . . . . . _____ *NONE, *PAGES, *HALCYON
Control position . . . . . _____ 1-255, *AUTO
Stream file code page . . . . . _____ 1-32767, *SYSDFT, *PCASCII...
Attachment name . . . . . _____

+ for more values _
Log results . . . . . *OFF *OFF, *SUMMARY, *DETAIL
Retain MIME file . . . . . *NO *YES, *NO

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
    
```

Orientation, if AFPDS

Specifies for *AFPDS type spooled files only, the orientation of the image on the page.

*PORTRAIT	The image is in portal orientation (Vertical)
*LANDSCAPE	The image is in landscape orientation (Horizontal)

Bookmark

Specifies whether and how to create bookmarks in the PDF document.

*NONE	No bookmarks are created
-------	--------------------------

<p>*PAGES</p>	<p>A bookmark is created for each page of the report. If the spooled file contains less than 20 pages, the PDF contains a single level of bookmark for each page. If the spooled file contains between 20 and 199 pages, the PDF contains 2 levels of bookmarks, with the top level containing bookmarks for pages 1-9, 10-19, 20-29 and so on. Expanding a top level bookmark reveals the bookmarks for the pages within that range. If the spooled file contains more than 200 pages, the PDF contains 3 levels of bookmarks using the same expansion method as before</p>
<p>*HALCYON</p>	<p>Bookmarks are created using Halcyon bookmark definitions which comprise of two parts:</p> <p>Line definitions. These tell the CPYTOPDF command which lines in the spooled file to bookmark. Output %1 to %4 as required starting at the control position of the report. %1 indicates a top level bookmark and %4 indicates the lowest level. When only one level is required, use %1. When two levels are required use %1 and %2, and so on</p> <p>Column definitions. These tell the CPYTOPDF command, the start position and length of the text to use for the bookmarks at each level. these definitions must be written into the User Defined Data of the spooled file. To do this, use the Override with Printer File (OVRPRTF) command and set the data using the 'User Defined Data' parameter. The data should be in this format: %1=S.L; %2=S.L; %3=S.L; %4=S.L; Where S is the starting position and L is the length for the bookmark text at each level. It is only necessary to provide the declarations for the levels actually used. The maximum length supported is 64. Instead of an actual length, the special indicator* may be used for L.</p>

Control position

Specifies, when 'Bookmark - *HALCYON' is used the starting position of the line definitions in the spooled file. Specify a value between 0 and 255.

<p>*AUTO</p>	<p>The line definitions use the right-most two columns of the file</p>
<p>1-256</p>	<p>Specify the starting position of the line definitions</p>

Stream File Option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. the existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Stream File Code Page

Specifies the method of obtaining the stream file code page and the CCSID equivalent of the code page that is used for data conversion.

*SYSDFT	The value specified for the HAL/STMF CODPAG system default is used
*PCASCII	If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, a code page in the Microsoft Windows encoding scheme (X4105) is calculated. This code page is associated with the target stream file and is used for data conversion if requested. The resulting data can be used by Microsoft Windows applications
*STDASCII	If the stream file exists, this option is only valid if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, a code page in the IBM PC data encoding scheme (X2100) is calculated. this code page is associated with the stream file when it is created
1-32767	Specify the code page used. If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, the specified code page is associated with the stream file when it is created

Attachment name

Specify the name of the attachment as it appears to the recipient.

*FILE	The attachment name is the spooled file name appended with the format type (.HTML, .PDF or .TXT)
name	Specify the name of the attachment

NOTE: This element is ignored if spooled file name is *ALL. In this case, *FILE is assumed.

Select by Spooled file name

Specify the name of the spooled files to attach.

*ALL	Selects all spooled file names
generic	Specify the simple or generic name of the spooled files to attach. The supported generic formats are NNN, *NNM and *NNN*
name	Enter a specific spooled file name

NOTE: This element is ignored if the Spooled file parameter is not set to *SELECT.

Select by User data

Specify the user data of the spooled files to attach.

*ALL	Selects all user data
user data	Select spooled files that match the specified user data

NOTE: This element is ignored if the spooled file parameter is not set to *SELECT.

Zip attachments

Specifies whether to package all stream files and spooled files being sent with this email into a single zip file.

*SYSDFT	System default HMC/EMAILZIPATTACH determines whether to package stream and spooled file into a zip file
*YES	All stream and spooled files sent with this message are sent in a single zip file attachment named attachments.zip
*NO	All stream files and spooled files being sent with this message are sent as individual attachments

NOTE: This option requires Java to be installed.

Log results

A completion or error message is always returned to the program or display that ran this command. This parameter specifies whether messages should also be logged to the Halcyon [Message Log](#).

*OFF	No messages are logged to the Halcyon Message Log
*SUMMARY	A copy of the final completion or error message is logged to the Halcyon Message Log
*DETAIL	A message is logged for each recipient to which the message is sent and not sent (due to pre-defined email addresses being Held). The final completion message is also logged

Retain MIME file

Specifies whether to retain the MIME sub-directory and work files for this message on completion of the command. Retaining these can be useful when resolving email problems.

*NO	The MIME sub-directory and work files are deleted on completion of this command
*YES	The MIME sub-directory and work files are retained on completion of this command

The MIME sub-directories are located in the MIME directory which is in the default directory specified by the [HAL/DFTDIR](#) system default. The shipped value for this system default is /HALCYON/HALxxx/MIME where xxx is your Halcyon environment code.

The sub-directory for a given email message has the same name as the Email Message ID for the that message, e.g. M20100317123456789, comprising M then date in yyyymmdd format then a 9 digit number unique allocated to each message.

The MIME sub-directory contains:

- EMAIL.MIME which is the MIME file that contains a representation of the message including text representation of all attachments. If QMSF successfully processes the MIME file, it automatically deletes it.
- Temporary stream files for any spooled file attachments.

Press **Enter** to send the email message with the specified parameters.

Notes

- Message HMC0380 received. This error occurs when the **SNDEMLMSG** command is used to send to a *SECURE external SMTP server and DEFAULT.KDB or DEFAULT.RDB do not exist. See [Digital Certificate Manager](#) for more information.

Sending an email via an external SMTP/POP Server

From within Message Communicator, it is possible to send an email via an external SMTP/POP Server and includes support for Gmail SMTP. This functionality still uses the [Send Email Message \(SNDEMLMSG\) Command](#) but is controlled via the entries in a series of system defaults.

See system default [HMC/SMTPSERVERRATE](#) for the maximum number of emails that can be sent via an external SMTP server within a one minute time period.

Emails with a subject line of up to 256 characters long can be sent via an external SMTP Server providing long if sent via an external SMTP Server. All characters must be encoded using CCSID 367. If not then CCSID 1208 (UTF-8) encoding is used and the maximum length is 128 characters.

NOTE: Emails that fail to be sent on the first attempt can be resent using settings within systems defaults [HMC/EMAILRETRY](#) and [HMC/EMAILRETRYINTV](#).

SMTP Configuration

The method used to send emails is controlled by the following system defaults:

- [HMC/EMAILMETHOD](#)
 - This defines whether to use Distribution Services (*DSTSRV) or SMTP (*SMTP)

When the HMC/EMAILMETHOD system default is set to SMTP, the following system default applies:

- [HMC/SMTPSERVER](#)
 - This defines whether to use *NONE or an external SMTP Server.

If the HMC/SMTPSERVER system default is set to SMTP Server, the following system defaults also apply:

- [HMC/SMTPSERVER](#)
 - This defines the Host name or IP address of the SMTP server.
- [HMC/SMTPSERVERPORT](#)
 - This defines the Port used to connect to the SMTP server.
- [HMC/SMTPSERVEROPT](#)
 - This defines whether to use STARTTLS secure or a plain connection.

- [HMC/SMTPSERVERTMOUT](#)
 - This defines the number of seconds the system waits for a response after sending a command to the SMTP server

Substitution Variables

In addition, where login credentials are required you may need to create the following substitution variables for the user and password in order to connect to the SMTP server. See [Creating a Substitution Variable](#) and [Creating a two-part *PROT Substitution Variable for high sensitivity passwords](#) for more information on creating these variables.

&SMTPUSER

This is optional but is required if the SMTP server requires logon.

&SMTPPWD

This is optional but is required if the SMTP server requires logon. This should be a *PROT substitution variable so not as to expose the password.

SMTP Hosting Server Configuration

Hosting Server	SMTP Outgoing Server	Connection Type	Port	From Address	&SMTPUSER	&SMTPPWD
Office365	SMTP.OFFICE365.COM	*STARTTLS	587	user@company.onmicrosoft.com user@company.com	user@company.onmicrosoft.com user@company.com	account password
Exchange	SMTP.COMPANY.COM	*STARTTLS	465	user@company.com (ie halcyon.alerts@company.com)	authorised logon account (ie JBLOGGS)	account password
Exchange	SMTP.COMPANY.COM	*PLAIN	25	user@company.com (ie halcyon.alerts@company.com)	no login	no password
Gmail	SMTP.GMAIL.COM	*SECURE	465	user@gmail.com	user@gmail.com	account password
Gmail	SMTP.GMAIL.COM	*STARTTLS	587	user@gmail.com	authorised logon account (ie JBLOGGS)	account password

Use the table above to define the correct Hosting Server settings for the following system defaults:

[HMC/EMAILFROMADDR](#) - Set to the relevant entry in the **From Address** column

[HMC/SMTPSERVER](#) - Set to the relevant entry in the **SMTP Outgoing Server** column

[HMC/SMTPSERVEROPT](#) - Set to the relevant entry in the **Connection Type** column

[HMC/SMTPSERVERPORT](#) - Set to the relevant entry in the **Port** column

Once you have configured the system defaults for the Hosting Server type that you are using, you are ready to test the settings.

IMPORTANT: The Primary Communications Monitor (HMCCOM) must be active prior to running the test.

Use the following command to test the configuration (replacing 'xxxx' with the name of the environment in which you are testing and 'to_address' with the actual recipient email address).

```
HMCxxxx/SNDEMLMSG MSG('Halcyon test') TO((*EMAIL to_address)) FROM (*DFT) MIMERETAIN(*YES)
```

If the test email is not received, please contact Halcyon Technical Support: support.halcyon@fortra.com for assistance.

POP Configuration

It is highly recommended that you create a dedicated account that is used to receives replies/commands that are processed by Halcyon, as all read emails from the POP account are deleted after processing.

TIP: Exchange, Gmail and Office365 are all supported for POP processing by Halcyon.

Gmail Deletion Configuration

When Gmail is used, please update the deletion behavior configuration using the following instructions.

1. Log into the Gmail account that you created/ are using for Halcyon
2. From the upper-right corner, click the Cog symbol  to open the Settings menu.
3. From the drop-down menu, click **Settings**.
4. From the menu bar on the Settings dialog, click **Forwarding and POP/IMAP**.

[General](#) [Labels](#) [Inbox](#) [Accounts and Import](#) [Filters](#) [Forwarding and POP/IMAP](#) [Chat](#) [Labs](#) [Offline](#) [Themes](#)

- Set the POP Download entry 'When messages are accessed with POP to 'delete Gmail's copy' as shown in the screen shot below:

POP Download:
[Learn more](#)

1. Status: POP is enabled for all mail that has arrived since 12:41 pm

Enable POP for all mail (even mail that's already been downloaded)
 Enable POP for mail that arrives from now on
 Disable POP

2. When messages are accessed with POP delete Gmail's copy

- Click **Save Changes** to save the settings.

POP Hosting Server Configuration

The following entries are supported for the POP (incoming) functionality. This is used for 2-way emails and is the mailbox that 'collects' replies or commands sent into the Halcyon monitoring product.

Hosting Server	POP Incoming Server	Connection Type	Port	From Address	Account Name	Password
Office365	OUTLOOK.OFFICE365.COM	*SECURE	995	user@company.onmicrosoft.com user@company.com	user@company.onmicrosoft.com user@company.com	account password
Exchange	POP.COMPANY.COM	*STARTTLS	110	user@company.com (ie halcyon.alerts@company.com)	authorised logon account (ie JBLOGGS)	account password
Gmail	POP.GMAIL.COM	*SECURE	995	user@gmail.com	user@gmail.com	account password

To configure POP within Message Communicator, select option **31=Work with Communications Resources**.

Press **F6** to create a new communications resource. Populate this display with the required POP3 details as detailed in the table above. An example entry is shown below.

```

Name . . . . . COM3
Description . . . . . GMAIL POP (995)
Comm port . . . . . *POP *NETGSM, *EMAIL, *POP, F4=Prompt
Mail server (POP3) . . . . . POP.COMPANY.COM

Port . . . . . 995 1-65535
Connection type . . . . . *SECURE *PLAIN, *SECURE, *STARTTLS
Account name . . . . . replies@company.com

Password . . . . .
Password (to verify) . . . . .
Retrieve interval . . . . . 1 1-60 mins
Logging level . . . . . *VERBOSE *QUIET, *VERBOSE
    
```

Notes

- The name field uses the next unique COM* entry that is available. As the product ships with a default entry of COM1, it is possible that the entry you create has a unique name of COM2 or higher. This name is for internal Halcyon reference only and has no impact on the communication resources available when using the command WRKHDWRSC *CMN.
- Once configured, the Retrieve interval setting determines the frequency with which this POP resource connects to the mailbox and checks for new emails to be processed.
- Message HMC0386 is received when adding/updating a *POP resource with type *SECURE and DEFAULT.KDB or DEFAULT.RDB do not exist or the HMC monitor is not authorized to use them.

Testing the POP Configuration

To test the entered configuration, send an email to the POP account referenced in the 'Account name' parameter. In our example instance, the entry would be 'replies@company.com'.

Check the [Communications Log](#) (option **2=Display Communications Log** from the Message Communicator main menu) to see the COM* resource entry that is visible if it was possible to connect to the mailbox and retrieve any emails found.

If the COM* entry is not shown please contact Halcyon Technical Support: (support.halcyon@fortra.com) for assistance.

Valid email responses

The format of the reply should be structured as shown in the examples below and be entered in the subject line without any other content. The body of the email is ignored.

Replying to inquiry alerts

To:	replies@company.com
Cc:	
Bcc:	
Subject:	Ref.1234 Rpy.C

Running a command with password authentication

To:	replies@company.com
Cc:	
Bcc:	
Subject:	Pwd.password Cmd.DLYJOB 1

Closing an alert

To:	replies@company.com
Cc:	
Bcc:	
Subject:	Ref.1234 Cls.

For further information on other 2-way responses that are available from within Message Communicator please see [2-way email](#) and [Work with Phones](#) (SMS options).

Digital Certificate Manager

Where message HMC0386 is received, please follow the details provided in the message text shown on the IBMi. Alternatively, use the instructions below to resolve the issue.

- Verify that the key database exists by using the following command:
`wrklnk '/QIBM/UserData/ICSS/Cert/Server/*'`
to check the directory contains files DEFAULT.KBD and DEFAULT.RBD.
- If the key database does not exist, ensure that the Digital Certificate Manager is started.
 - Check that the **QHTTSPVR** subsystem is active and a specific set of ADMIN* jobs are running based on the operating version you have installed (see: <http://www-01.ibm.com/support/docview.wss?uid=nas8N1010356> for specific job details).
 - If **QHTTSPVR** is not running, you can issue command **STRTCPSVR SERVER (*HTTP) HTTPSVR HTTPSVR(*ADMIN)**. We recommend you check with your IBMi system administrator prior to running this command.
- If the DCM service is started and the QHTTSPVR ADMIN* jobs are active, access the DCM management portal and check if the *SYSTEM certificate store exists. Use the following URL to access the DCM portal, replacing systemname with your IBMi system/LPAR name:
`http://systemname:2001/QIBM/ICSS/Cert/Admin/qycucm1.ndm/main0`
- If the *SYSTEM store does not exist then you must manually create it. Use the information in the following link: <http://www-01.ibm.com/support/docview.wss?uid=nas8N1010356> on how to create a server

certificate. Once complete, check under the *SYSTEM store that a server certificate has been created.

Should you continue to experience issues, please contact Halcyon Technical Support (support.halcyon@fortra.com)

2-way Email

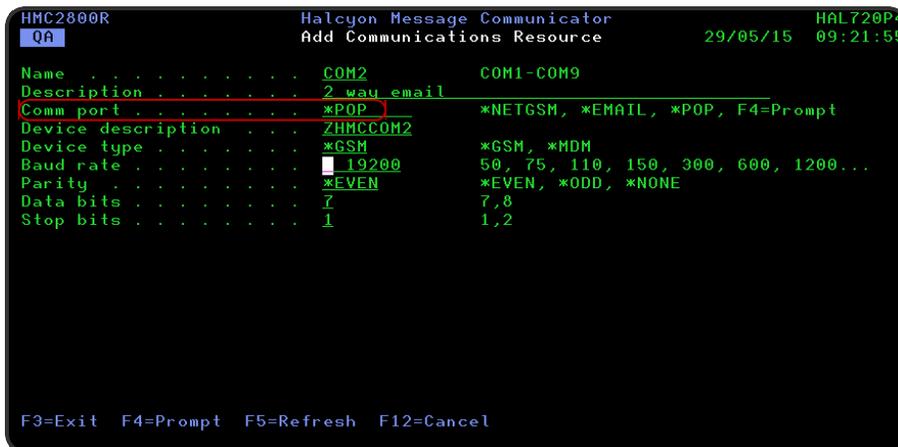
Message Communicator supports 2-way email via a Post Office Protocol (POP) email server, which behaves in the same way as 2-way SMS. This provides the ability to interact with IBMi via email commands as well as SMS commands.

TIP: It is recommended that you set up and use an email address specifically for the purpose of 2-way email. See [Adding an Email Address](#) for more information.

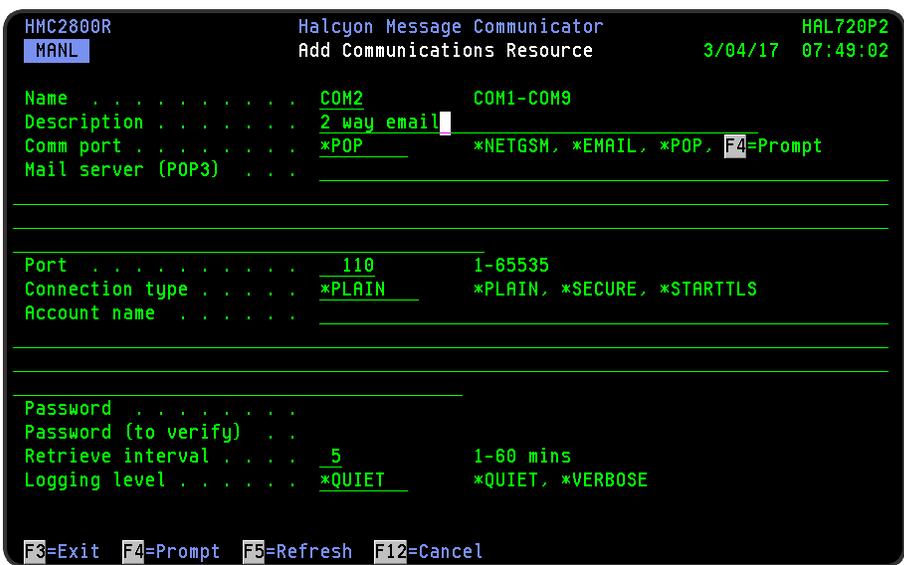
Use the following steps to setup Message Communicator for the use of 2-way email.

Work with Communications Resources

1. From the main Work with Communications Resources display, option **31 =Work with Communications Resources**, use **F6=Add** to create a new communications resource.



2. Specify the 'Comm port' parameter as ***POP** and complete the other 'parameter details as required.
3. Press **Enter** to display additional parameters into which you can specify the POP server details.



Parameters on the Add Communications Resource display

The following additional parameters on the Add Communications Resource display can be used for the purposes of 2-way email.

Mail server (POP3)

Specify the host name or IP address of the required POP3 mail server. (such as POP3.example.com)

Port

Unless otherwise instructed, leave this set to 110 as this is the default used by the majority of POP3 mail servers. Otherwise, enter a port number between 1 and 65535.

Connection type

Specifies the POP server connection type.

*SECURE	Use this setting to establish a secure connection by connecting to a secure port (typically 985) using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1
*STARTTLS	Use this setting to establish a connection using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1 by connecting to a plain text port and then upgrading the connection to secure using STARTTLS
*PLAIN	Use this setting to establish a plain connection by connecting to a plain text port (typically 110)

NOTE: Transport Layer Security (TLS) can use TLS v1.2 or v1.3 when communicating with servers to send email

Account name

Enter the account name or email address used to log on to the mail server. (such as someone@example.com)

Password

Enter the password associated with the account name or email address required to sign-on to the mail server. Re-enter the password for verification purposes.

Retrieve interval

Specifies how often to check for new mail. The default time interval is 5 minutes. Type the required interval between checks in minutes.

Logging level

Specifies the amount of information to be written to the communications log when contacting the mail server.

*QUIET	Summary information is logged
*VERBOSE	Full information is logged

Press **Enter** to create the new communications resource to be used for 2-way email.

Notes

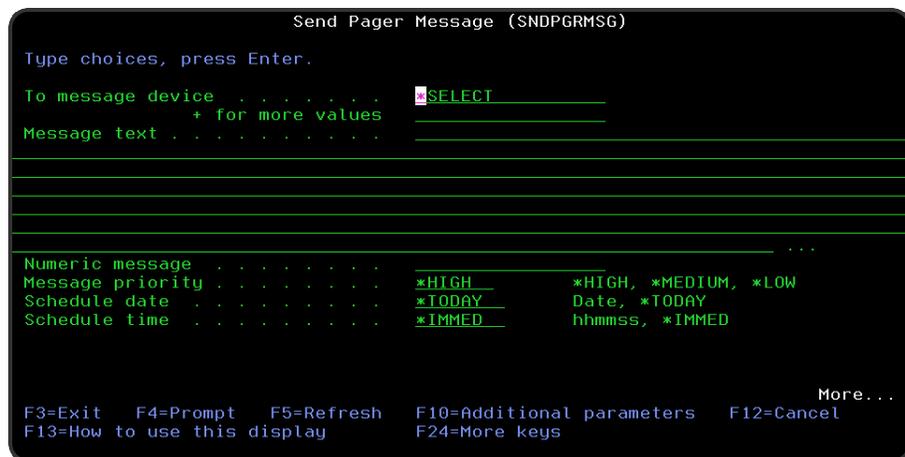
Any inbound emails that use this POP server have the subject line interpreted as the request. Therefore, if replying to an email or issuing a command, the instruction must be sent in the subject line of the message and not in the body text.

Send Pager Message (SNDPGRMSG) Command

The Send Pager Message (**SNDPGRMSG**) command sends a text message to a message device, and ultimately, to one or more mobile phones, pagers, email addresses, escalation lists, or message queues. The message can be described using command parameters, or by specifying TOPGR(*SELECT) or TOPGR(*LIST), a prompt screen is displayed and the message can be described by typing into the fields provided.

This command can also send a message to the default SNMP manager.

IMPORTANT: This command is provided for compatibility with Bytware MessengerPlus. It is recommended that either the Send Text Message (**SNDTXTMSG**) or Send Email Message (**SNDEMLMSG**) command be used instead.



Parameters on the Send Pager Message (SNDPGRMSG) Command

The following parameters are available on this display.

To message device

Specifies the list of message devices to which the message is to be sent. Message devices may be the names of specific mobile phones, pagers, email addresses or message queue recipients, or they may be the names of broadcast groups, call schedules, rosters or escalation lists. If an escalation list is specified, the message is sent only to the first message device in the escalation list, and no escalation occurs, since there is no associated alert. Up to 100 separate message devices can be specified for each message.

If a message device name matches the name specified by system default [HMC/BYTWARESNUMPPGR](#), a message is sent to the SNMP manager specified by system

default [HAL/SNMPMANAGER](#). In this case the value specified does not have to be the name of an existing message device.

*SELECT/*LIST	Specifies that the message prompt display is used
msgdev	Specify the name of the message device to which the message is sent. Multiple devices must be selected

Message text

Enter the text of the message being sent. The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 2048 characters can be specified for this parameter. The actual maximum length that can be sent may be shorter, depending on the actual device the message is sent to.

NOTE: If you are sending to an escalation list, the system default [HMC/ESCADDCOMMSID](#) determines whether to automatically add the comms ID at the start of messages sent when the message is invoked from an escalation list that is not raised as the result of an alert. Additionally, the End Escalation (ENDESC) command has been made available to end an Escalation using the Comms Log ID.

You must specify a value for either the ‘Message text’ or ‘Numeric message’ parameter, but not both.

Numeric message

Specifies a numeric message. You must specify a value for either the ‘Message text’ or ‘Numeric message’ parameter, but not both. Numeric messages may be specified using either parameter.

Message priority

Specifies the priority used to send the message.

When a message is sent to a mobile phone or pager and there is a queue of messages waiting to be sent, the message priority setting is used to determine the order in which messages are sent. If *HIGH priority is specified, the message will be sent as soon as possible, but if *MEDIUM or *LOW is specified and the phone or pager does not accept messages at this time, due to the ‘Time allowed to send’ settings on the phone or pager, the message is not sent until a time is reached when the phone or pager does accept messages.

When a message is sent as an email, this setting specifies which distribution queue is used (if distribution services are used to send the email) and also specifies the message importance.

*HIGH	The message is sent with High priority. Emails are set to High Importance
*MEDIUM	The message is sent with Normal priority. Emails are set to Normal Importance
*LOW	The message is sent with Low priority. Emails are set to Low importance

Schedule date

Specifies the date when this message should be sent.

*TODAY	The current date is used
date	Enter the date on which to send the message. Type a formatted date, with or without date separators. The year may be omitted in which case the current year is assumed

NOTE: : If 'Message priority' *HIGH is specified, this parameter is ignored and the message is sent immediately. Call schedules and rosters are always resolved immediately.

Schedule time

Specifies the time when this message should be sent.

*IMMED	The current time is used
time	Specify the time to send the message. Specify a time, with or without separators. Seconds may be omitted

NOTE: If 'Message priority' *HIGH is specified, this parameter is ignored and the message is sent immediately. Call schedules and rosters are always resolved immediately.

Email stream file

Specifies the path of the stream file or other object to be sent as an email attachment. If an attachment is specified, it is sent with all email messages sent by this command, whether specified directly or via a broadcast group. Specify the path of the stream file or other object to attach, or leave blank for no attachment. System default [HMC/EMAILATTMAX](#) controls the maximum size of attachments.

Examples

To attach stream file /HALCYON/HALPROD/Report.Csv type:
ATTACH('/HALCYON/HALPROD/Report.Csv')

To attach document REPORT.DOC in folder HALCYON/HALPROD type:
ATTACH('/QDLS/HALCYON/HALPROD/REPORT.DOC')

To attach save file HALCYON in library QGPL type:
ATTACH('/QSYS.LIB/QGPL.LIB/HALCYON.FILE/HALCYON.MBR')

Severity

This parameter has no function in this version of the command.

Page count

This parameter has no function in this version of the command.

Page interval in minutes

This parameter has no function in this version of the command.

Confirmation message

This parameter has no function in this version of the command.

Replies

This parameter has no function in this version of the command.

Job

This parameter has no function in this version of the command.

Functions on the Send Pager Message Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

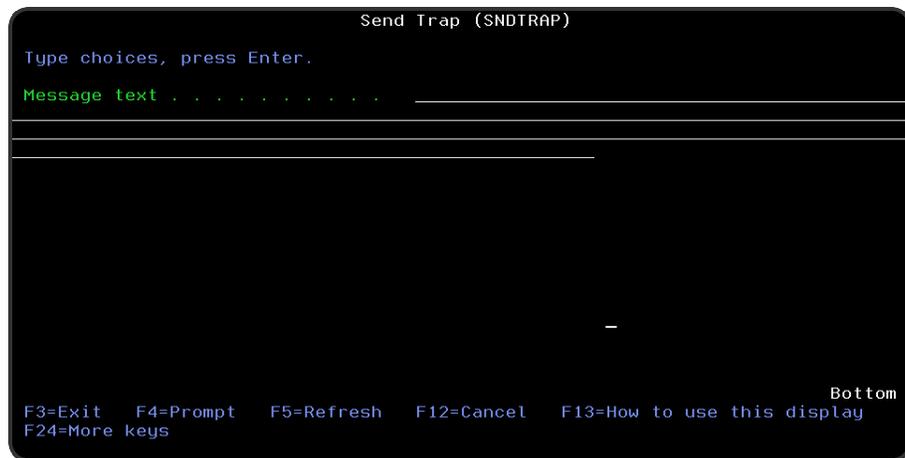
Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Send SNMP Trap (SNDTRAP) command

The Send SNMP Trap (**SNDTRAP**) command can be used to send an SNMP Trap to the default SNMP Manager as defined in the system default [HAL/SNMPMANAGER](#).



Parameters on the Send SNMP Trap (SNDTRAP) Command display

The following parameters are available on this display.

Message text

Specifies the text of the message to send. The text must be enclosed in apostrophes if it contains blanks or other special characters. A maximum of 256 characters can be specified for this parameter. Substitution variables may be used in the message text.

Press **Enter** to send the message text as an SNMP trap to the default SNMP Manager.

Functions on the Send SNMP (SNDTRAP) Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Using the REST/GRAPH API and OAuth2 Protocol To Receive and Send Emails From Microsoft Accounts

Overview

The OAUTH protocol allows emails to be sent and/or received using the Microsoft Graph API.

This protocol requires a dedicated mailbox that is configured in a Microsoft Entra ID tenant (formerly known as Azure AD). The mailbox specified in the Halcyon system default [HMC/OAUTHFROMADDR](#) will be used by Halcyon Message Communicator. Mail sent from the IBM i will be retained in the sent items folder, mail sent to the mailbox can be retrieved into the IBM i, after which it is deleted from the in box.

The instructions in this section create an application that can access any mailbox. The Halcyon code directs the graph API to use the mailbox configured in the [HMC/OAUTHFROMADDR](#) system default. You need to take additional steps to restrict the API access to a specific mailbox in the graph API. You should do this before attempting to use this configuration.

Large attachments (up to 150Mb) are supported when using OAuth to send emails.

See the following link for more information: <https://learn.microsoft.com/en-us/graph/auth-limit-mailbox-access>

System Requirements

The following are the requirements for both Microsoft Azure and IBM i systems.

Microsoft Entra ID (Azure)

1. You must have Administrator rights in your Entra IDTenant.
2. You must use a Microsoft Email account that is purely for receiving messages into Halcyon IBM i Message Communicator.

IBM i

1. IBM i 7.2 or above.

NOTE: IBM OS levels below IBM i 7.2 are not capable of supporting OAuth2.

2. Latest IBM PTF Cumulative.

NOTE: There are some IBM PTFs that have been released to make this feature work.

3. Digital Certificate Store enabled.

TIP: This is usually in: /QIBM/USERDATA/ICSS/CERT/SERVER/DEFAULT.KDB

4. Halcyon IBM i (including Message Communicator) Build 2022.245 or above.

5. Firewalls: The IBM i must be allowed to communicate with the internet.

Microsoft Entra ID (Azure) Configuration

Register Halcyon Message Communicator as an Application with Microsoft Entra ID (Azure)

Use the following steps to register a Client App named “Halcyon_Message_Communicator” in the Entra ID (Azure) portal.

1. In a web browser, open the Azure portal: <https://portal.azure.com/#home>
2. Under **Manage Azure Active Directory**, click **View**.
3. Click **App registrations**.
4. Click **New registration**.
5. In the Name field, type **Halcyon_Message_Communicator**.
6. In the Supported account types section, choose who can use this application or access this API by selecting the radio button next to one of the three account types. The **Help me choose...** link supplies definitions for the different account types.
7. Click **Register** to register the Halcyon_Message_Communicator application. The Overview page displays information, including the Application (client) ID and Directory (tenant) ID which are used later when configuring the Halcyon resource.
8. Copy the **Application (client) ID** and **Directory (tenant) ID** values into a text editor to use in the Halcyon configuration.

Create a Client Secret

The client secret will be used later when adding a Communications Resource in Halcyon Message Communicator.

1. Click **Certificates & secrets**.
2. In the Clients secrets section, click **New client secret**.
3. Enter a description into the **Description** field.
4. Select when the client secret expires.
5. Copy the generated client secret into a text editor as it is required later. The value will be hidden on return to this screen.

WARNING: Copy the client secret value immediately because it will not be displayed again after the initial creation.

TIP: You can add a new secret at any time and delete the old one but you then have to update the Halcyon Communications Resource.

Add API Permissions for Microsoft Graph

Adding API permissions allows applications to access the configured resources.

1. Click **API permissions**.
2. Click **Add a permission**.
3. Select **Microsoft Graph**.
4. Select **Application permissions**.
5. Scroll down to **Mail** and expand the option.
6. Select **Mail.ReadWrite**.

NOTE: Note: Mail.Send isn't required.

7. Click **Add Permissions**.

Add App role

App roles are custom roles to assign permissions to users or apps.

1. Click **App Roles**.
2. Click **Create App Role**
3. Define the Display name as **Halcyon Email Access**.
4. Define the Allowed member type as **Applications**.
5. Define the Value as **Halcyon**.
6. Enter a Description of **Halcyon HMC Email Access**.
7. Ensure that the App role is enabled.
8. Click **Apply**.

Checklist

You should have the following values copied and available for the configuration of the Halcyon Communications Resource in Message Communicator:

- The **OAuth Server Name (SNI)**: (www.graph.microsoft.com)
- The **Tenant ID** for the account.

- The **Client ID** for the Halcyon_Message_Communicator App.
- The **Client Secret** for the Halcyon_Message_Communicator App.

Halcyon IBM i Message Communicator Configuration

System Defaults

The following Halcyon System Defaults need to be set:

[HMC/EMAILFROMADDR](#) - Mailbox address @tenant domain used in email send.

[HMC/EMAILMETHOD](#) - *OAUTH

[HMC/SMTPSERVER](#) - NONE

[HMC/EMAILFORMAT](#) - *MIME

[HMC/OAUTHCERTSTORE](#) - Oauth Certificate Store.

EXAMPLE: /QIBM/USERDATA/ICSS/CERT/SERVER/DEFAULT.KDB

[HMC OAUTHFROMADDR](#) - Oauth mailbox user. (same as HMC/EMAILFROMADDR for email retrieve.

EXAMPLE: HALCYON_REPLY@fortra.com

[HMC/OAUTHRESOURCE](#) - The name of the Message Communicator resource that you are using to send and receive emails using the OAuth protocol.

EXAMPLE: COM3

[HMC/OAUTHLOGFILE](#) - Oauth Log file. Allows you to output information to a log file. The specified folder path must exist.

EXAMPLE: /halcyon/halprod/oauthtrace.log

WARNING: If any of the System Defaults are not set or set incorrectly then the configuration will fail.

Communications Resource

A Communications Resource of type *OAUTH needs configuring within Message Communicator.

1. Select **GO HALCYON > 21 Halcyon Message Communicator > 31 Work with Communication Resources** or type **HMCPROD/WRKCMNRSC**.
2. Use **F6=Add**.
3. Enter a **Name** and **Description** for the new Communications Resource.
4. Define the Comm port to ***OAUTH** and press **Enter** to open the rest of the configuration.
5. When prompted provide the **OAUTH Server Name (SNI)**, **Tenant ID**, **Client ID** and **Client Secret** as saved from the Microsoft Azure account.
6. Press **Enter** to create the Communications Resource.

IMPORTANT: You can only have a single *POP or *OAUTH Communications resource released at any one time.

Additional information

Changing the Log File path to an IFS path

You can change Halcyon System Default [HMC/OAUTHLOGFILE](#) to an IFS file path and when the receive is processed it will output to the specified log file.

Messages sent to the Halcyon Message Log

Also, various messages are output to the Halcyon Message Log.

Examples:

1. **System Default not set.**
Message: HMC0513 Invalid email from address *NONE for *OAUTH resource.
Cause: Check that system default HMC/OAUTHFROMADDR is correctly set.
2. **Unable to communicate (such as Internet access blocked).**
Message: HMC0511 Email retrieval failed
Cause: PE3025 Call Failed: Parameter not valid

System Event Manager

Overview

System Event Manager is the component of Halcyon that monitors job and output queues, user profiles, inactivity and devices. These objects do not generate system messages yet can hold up processing or cause performance issues having a major impact in the efficiency of your business.

Possible actions that can be taken include executing a command, sending the message to a cell phone or email address and forwarding the details to a central graphical display application known as the Enterprise Console. Additionally, action schedules can be created so that different actions can be taken depending upon the time of day when the message was received. Escalating actions can be defined for recurring events.

Performance thresholds can be set up and alerts sent out if those thresholds are exceeded. Additionally, the status of any object can be automatically changed, for example, held job or output queues can be released.

Job Queue Monitor

Check the status of any job queue, if the number of jobs in the queue exceed a pre-defined threshold or see if a job has been waiting too long to be processed. You may want to monitor a job queue to see if there are more than ten held jobs currently in the queue and if so, send a notification message and then automatically release jobs so that the backlog is reduced.

IMPORTANT: Check to ensure that the following IBM PTFs have been applied in order to resolve an IBM API issue that can cause problems with Halcyon Job Queue Monitoring.

- v7.1 - SI63584
- v7.2 - SI63526
- v7.3 - SI63525

A Message is added to the Halcyon Message Log if these have not been applied.

Device Monitor

Checks the status of any device such as, printers, tape drives and so on. For example, you may want to check that your tape device is active prior to leaving for the weekend to ensure that any backups do not fail because the device was not available.

Output Queue Monitor

Checks the status of any output queue, the number of spooled file entries on a queue, if the number of pages exceeds the threshold for a specified spooled file and so on.

You may want to monitor an output queue to see if there are more than a hundred spooled files currently in the queue and if so, send a notification message and then automatically print specific spooled files so that the backlog is reduced.

Performance Monitor

Rules can be set against this monitor so that alerts are generated if user-defined thresholds are breached.

Inactivity Monitor

The Inactivity Monitor can monitor any interactive job, including those connected via TCP/IP, to detect when a job has been inactive for more than a specified amount of time. Different selection criteria can be applied to different groups of jobs, users or subsystems.

The action taken can be made dependent on the program being run, the job status (for example, LCKW, DSPW and the like), the user or the time of day, and so on.

Signed-on sessions can be disconnected or ended.

Distribution Queue Monitor

The Distribution Queue Monitor can monitor the status of any distribution queue as well as the queue depth.

User Profile Monitor

The User Profile Monitor can monitor the status of user profiles, detecting any that become disabled. The storage used by each user profile can also be monitored.

Object Monitor

The Object Monitor can monitor the existence of any type of object, including objects in the IFS. It can also monitor for the existence of a member within a file.

If a file exists, the monitor can check to see whether it contains any data and/or if it contains more than the specified number of records.

The contents of data areas can also be checked against specific values.

Getting there

Select option 22=Halcyon System Event Manager from the Halcyon main menu.

```

HEM                               QA Environment                               HAL720P4
QA                               Halcyon System Event Manager       19/03/15  11:02:03
Select one of the following:

  1. Display Message Log
  2. Work with Alert Log
  3. Work with Monitors

  5. Work with Rules
  6. Work with System Defaults
  7. Work with Substitution Variables

 40. Reports Menu

 42. Configuration Menu

 70. Display Product Information
 71. Display System Information

Bottom

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel

```

Quick access

From the System Event Manager menu you can access the following options:

Option	Function
Display Message Log	Displays the message log subsetting for messages generated by Message Manager
Work with Alert Log	Displays the alert log subsetting for alerts generated by Message Manager
Work with Monitors	Opens the Work with Monitors display subsetting by the monitors specific to Message Manager
Work with Rules	Opens the Work with Rules display subsetting by the rule groups applicable to Message Manager
Work with System Defaults	Opens the Work with System Defaults display subsetting for system defaults applicable to Message Manager
Work with Substitution Variables	Opens the Work with Substitution Variables display subsetting for substitution variables applicable to Message Manager
System Event Manager Reports	Displays the list of reports available within System Event Manager
System Event Manager Configuration	Allows access to the configuration options available within System Event Manager

<u>Display Product Information</u>	Displays the current Halcyon product information for this system
<u>Display System Information</u>	Displays the current system information for this device

Display Message Log

The System Event Manager - Display Message Log option displays all messages generated by the System Event Manager product installed on the IBMi. These are shown as a subsetting list of the full [Message Log](#).

Getting there

To view the current Message Log take option **1=Display Message Log** from the System Event Manager menu.

```

HAL0010R                               Halcyon Message Manager                               HAL525P1
                                         Display Message Log                               27/04/09 09:38:16
Position to Date . . . . .              Subsetting List
Position to Time . . . . .              Subsetting List

Type options, press Enter.
1=Select job 5=Display 6=Print 7=Alert Log 8=Network Log 9=Comms Log

Op Typ Sev Date   Time   Message
- SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QUSRSYS/MCUS
- SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue PMEDHUSR/PME
- SYS 00 27/04/09 08:32:56 Delay interval for queue PMEDHUSR/PMEDH set to 60 se
- SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QHST.
- SYS 00 27/04/09 08:32:56 Message Manager has attached file QHST09114B for pro
- SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QHST set to 80 seconds
- SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QSYSMSG
- SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QSYSMSG set to 100 sec
- SYS 00 27/04/09 08:32:56 Message Manager is now monitoring queue QSYS/QSYSOPR
- SYS 00 27/04/09 08:32:56 Delay interval for queue QSYS/QSYSOPR set to 60 seco
- SYS 00 27/04/09 08:34:51 Message Monitor ended.

                                         Bottom

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F21=Print

```

Access and Navigation

Messages are displayed in chronological order, most recent last. When you first open the Display Message Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested
- Use the **Page Up/Page Down** keys to scroll through the list of messages

- Use **F18=Bottom** to return to the most recent message
 - Option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Message Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Message Log display

The following parameters are available on this display.

Type

Indicates the type of message entry.

MNT	Maintenance Message
SYS	System Message

Severity (Sev)

Displays the severity of each message using the following rating:

0	Information
10	Warning
20	Error
30	Severe Error
40	Abnormal end of program or function
50	Abnormal end of job

Date

The date on which the message was logged.

Time

The time at which the message was logged.

Message

Shows the message text. If this parameter is truncated use option **5=Display** to show the full message detail.

Using the Message Log display

Please refer to the chapter [Display Message Log](#) for more information on working with this and subsequent screens.

Work with Alert Log

When accessed from within System Event Manager, the Work with Alert Log display is used to display any alert messages that have been generated as a result of user-defined rule criteria being triggered in the System Event Manager product you may have installed on the IBMi.

TIP: See [Work with Rules](#) for more details on how to set rule criteria.

The Alert Log allows you to reply to, close and delete alerts as well as view previous action history or change the rule that generated the alert.

NOTE: If System Event Manager is installed as part of a Halcyon Suite of products, viewing the Alert Log from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only alerts applicable to System Event Manager are currently being viewed.

Getting there

Select option **2=Work with Alert Log** from the System Event Manager menu.

```

HAL0020R                               Halcyon System Event Manager                               HAL525P3
SOS                                     Work with Alert Log                               21/01/10 11:02:29
Position to date . . . . . _____                               Subsetted List
Position to time . . . . . _____
Type options, press Enter.
4=Delete 5=Display 6=Print 7=Messages 9=Reply 10=Close 11=Omit in future
13=Action history 14=Message count 18=Acknowledge 20=Change rule...
Opt Status  Date      Time      Alert Message
-- OPEN     12/01/10 14:54:07 106   Job 099437/QSYSOPR/HMMMSG statistic CPUPCT
-- OPEN     12/01/10 14:55:03 107   Job 099437/QSYSOPR/HMMMSG statistic CPUPCT
-- OPEN     12/01/10 14:55:04 108   System statistic CPUPCT is 182.9.
-- OPEN     12/01/10 14:56:03 109   Job 099437/QSYSOPR/HMMMSG statistic CPUPCT
-- OPEN     12/01/10 14:56:04 110   System statistic CPUPCT is 149.0.

                                           BOTTOM
F3=Exit F5=Refresh F11=Show rules F12=Cancel F13=Repeat F24=More keys

```

Access and Navigation

Alerts are displayed in chronological order, most recent last. When you first open the Work with Alert Log display, you are automatically taken to the most recent alert at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alerts nearest to the date/time combination requested.
- Use the **Page Up**/**Page Down** keys to scroll through the list of alerts
- Use **F18=Bottom** to return to the most recent alert
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new alerts that may have arrived since the Alert Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent alert

Parameters on the Work with Alert Log Display

The following parameters are available on this display.

Alert status

Shows the current status of the alert. The alerts that are displayed on the Work with Alert Log can either be open or closed. Any alert that does not have a status value of closed is an open alert.

An Open alert is an alert that has been raised by a filter criteria in one of the Halcyon products but that has not yet been closed. An Open alert indicates an issue that needs further investigation. The current status can be one of seven values:

OPEN	The alert is currently open
ACKNOWLED	The alert has been acknowledged but is still open
ACTIVE	Open alert for which an action is currently in progress
CONSOLE	Open alert for which a console action has been successfully completed

SNDTXT	Open alert for which a console action has been successfully completed
PENDING	Open alert for which an action is pending
ERROR	Open alert for which an action has failed

A 'closed' alert status indicates an alert that has had an issue resolved or has been noted. Alerts can be closed either manually or automatically.

CLOSED	The alert is closed
---------------	---------------------

Date

Shows the date on which the alert was logged.

Time

Shows the time at which the alert was logged.

Alert

Displays the unique identification number allocated to the alert.

Message

Displays the text of the alert. If this parameter is truncated use option **5=Display** against the required alert to view the full text.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

Using the Work with Alert Log display

Please refer to the chapter [Work with Alert Log](#) for more information on working with this and subsequent screens.

Work with Monitors

The Work with Monitors display shows the monitors that form the monitoring capability of System Event Manager. These are:

- Device Monitor
- Distribution Queue Monitor
- Inactivity Monitor
- Job Queue Monitor
- Object Monitor
- Output Queue Monitor
- Performance Monitor
- User Profile Monitor

TIP: Additional monitors are visible on this display if you have the corresponding Halcyon products installed. See the screen shot below.

Getting there

Select option **3=Work with Monitors** from the System Event Manager main menu.

From this display you can start, hold, end, release and supervise either of the installed monitors.

NOTE: Some of the actions performed in Halcyon products require that the relevant monitors are in a stopped status prior to the action being confirmed.

```

HAL0110R                               Halcyon System Event Manager                               HAL720P2
MANL                                     Work with Monitors                               1/08/19  10:15:29
                                          Subsetted List

Type options, press Enter.
1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
9=Stop supervising

Op Mon  Description                               Sup Status  Function
- - - - -
HEMAM  Alert Intelligence Monitor               N Stopped
HEMASW Authority Swapper Monitor               N Held
HEMCST Custom Monitor                           N Stopped
HEMDEV Device Monitor                           N Stopped
HEMDSQ Distribution Queue Monitor               N Stopped
HEMINA Inactivity Monitor                       N Stopped
HEMJOB Job Queue Monitor                       N Stopped
HEMLOG Log File Monitor                         N Stopped
HEMOBJ Object Monitor                           N Stopped
HEMOUT Output Queue Monitor                     N Stopped
HEMPFM Performance Monitor                     N Stopped
HEMUSR User Profile Monitor                     N Stopped

                                          Bottom
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with subsystem jobs  F17=Subset

```

System Event Monitors

The following monitors are available from within System Event Manager when run as a part of a Halcyon Suite of products.

Device Monitor

The Device Monitor can monitor the configuration status of any type of device, including printers, tape drives, communication lines, and so on, and can raise an alert or take appropriate action if an undesirable situation is detected. For example, it can take immediate action if a communication line goes into Recovery Pending or Varied Off status.

Job Queue Monitor

The Job Queue Monitor can monitor the status of the job queue itself and can also monitor the number of jobs waiting on a job queue. It can also determine whether a particular job has been queuing for longer than expected.

Output Queue Monitor

The Output Queue Monitor can monitor the number of spooled files queuing on any output queue and can raise an alert or take the appropriate action if a specified threshold is exceeded. It can also monitor for a particular spooled file entry arriving on an output queue, or the length of time spooled files have been queuing. Or it can raise an alert if the number

of pages in a spooled file exceeds a certain amount. It can also monitor the status of the output queue itself.

Performance Monitor

The Performance Monitor collects *SYSTEM, *POOL and *JOB performance information. Rules can be set against the monitor so that alerts are generated if user-defined thresholds are breached.

Inactivity Monitor

The Inactivity Monitor can monitor any interactive job, including those connected via TCP/IP, to detect when a job has been inactive for more than a specified amount of time. Different selection criteria can be applied to different groups of jobs, users or subsystems. The action taken can be made dependent on the program being run, the job status (For example, LCKW, DSPW and similar), the user or the time of day, and so on. Signed-on sessions can be disconnected or ended.

Distribution Queue Monitor

The Distribution Queue Monitor can monitor the status of any distribution queue as well as the queue depth.

User Profile Monitor

The User Profile Monitor can monitor the status of user profiles, detecting any that become disabled and can also monitor the storage used by each user profile.

Object Monitor

The Object Monitor can monitor the existence of any type of object, including objects in the IFS. It can also monitor for the existence of a member within a file. If a file exists, the monitor can check to see whether it contains any data and/or if it contains more than the specified number of records. The contents of data areas can also be checked against specific values.

Starting and Ending the Monitors

There are three ways in which you can start and end the Halcyon monitors:

- Use options directly from the Work with Monitors display
- Using commands
- Using AutoStart and Controlled Ends

Using the Work with Monitors display

Using options **1=Start** and **4=End** from the Work with Monitors display enables you to start and end individual monitors as required. You can also hold and release monitors from this display.

NOTE: Monitors with a status of 'Held' cannot be started.

Starting a monitor also starts the subsystem if necessary.

Using Commands

Starting

To start all non-held monitors, use the Start Monitors (**STRMON**) command. This also starts the subsystem if necessary. Parameters on this command allow you to start any number of specific monitors.

Using the Start Subsystem (**STRSBS**) command to start the subsystem also starts all non-held monitors.

Ending

To end all the currently active monitors, use the End Monitors (**ENDMON**) command. Parameters on this command allow to end any number of specific monitors. If all monitors are ended, then by default, the subsystem is also ended.

Using the End Subsystem (**ENDSBS**) command to end the subsystem also ends all active monitors, but takes longer than using the End Monitors (**ENDMON**) command.

Using AutoStart

It is possible to start the Halcyon monitors automatically when the IBM i is IPL'd. To achieve this, add the following Autostart Job entry to any subsystem that is automatically started during the IPL process:

```
ADDAJE SBSD (library/subsystem) JOB(HALCYON) JOBD(library/STRSBS)
```

Using Controlled Ends

The following commands will end the all active Halcyon monitors and the subsystem:

```
ENDMON MONITOR(*ALL) ENDSBS(*YES)
```

```
ENDSBS SBS(halcyonsubsystem) OPTION(*CNTRLD) DELAY(300)
```

```
ENDSYS OPTION(*CNTRLD) DELAY(300)
```

```
PWRDWNSYS OPTION(*CNTRLD) DELAY(300)
```

NOTE: To allow the monitors to end in a controlled manner, use **OPTION(*CNTRLD)** with a delay time of at least 60 seconds, 300 seconds being recommended.

Using the Work with Monitors display

Please refer to the chapter [Work with Monitors](#) for more information on working with this and subsequent screens.

Work with Rules

Working with Rules allows you to define and maintain rules for the System Event Manager monitors.

The Work with Rules display lists the information using three levels of indentation. By default, upon opening the display, only the first level is shown. Further levels are displayed by using **F11=Expand** and then **F23=Expand All**.

Getting there

Select option **5=Work with Rules** on the System Event Manager main menu to open the Work with Rules display.

NOTE: If System Event Manager is installed as part of a Halcyon Product Suite, viewing the Work with Rules display from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only rules applicable to System Event Manager are currently being viewed.

The options on this display are dependent on the level of Halcyon Product Suite and any other Halcyon products you might have installed on the IBMi.

```

HAL0030R              Halcyon System Event Manager              HAL720P2
MANL                  Work with Rules                          1/08/19  10:59:18
Type options, press enter                                     Subsetted List
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                                     Status
  | Output Queue                                     Stopped
  | Device                                           Stopped
  | Job Queue                                        Stopped
  | Performance                                       Stopped
  | User                                              Stopped
  | Distribution Queue                               Stopped
  | Inactivity                                       Stopped
  | Object                                           Stopped
  | Custom                                           Stopped
  | Alert Intelligence                               Stopped
  | Log File                                         Stopped
Bottom
F3=Exit  F5=Refresh  F6=Add  F8=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

Work with Rules Levels of Display

The three levels of indentation available for view on the Work with Rules display are:

1. Monitors
2. The rule groups defined within each monitor
3. The rules defined within each rule group

Parameters on the Work with Rules display

The following parameters are shown on the Work with Rules display.

Item

Shows up to three levels of rules (see above).

Description

The description of the rule level item displayed in the Item column.

Status

This shows the current status of the item. The status information shown changes dependent on the item level selected.

At monitor level	
Held	The monitor is held to prevent it starting
Starting	The monitor is starting
Started	The monitor is running
Ending	The monitor is ending
Stopped	The monitor has been stopped
At rule group level	
Held	The rule group is held. None of the rules are processed
Released	The rule group is released. All released rules may be processed
At rule level	
Held	The rule is held. This rule is not processed
Released	The rule is released. This rule may be processed

Rule Requirements

The following requirements must be met in order for a rule to be processed, in order that alerts may be generated and actions invoked:

1. The rule must be released.
2. The rule group containing the rule must be released.
3. The monitor containing the rule group must be started.

Using the Work with Rules display

Please refer to the chapter [Work with Rules](#) and the following individual chapters for more information on working with this and subsequent screens.

Work with System Defaults

System defaults are values that control how Halcyon products operate, in the same way that system values affect the IBMi operating system.

The Work with System Defaults display lists the available System Event Manager defaults and provides options enabling you to display or change settings.

Getting there

Select option **6=System Defaults** from the System Event Manager main menu to display the Work with System Defaults display.

NOTE: If System Event Manager is installed as part of a Halcyon Product Suite, viewing the system defaults from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only system defaults applicable to System Event Manager are currently being viewed.

Different system defaults may be displayed on this screen dependent on the Halcyon Product Suite or any additional Halcyon products you may have installed on the IBMi.

```

HAL9010R              Halcyon System Event Manager              HAL720P2
MANL                  Work with System Defaults                 1/08/19  11:38:32
Type options, press Enter.                                     Subsetted List
2=Change 5=Display

Opt Pr Name          Description
 1 HEM AIMEVENTLATENCY Alert Intelligence event latency.
  HEM AIMMONPTY       Alert Intelligence Monitor run priority.
  HEM AIMMONUSER      Alert Intelligence Monitor user profile.
  HEM CSTMONPTY       Custom Monitor run priority.
  HEM CSTMONUSER      Custom Monitor user profile.
  HEM DEVMONPTY       Device Monitor run priority.
  HEM DEVMONUSER      Device Monitor user profile.
  HEM DFTMONINTV      Default check interval in seconds.
  HEM DSQMONPTY       Distribution Queue Monitor run priority.
  HEM DSQMONUSER      Distribution Queue Monitor user profile.
  HEM INAMONPTY       Inactivity Monitor run priority.
  HEM INAMONUSER      Inactivity Monitor user profile.
  HEM JOBMONPTY       Job Queue Monitor run priority.
  HEM JOBMONUSER      Job Queue Monitor user profile.
  HEM LOGMONMAX       Maximum number of auxiliary log file monitors.
                                                                More...
F8=Exit  F5=Refresh  F12=Cancel  F17=Subset  F22=Print

```

System Default Authority

In order to actively use this display, you need *USE authority to the WRKSYSDF function.

In addition, you need *ALL or *USE authority to the SYSDFT function in each product of which you need to maintain or view the system defaults.

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the code of the product to which the system default relates.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Using the Work with System Defaults display

The following options are available when working with system defaults. Type the option number in the Opt column against the required selection.

Change

Use option **2=Change** to open the Change System Default display. This displays the current value of the selected system default and allows you to change it to another value within the given parameters for the selected system default.

Display

Use option **5=Display** to open the Display System Default display. This displays the current value of the selected system default but does not allow change.

Functions on the Work with System Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset System Defaults display which allows you to set or clear the filter parameters that restrict the view of system defaults displayed. Filtering is actioned by product code.

F22=Print

Use **F22=Print** to invoke the Print System Defaults (**PRTSYSDFT**) command that produces a report for all System Event Manager system defaults.

Work with Substitution Variables

Substitution variables can be used in command and message strings that are defined within Halcyon products. The variable is replaced with the effective value when the command runs or when the message is sent.

Getting there

Select option **7=Work with Substitution Variables** from the System Event Manager menu, to open the Work with Substitution Variables display, subsetting for System Event Manager.

```

HAL9020R                               Halcyon System Event Manager                               HAL720P4
QA                                     Work with Substitution Variables                               19/03/15  11:15:39
Position to . . . . .                               Subsetting List

Type options, press Enter.
2=Change  4=Delete  5=Display

Opt Name      Class Type  Attr  Description
- &ACGCDE     SYS  *CHAR  15   Accounting code
- &AFFUSER    SYS  *CHAR  10   Affected user
- &ALERT      SYS  *CHAR  256  Alert Text
- &ALERTID    SYS  *DEC   9,0  Alert ID
- &ARCFILE    SYS  *CHAR  10   Archive file
- &ARCGROUP   SYS  *CHAR  10   Archive group
- &ARCLIB     SYS  *CHAR  10   Archive library
- &ARCMBR     SYS  *CHAR  10   Archive member
- &ARCSBSVAR  USR  *CHAR  10   Archive ARCyyyymm using SbsVar
- &ARCYYYMM  USR  *CHAR   6   Archive - Month
- &CFGSTS     SYS  *CHAR  20   Configuration status
- &CFGTYPE    SYS  *CHAR   7   Configuration type
- &CR         SYS  *CHAR   1   Carriage Return

More . . .

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

```

Using Substitution Variables

Whenever a substitution variable is used in a command or message string, it must be typed in the following format.

&name;

&	Ampersand denotes the start of a substitution variable
name	Name of the substitution variable
;	Optional semi-colon denotes the end of a substitution variable

NOTE: The semi-colon may be omitted if the character immediately following the variable name is not upper case A-Z or 0-9.

EXAMPLE:

Assuming that the substitution variable NAME has the value of JOHN then:
A text entry of "User is &NAME." or "User is &NAME; ." results in "User is JOHN."

NOTE: For more information on working with substitution variables please see [Work with Substitution Variables](#).

System Event Manager Reports

System Event Manager allows you to print the details of the Message and Alert Logs, system defaults plus queue and group rules that have been configured on the IBMi.

Each report is available to print separately from the System Event Manager Reports menu.

Getting there

Use option **40=Reports** from the System Event Manager main menu to open the Reports menu.

```

HEMRPT                               Halcyon Software Ltd                HAL525P3
SOS                                  Halcyon System Event Manager        7/12/09 16:22:34
                                     Reports Menu

Select one of the following:

  1. Print Message Log
  2. Print Alert Log

  5. Print Rules
  6. Print System Defaults

 10. Print Device Rules
 11. Print Job Queue Rules
 12. Print Output Queue Rules
 13. Print Performance Group Rules
 14. Print User Rules
 15. Print Distribution Queue Rules
 16. Print Inactivity Rules
 17. Print Object Rules

                                     BOTTOM

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel

```

Functions when printing System Event Manager Reports

The following functions are used on all System Event Manager printing options:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=Retrieve

Use **F9=Retrieve** to display the last command entered on the command line and any included parameters. Pressing this key once, shows the last command ran. Pressing this key twice, shows the command ran before that and so on.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Print Message Log

This menu option allows you to print a report of the [Message Log](#), subsetted to show all the messages logged by the System Event Manager monitors. Parameters on the Print Message Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Message Log](#) for information regarding the parameters on this display.

Print Alert Log

This menu option allows you to print a report of the [Alert Log](#), subsetted to show all the alerts generated by the System Event Manager rules. Parameters on the Print Alert Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Alert Log](#) for information regarding the parameters on this display.

Print Rules

This menu option allows you to print a rules report subsetted by all System Event Manager rules. Parameters on the Print Rules display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Rules](#) for information regarding the parameters on this display.

Print System Defaults

This menu option allows you to print a report of the system defaults, subsetted by System Event Manager system defaults. Parameters on the Print System Defaults display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print System Defaults](#) for information regarding the parameters on this display.

Print Device Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the Device group rules.

Getting there

Select option 10=Print Device Rules from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > DEV          MSG, TCP, ...
    + for more values -
Rule group . . . . . *ALL          Name, *ALL, *GRPALL, *LIST
Save spooled file . . . . . *NO     *YES, *NO
PDF formatted file required . . . > *YES  *YES, *NO
PDF stream file path . . . . . *AUTO

Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Device Group Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product. In this instance, the display is pre-configured for the System Event Manager product and the Device monitor.

Product

Specify the product codes of the products whose rules you want to print. This is pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with DEV (Device monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
------------	--

*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV
-------------	--

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Job Queue Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the job queue rules.

Getting there

Select option **11=Print Job Queue Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
Product . . . . . > HEM          Valid product, *ALL
Monitor . . . . . > JOB          MSG, TCP, ...
+ for more values -
Rule group . . . . . *ALL        Name, *ALL, *GRPALL, *LIST
Save spooled file . . . . . *NO    *YES, *NO
PDF formatted file required . . . > *YES    *YES, *NO
PDF stream file path . . . . . *AUTO

-----
Stream file option . . . . . *ADDSEQ  *NONE, *REPLACE, *ADDSEQ

-----
Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Job Queue Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the System Event Manager product and the Job Queue Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with JOB (Job Queue Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Output Queue Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the output queue rules.

Getting there

Select option **12=Print Output Queue Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > OUT          MSG, TCP, ...
      + for more values
  Rule group . . . . . *ALL        Name, *ALL, *GRPALL, *LIST
  Save spooled file . . . . . *NO  *YES, *NO
  PDF formatted file required . . . > *YES  *YES, *NO
  PDF stream file path . . . . . *AUTO

-----
Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ
                                     ^
-----

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
Bottom

```

Parameters on the Print Output Queue Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the System Event Manager product and the Output Queue Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with OUT (Output Queue Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Performance Group Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the Performance group rules.

Getting there

Select option **13=Print Performance Group Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > PFM          MSG, TCP, ...
    + for more values -
Rule group . . . . . *ALL          Name, *ALL, *GRPALL, *LIST
Save spooled file . . . . . *NO     *YES, *NO
PDF formatted file required . . . > *YES *YES, *NO
PDF stream file path . . . . . AUTO

Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Performance Group Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product. In this instance, the display is pre-configured for the System Event Manager product and the Performance Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with PFM (Performance Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print User Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the User group rules.

Getting there

Select option **14=Print User Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > USR          MSG, TCP, ...
    + for more values -
  Rule group . . . . . *ALL        Name, *ALL, *GRPALL, *LIST
  Save spooled file . . . . . *NO   *YES, *NO
  PDF formatted file required . . > *YES *YES, *NO
  PDF stream file path . . . . . *AUTO

-----
Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ
                                     ^
Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print User Group Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product. In this instance, the display is pre-configured for the System Event Manager product and the User Profile Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with USR (User Profile Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Distribution Queue Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the distribution queue rules.

Getting there

Select option **15=Print Distribution Queue Rules** from the System Event Manager Reports menu.

```

Print Rules (PRRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > DSQ          MSG, TCP, ...
    + for more values
  Rule group . . . . . *ALL        Name, *ALL, *GRPALL, *LIST
  Save spooled file . . . . . *NO   *YES, *NO
  PDF formatted file required . . . > *YES   *YES, *NO
  PDF stream file path . . . . . *AUTO

Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
Bottom

```

Parameters on the Print Distribution Queue Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product.

In this instance, the display is pre-configured for the System Event Manager product and the Distribution Queue Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with DSQ (Distribution Queue Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Inactivity Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the Inactivity rules.

Getting there

Select option **16=Print Inactivity Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > INA          MSG, TCP, ...
    + for more values
Rule group . . . . . *ALL          Name, *ALL, *GRPALL, *LIST
Save spooled file . . . . . *NO     *YES, *NO
PDF formatted file required . . . > *YES  *YES, *NO
PDF stream file path . . . . . *AUTO

Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Inactivity Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product. In this instance, the display is pre-configured for the System Event Manager product and the Inactivity Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with INA (Inactivity Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Object Rules

The Print Rules (**PRTRULES**) command prints a report that shows the rules that have been defined on your system. From this menu selection within the System Event Manager product, the display is pre-configured to print the Object group rules.

Getting there

Select option **17=Print Object Rules** from the System Event Manager Reports menu.

```

Print Rules (PRTRULES)

Type choices, press Enter.

Rule types:
  Product . . . . . > HEM          Valid product, *ALL
  Monitor . . . . . > OBJ          MSG, TCP, ...
      + for more values
  Rule group . . . . . *ALL        Name, *ALL, *GRPALL, *LIST
  Save spooled file . . . . . *NO   *YES, *NO
  PDF formatted file required . . . > *YES   *YES, *NO
  PDF stream file path . . . . .  AUTO

-----
Stream file option . . . . . *ADDSEQ  *NONE, *REPLACE, *ADDSEQ

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Parameters on the Print Object Rules display

The following parameters are available on this display.

Rules

Specifies the list of products or monitors that you want to print. You can specify up to 32 values for this parameter. Each value can specify a product or a monitor within a product. In this instance, the display is pre-configured for the System Event Manager product and the Object Monitor.

Product

Specify the product codes of the products whose rules you want to print. Pre-configured with HEM (System Event Manager) from this menu option.

NOTE: *ALL specifies all products.

Monitor

Specify the monitor of the product entered in the 'Product' parameter that you want to print or leave it blank to print the rules for all the monitors within the selected product. Pre-configured with OBJ (Object Monitor) from this menu option.

NOTE: You require *USE authority to the relevant Rules functions to be able to print rules. If you do not have authority to some rules, those rules are either omitted from the report or an error message is issued, depending on whether the rule type was referred to specifically or generically.

Rule group

If the value specified for the 'Rules' parameter selects a single monitor, this may be used to select a specific rule group within that monitor. If the value specified for the 'Rules' parameter selects more than one monitor, this parameter must be set to *ALL.

*ALL	All rule groups or queues in the monitors selected by the 'Rules' parameter are printed.
*GRPALL	Specifies a single job queue or output queue rule group named *ALL. Not valid with any other rule type. Does not select multiple rule groups
*LIST	Specifies a single output queue rule group named *LIST. Not valid with any other rule type
group	Specify the name of the rule group or queue to print. If a queue is specified, the queue library must be specified using the 'Library' parameter.

Library

If a queue is specified in the 'Rule group' parameter, specify the queue library in this parameter.

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Job Lists

The Print User Lists (**PRTJOB**LST) command prints a list of the Job Lists that have been defined on the system.

Getting there

Select option **18=Print Job Lists** from the System Event Manager Reports menu.

```

Print Job Lists (PRTJOBLS)

Type choices, press Enter.

Job list . . . . . > ALL      *ALL, Name
Save spooled file . . . . . *NO      *YES, *NO
PDF Formatted File Required . . . > *YES  *YES, *NO
PDF Stream File Path . . . . . *AUTO

-----
Stream file option . . . . . *ADDSEQ *NONE, *REPLACE, *ADDSEQ

-----

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
Bottom

```

Parameters on the Print Job Lists display

The following parameters are shown on the Print Job Lists display.

Job list

Specifies which job lists to print.

*ALL	All job lists are printed
name	Specify the name of the job list to print

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Print Output Queue Lists

The Print Output Queue Lists (**PRTOUTQLST**) command prints a list of the Job Lists that have been defined on the system.

Getting there

Select option **18=Print Job Lists** from the System Event Manager Reports menu.

```

Print Output Queue Lists (PRTOUTQLST)

Type choices, press Enter.

Output Queue List . . . . . > *ALL          *ALL, Name
Save spooled file . . . . . *NO           *YES, *NO
PDF Formatted File Required . . . > *YES     *YES, *NO
PDF Stream File Path . . . . . *AUTO

-----

Stream file option . . . . . *ADDSEQ     *NONE, *REPLACE, *ADDSEQ

-----

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
Bottom

```

Parameters on the Print Output Queue Lists display

The following parameters are available on this display.

Output Queue List

Specifies which output queue lists to print.

*ALL	All output queue lists are printed
name	Specify the name of the output queue list to print

Save Spooled File

Specifies whether the spooled file created by this command is saved after the output is produced.

*NO	The spooled file data is not kept (saved) on the output queue after the output is produced
*YES	The spooled file data is kept on the output queue until the file is deleted. After the file is produced, the status of the file is changed from WTR to SAV

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in HAL/DFTDIR . The file name in the directory is Report-yyyy-mm-dd_sss.pdf. This is where: Report is the report name, yyyy-mm-dd is the date the report was created (except for date based reports where it is the starting date in the report) and _sss is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

System Event Manager Configuration

System Event Manager configuration options allow you to create and maintain options that the way in which System Event Manager operates.

Getting there

Select option **42=Configuration Menu** from the System Event Manager main menu.



```
HEMCFG          Halcyon - A division of HelpSystems          HAL720P2
MANL           Halcyon System Event Manager          15/02/17 12:47:04
Select one of the following:

  1. Work with Job Lists
  2. Work with Output Queue Lists

                                                    Bottom

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Work with Job Lists

Where supported throughout Halcyon products, job lists provide an alternative to working with individual jobs, by including these jobs as part of a list. Jobs in the list can then be selected or omitted from being run by a specific user and/or subsystem.

NOTE: Job Lists can be exported to other environments using the **EXPJOBLS** command.

Getting there

Select option **1=Work with Job Lists** from the System Event Manager Configuration Menu.

```

HEM9150R                               Halcyon System Event Manager                               HAL720P2
MANL                                     Work with Job Lists                                       14/02/18  11:32:51

Type options, press Enter.
2=Change 4=Delete 5=Display 6=Print 8=Where used

Opt Name      Description
  *JOBLIST##  Job List #1
  *PW         PW* Jobs
  *QPADEV000  QPADEV*

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print
Bottom

```

Parameters on the Work with Job Lists Display

The following parameters are available on this display.

Name

Displays the name of the job list.

Description

Displays the textual description of the job list.

Using the Work with Job Lists display

The following options are available when using the Work with Job Lists display. Type the required option number against the chosen job list and press **Enter**.

IMPORTANT: When working with the following options, you can only amend, delete and view job lists to which you are authorized.

Change

Use option **2=Change** to open the Change Job List display from where you can change the parameters of an existing job list. The parameters on this display are the same as those used when adding a job list. Please see the chapter [Adding a Job List](#) for further information relating to these parameters.

Delete

Use option **4=Delete** to open the Confirm Delete of Job Lists display. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

Display

Use option **5=Display** to open the Display Job List display from where you can view (but not amend) the details of an existing job list.

Print

Use option **6=Print** to print a report of the selected job lists. For a parameter driven report use **F22=Print**.

Where used

Use option **8=Where used** to display a window that shows the rules that use this job list.

Editing Rules

Use option **2=Change** against any of the rules listed on this display to directly open the rule ready for editing.

Displaying Rules

Use option **5=Display** against any rule to be able to view (but not change) the details of the chosen rule.

Functions on the Work with Job Lists display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Job List display from where a new job list can be created. See [Adding a Job List](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to open the Print Job Lists display which provides further parameters for the generation of the report.

Adding a Job List

From the Work with Job Lists display use **F6=Add** to open the Add Job List display. This display allows you to add a new job list to those already available.

Job list

Enter the name and description of the new job list. The name must be entered in uppercase characters and prefixed with an asterisk '*'. Tab to the next field and enter a description for

Type the name of the user to be included in this job list. It is possible to enter generic user names by typing the starting characters of the user name followed by an asterisk '*'. Type *ALL to include all users.

Subsystem

Type the name of the subsystem to be included in this job list. It is possible to enter generic subsystem names by typing the starting characters of the user name followed by an asterisk '*'. Type *ALL to include all subsystems.

Tab across to subsequent fields to add more jobs to this job list as required.

Press **Enter** to confirm the job selected (or omitted) and create a new job list.

Job List Exclusions in Rules

The following exclusions apply when using Job Lists in Rules:

Job Queue *JOB Rules

Jobs on a job queue do not have a Subsystem as they are not running. This is an operating system constraint. If you specify a Subsystem in the Job List it will always return no result due to this restriction. Subsystem should always be set to *ALL in this scenario.

Performance *JOB EXISTS Rules

You cannot use a Job List that contains generic job names, job name *ALL or any omits.

Work with Output Queue Lists

Where supported throughout Halcyon products, output queue lists may be used in place of an individual output queue name to define the Output Queues to be monitored.

NOTE: Output Queue Lists can be exported to other environments using the **EXPOUTQLST** command.

Getting there

Select option **2=Work with Output Queue Lists** from the System Event Manager configuration menu.

```

HEM1520R                               Halcyon System Event Manager                               HAL720P2
MANL                                     Work with Output Queue Lists                               5/08/19 13:53:09

Type option, press Enter.
2=Change 4=Delete 5=Display 6=Print

Opt Queue      Description
| *TEST        Description

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F22=Print

Bottom

```

Parameters on the Work with Output Queue Lists Display

The following parameters are available on this display.

Queue

Displays the name of the output queue list.

Description

Displays the textual description of the output queue list.

Using the Work with Output Queue Lists display

The following options are available when using the Work with Output Queue Lists display. Type the required option number against the chosen Output Queue list and press **Enter**.

Change

Use option **2=Change** to open the Change Output Queue List display from where you can change the parameters of an existing output queue list. The parameters on this display are the same as those used when adding an output queue list. Please see the chapter [Adding an Output Queue List](#) for further information regarding these parameters.

Delete

Use option **4=Delete** to open the Confirm Delete of Output Queue Lists display. Press **Enter** to confirm the deletion or **F12=Cancel** to return to the previous display.

Display

Use option **5=Display** to open the Display Output Queue Lists display from where you can view (but not amend) the details of an existing output queue list.

Print

Use option **6=Print** to print a report of the selected output queue lists. For a parameter driven report use **F22=Print**.

Functions on the Work with Output Queue Lists display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Output Queue List display from where a new output queue list can be created. See [Adding an Output Queue List](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F22=Print

Use **F22=Print** to open the Print Output Queue Lists display which provides further parameters for the generation of the report.

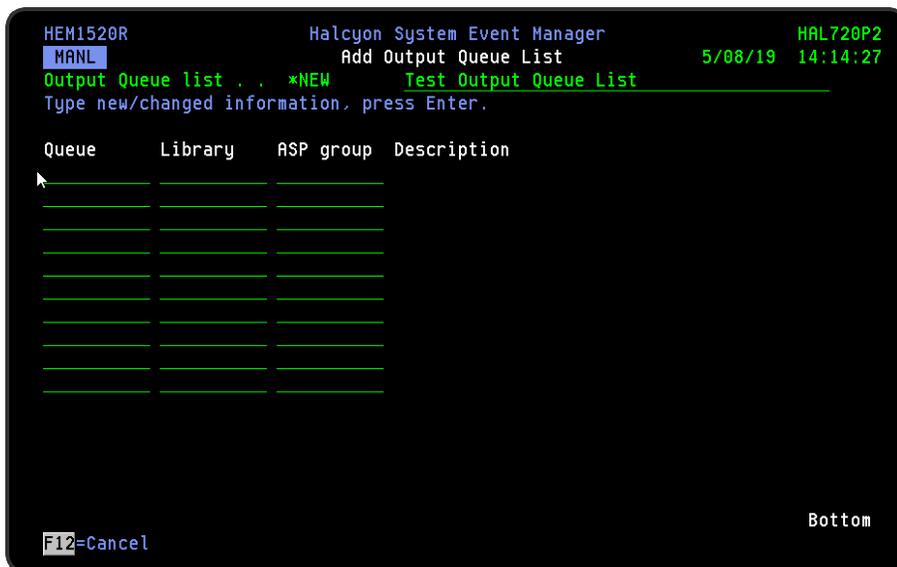
Adding an Output Queue List

From the Work with Output Queue Lists display use **F6=Add** to open the Add Output Queue List display. This display allows you to add a new output queue list to those already available.

Output queue list

Enter the name of the new output queue list. This must be entered in uppercase characters and prefixed with an asterisk '*'. Tab to the next field and enter a description for this output queue list. Press **Enter** to display a set of parameters into which you can enter the details of the output queues that comprise this output queue list.

TIP: If you do not enter the output queue list name in uppercase characters or include the starting asterisk, the system automatically makes the adjustment.



Parameters on the Add Output Queue List display

The following parameters are available on this display.

Queue

Specify an Output Queue name. Use **F4=Prompt** to display a list of libraries and output queues. Specify a library name with a blank output queue name before pressing **F4** to go directly to the list of output queues in that library.

Library

Specify an Output Queue Library name. Use **F4=Prompt** to display a list of libraries and output queues. Specify a library name with a blank output queue name before pressing **F4** to go directly to the list of output queues in that library.

ASP Group

Specify an Output Queue Library ASP name. Use **F4=Prompt** to display a list of library ASPs.

Press **Enter** to confirm and create a new output queue list. If you have typed the above entries instead of using **F4=Prompt**, a full validation process is undertaken to ensure that the Queue and Library exist in the specified ASP Group.

NOTE: Validation is also undertaken whenever a change is made to an existing output queue list.

Functions on the Add Output Queue List display

The following functions are available on this display.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Audit Journal Manager

Overview

Audit Journal Manager monitors, in real-time, the system audit journal, QAUDJRN. Comprehensive filters can identify important security events and bring those to your immediate attention.

Getting there

Select option **25=Halcyon Audit Journal Manager** from the Halcyon product suite main menu.

```

HAM                               Halcyon Software Ltd                HAL525P3
  PROD                            Halcyon Audit Journal Manager        3/11/10  15:29:52
Select one of the following:

  1. Display Message Log
  2. Work with Alert Log
  3. Work with Monitors

  5. Work with Rules
  6. Work with System Defaults
  7. Work with Substitution Variables

 40. Reports Menu

 70. Display Product Information
 71. Display System Information

Selection or command                BOTTOM
==> _____
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel

```

QCRTOBJAUD Setting

Please check the setting of system value `QCRTOBJAUD` and ensure that **it is not** set to ***ALL**.

If this value is set to `*ALL`, then the system will be overrun with audit entries as each time an object is accessed or changed an audit journal entry is created.

Quick access

From the Audit Journal Manager menu you can access the following options.

Option	Function
Display Message Log	Displays the message log subsetting for messages generated by Audit Journal Manager
Work with Alert Log	Displays the alert log subsetting for alerts generated by Audit Journal Manager
Work with Monitors	Opens the Work with Monitors display subsetting for the Audit Journal Manager
Work with Rules	Opens the Work with Rules display subsetting for the Audit Journal Manager
Work with System Defaults	Opens the Work with System Defaults display subsetting for system defaults applicable to Audit Journal Manager
Work with Substitution Variables	Opens the Work with Substitution Variables display subsetting for substitution variables applicable to Audit Journal Manager
Audit Journal Manager Reports	Displays the list of reports available within Audit Journal Manager
Display Product Information	Displays the current Halcyon product information for this system
Display System Information	Displays the current system information for this device

Display Message Log

The Audit Journal Manager - Display Message Log option displays all messages generated by the Audit Journal Manager product installed on your IBMi. These are shown as a subsetting list of the full Message Log. See the Chapter - [Display Message Log](#) for more details.

Getting there

To view the current Audit Journal Manager Message Log take option **1=Display Message Log** from the Audit Journal Manager menu.

```

HAL0010R              Halcyon Audit Journal Manager              HAL525P3
  PROD                Display Message Log                       3/11/10  15:30:47
Position to date . . . . . _____ Subsetting List
Position to time . . . . . _____

Type options, press Enter.
  1=Select job  5=Display  6=Print  7=Alert Log  8=Network Log  9=Comms Log

Op Typ Sev Date      Time      Message
_  SYS 00 19/08/10  11:00:41 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 25/08/10  14:30:07 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 26/08/10  13:35:42 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 26/08/10  14:09:00 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 02/09/10  10:21:41 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 15/09/10  15:12:57 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 16/09/10  14:35:56 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 23/09/10  09:11:35 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 12/10/10  15:50:19 Halcyon Audit Journal Monitor successfully upgraded.
_  SYS 00 21/10/10  10:29:06 Halcyon Audit Journal Alert and Report successfully
_  SYS 00 02/11/10  17:54:20 Halcyon Audit Journal Manager successfully upgraded.

                                     BOTTOM

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F22=Print

```

Messages are displayed in chronological order, most recent last. When you first open the Display Message Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested
- Use the **Page Up/Page Down** keys to scroll through the list of messages
- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Message Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Message Log display

The following parameters are available on this display.

Type

Indicates the type of message entry.

MNT	Maintenance Message
SYS	System Message

Severity (Sev)

Displays the severity of each message using the following rating.

0	Information
10	Warning
20	Error
30	Severe error
40	Abnormal end of program or function
50	Abnormal end of job

Date

The date on which the message was logged.

Time

The time at which the message was logged.

Message

Shows the message text. If this parameter is truncated use option **5=Display** to show the full message detail.

Using the Display Message Log display

Please refer to the Chapter - [Display Message Log](#) for more information on working with this and subsequent screens.

Work with Alert Log

The Work with Alert Log display is used to display any alert messages that have been generated as a result of user-defined rule criteria being triggered in the Audit Journal Manager product you have installed on your IBM i. Audit Journal alert messages include the name of the originating journal receiver.

NOTE: See ['Work with Rules'](#) for more details on how to set rule criteria.

Getting there

The Work with Alert Log is accessed from option **2=Work with Alert Log** from the Audit Journal Manager menu.

```

HAL0020R                               Halcyon Audit Journal Manager                               HAL525P3
                                     Work with Alert Log                                     3/11/10  15:31:39
Position to date . . . . . _____ Subsetted List
Position to time . . . . . _____
Type options, press Enter.
 4=Delete 5=Display 6=Print 7=Messages 9=Reply 10=Close 11=Omit in future
13=Action history 14=Message count 18=Acknowledge 20=Change rule...
Opt Status Date Time Alert Message
__ CLOSED 03/11/10 15:06:57 9806 RA - Restoring object HDMQA/HDMQA type *LIB
__ CLOSED 03/11/10 15:07:13 9807 CO - Object QSYS/HEMQA type *LIB created by
__ CLOSED 03/11/10 15:07:32 9808 RA - Restoring object HEMQA/HEMQA type *LIB
__ CLOSED 03/11/10 15:07:51 9809 CO - Object QSYS/HJSQA type *LIB created by
__ CLOSED 03/11/10 15:08:02 9810 RA - Restoring object HJSQA/HJSQA type *LIB
__ CLOSED 03/11/10 15:08:16 9811 CO - Object QSYS/HJSQADC type *LIB created
__ CLOSED 03/11/10 15:08:17 9812 CO - Object QSYS/HMCQA type *LIB created by
__ CLOSED 03/11/10 15:08:23 9813 RA - Restoring object HMCQA/HMCQA type *LIB
__ CLOSED 03/11/10 15:08:31 9814 CO - Object QSYS/HMMQA type *LIB created by
__ CLOSED 03/11/10 15:08:40 9815 RA - Restoring object HMMQA/HMMQA type *LIB
__ CLOSED 03/11/10 15:08:51 9816 CO - Object QSYS/HRTQA type *LIB created by
__ CLOSED 03/11/10 15:08:55 9817 RA - Restoring object HRTQA/HRTQA type *LIB

                                     BOTTOM
F3=Exit F5=Refresh F11=Show rules F12=Cancel F13=Repeat F24=More keys

```

The Alert Log allows you to reply to, close and delete alerts as well as view previous action history or change the rule that generated the alert.

NOTE: If Audit Journal Manager is installed as part of a Halcyon product suite, viewing the Alert Log from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only alerts applicable to the Audit Journal Manager are currently being viewed.

Access and Navigation

Alerts are displayed in chronological order, most recent last. When you first open the Work with Alert Log display, you are automatically taken to the most recent alert at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**.
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alerts nearest to the date/time combination requested.
- Use the **Page Up/Page Down** keys to scroll through the list of alerts
- Use **F18=Bottom** to return to the most recent alert
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new alerts that may have arrived since the Alert Log was initially displayed.

- Use **F5=Refresh** to refresh the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent alert

Parameters on the Work with Alert Log Display

The following parameters are available on this display.

Alert Status

Shows the current status of the alert. The alerts that are displayed on the Work with Alert Log can either be open or closed. Any alert that does not have a status value of closed is an open alert. An open alert is an alert that has been raised by a filter criteria in one of the Halcyon products but that has not yet been closed. An open alert indicates an issue that needs further investigation. One of seven values identify the current status of the open alert.

OPEN	The alert is currently open
ACKNOWL	The alert has been acknowledged but is still open
ACTIVE	Open alert for which an action is currently in progress
CONSOLE	Open alert for which a Console action has been successfully completed

SNDTXT	Open alert for which a Send Text Message action has been successfully completed
PENDING	Open alert for which an action is pending
ERROR	Open alert for which an action has failed

A 'closed' alert status indicates an alert that has had an issue resolved or has been noted. Alerts can be closed either manually or automatically.

CLOSED	The alert is closed
---------------	---------------------

Date

Shows the date on which the alert was logged.

Time

Shows the time at which the alert was logged.

Alert

Displays the unique identification number allocated to the alert.

Message

Displays the text of the alert. If this parameter is truncated use option **5=Display** against the required alert to view the full text.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

Using the Work with Alert Log display

Please refer to the chapter [Work with Alert Log](#) for more information on working with this and subsequent screens.

Work with Monitors

The Audit Journal Manager - Work with Monitors display shows a subsetting list comprising of the Audit Journal Monitor that forms the monitoring capability of Audit Journal Manager.

Getting there

Take option **3=Work with Monitors** from the Audit Journal Manager main menu to open the Work with Monitors display.

```

HAL0110R              Halcyon Audit Journal Manager              HAL525P3
                        Work with Monitors                       3/11/10  15:33:27
                                                                Subsetting List

Type options, press Enter.
 1=Start  3=Hold  4=End  5=Display  6=Release  7=Messages  8=Supervise
 9=Stop supervising

Opt Monitor Description          Sup Status   Function    Events
=  HAMAUD  Audit Journal Monitor  N Active    EVTW        0

                                                                BOTTOM
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with subsystem jobs  F17=Subset

```

From this display you can start, hold, end, release and supervise the Audit Journal monitor.

NOTE: See [Working with Monitors](#) for more information regarding other monitors that are available if a Halcyon product suite is installed.

IMPORTANT: Some of the actions performed in Halcyon products require that the relevant monitors are in a stopped status prior to the action being confirmed.

Using the Work with Monitors display

Please refer to the chapter [Work with Monitors](#) for more information on working with this and subsequent screens.

Audit Journal Monitor

The Audit Journal Monitor monitors the System Audit Journal, looking for journal entries that require actions to be performed.

Rules can be set against the monitor so that alerts are generated if user-defined thresholds are breached.

Starting and Ending the Monitors

There are three ways in which you can start and end the Halcyon monitors:

- Use options directly from the Work with Monitors display
- Using commands
- Using AutoStart and Controlled Ends

Using the Work with Monitors display

Using options **1=Start** and **4=End** from the Work with Monitors display enables you to start and end individual monitors as required. You can also hold and release monitors from this display. Starting a monitor also starts the subsystem if necessary.

NOTE: Monitors with a status of 'Held' cannot be started.

Using Commands

Starting

To start all non-held monitors, use the Start Monitors (**STRMON**) command. This also starts the subsystem if necessary. Parameters on this command allow you to start any number of specific monitors.

Using the Start Subsystem (**STRSBS**) command to start the subsystem also starts all non-held monitors.

Ending

To end all the currently active monitors, use the End Monitors (**ENDMON**) command. Parameters on this command allow to end any number of specific monitors.

If all monitors are ended, then by default, the subsystem is also ended.

Using the End Subsystem (**ENDSBS**) command to end the subsystem also ends all active monitors, but takes longer than using the End Monitors (**ENDMON**) command.

Using AutoStart

It is possible to start the Halcyon monitors automatically when the IBM i is restarted. To achieve this, add the following autostart job entry to any subsystem that is automatically started during the IPL process:

```
ADDAJE SBS (library/subsystem) JOB(HALCYON) JOBD(library/STRSBS)
```

Using Controlled Ends

These commands end all active Halcyon monitors and the subsystem:

```
ENDMON MONITOR(*ALL) ENDSBS(*YES)
```

```
ENDSBS SBS(halcyonsubsystem) OPTION(*CNTRLD) DELAY(300)
```

```
ENDSYS OPTION(*CNTRLD) DELAY(300)
```

```
PWRDWNSYS OPTION(*CNTRLD) DELAY(300)
```

NOTE: To allow the monitors to end in a controlled manner, use **OPTION(*CNTRLD)** with a delay time of at least 60 seconds, 300 seconds being recommended.

Work with Rules

Work with rules, when taken from the Audit Journal Manager menu, allows you to define and maintain rules exclusively for Audit Journal Manager.

Getting there

Use option **5=Work with Rules** on the Audit Journal Manager main menu to open the Work with Rules display.

NOTE: If Audit Journal Manager is installed as part of a Halcyon product suite, viewing the Work with Rules display from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only rules applicable to Audit Journal Manager are currently being viewed.

```

HAL0030R              Halcyon Audit Journal Manager              HAL525P3
                                Work with Rules                  3/11/10  15:34:57
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 14=Message count 15=Review messages 23=Rule history
Opt Item      Description              Status
-- Audit Journal                        Active

Subsetting List

BOTTOM

F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F17=Subset F21=Command line F22=Print F23=Expand all

```

The Work with Rules display lists the information using three levels of indentation. By default, upon opening the display, only the first level is shown. Further levels are displayed by using **F11=Expand** and then **F23=Expand All**.

Work with Rules Levels of Display

The three levels of indentation available for view on the Work with Rules display are:

1. Monitors
2. The rule groups defined within each monitor
3. The rules defined within each rule group

Parameters on the Work with Rules display

The following parameters are available on this display.

Item

Shows up to three levels of rules (see above).

Description

The description of the rule level item displayed in the Item column.

Status

This shows the current status of the item. The status information shown changes dependent on the item level selected.

- **At monitor level**
 - **Held:** The monitor is held to prevent it starting
 - **Starting:** The monitor is starting
 - **Started:** The monitor is running
 - **Ending:** The monitor is ending
 - **Stopped:** The monitor is stopped
- **At rule group level:**
 - **Held:** The rule group is held. None of these rules are processed
 - **Released:** The rule group is released. All released rules may be processed
- **At rule level:**
 - **Held:** The rule is held. This rule is not processed
 - **Released:** The rule is released. This rule may be processed

Audit Journal Manager Rule Requirements

The following requirements must be met in order for an Audit Journal Manager rule to be processed, in order that alerts may be generated and actions invoked:

1. The rule must be released.
2. The queue or rule group containing the rule must be released.
3. The monitor containing the queue or rule group must be started.

Using the Work with Rules display

Please refer to the following sections within [Work with Rules](#) for more information on working with this and subsequent screens.

Work with System Defaults

System defaults are values that control how Halcyon products operate, in the same way that system values affect the i5/OS operating system.

The Audit Journal Manager - Work with System Defaults display lists the available Audit Journal Manager system defaults and provides options enabling you to display or change settings.

Getting there

Take option **6=Work with System Defaults** from the Audit Journal Manager main menu to display the Work with System Defaults display.

```

HAL9010R              Halcyon Audit Journal Manager              HAL525P3
                        Work with System Defaults                3/11/10 15:38:13
Type options, press Enter.
2=Change 5=Display
Subsetted List

Opt Prd Name          Description
-  HAM AUDMONUSER     Audit Journal Monitor user profile.
-  HAM GRPDIAGFOR     HAM Diagnostic for group name.
-  HAM GRPDIAGTYPE    HAM Diagnostic message type.
-  HAM QAUDJRNLIB     Audit journal library.

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F22=Print
BOTTOM

```

NOTE: If Audit Journal Manager is installed as part of the Halcyon product suite, viewing the system defaults from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only system defaults applicable to Audit Journal Manager are currently being viewed.

System Authority

In order to actively use this display, you need *USE authority to the WRKSYSDEF function. In addition, you need *ALL or *USE authority to the SYSDFT function in each product of which you need to maintain or view the system defaults.

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the code of the product to which the system default relates.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Using the Work with System Defaults display

The following options are available when working with system defaults. Type the option number in the Opt column against the selection.

Change

Use option **2=Change** to open the Change System Default display. This displays the current value of the selected system default and allows you to change it to another value within the given parameters for the selected system default.

Display

Use option **5=Display** to open the Display System Default display. This displays the current value of the selected system default but does not allow change.

Functions on the Work with System Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset System Defaults display allowing you to set/clear the filter parameters that restrict the view of system defaults displayed.

Filtering is actioned by product code.

F22=Print

Use **F22=Print** to produce a system defaults report for all system defaults used within Audit Journal Manager.

Work with Substitution Variables

Substitution variables can be used in command and message strings that are defined within Halcyon products. The variable is replaced with the effective value when the command runs or when the message is sent.

Getting there

Select option **7=Work with Substitution Variables** from the Audit Journal Manager main menu.

```

HAL9020R                               Halcyon Audit Journal Manager                               HAL720P2
MANL                                     Work with Substitution Variables                               3/06/19 09:26:40
Position to . . . . .                               Subsetted List

Type options, press Enter.
2=Change 4=Delete 5=Display

Opt Name      Class Type  Attr  Description
- &ACCESSTYPE SYS *CHAR 1   Access type
- &ACNMSGID   SYS *CHAR 7   Action message ID
- &ACTION     SYS *CHAR 4   Action
- &ACTIONID   SYS *DEC 3.0 Action ID
- &AFFUSER    SYS *CHAR 10  Affected user
- &ALERT      SYS *CHAR 256 Alert Text
- &ALERTID    SYS *DEC 9.0  Alert ID
- &ALRCLSDEV  SYS *CHAR 15  Alert close device
- &ALRCLSJOB  SYS *CHAR 10  Alert close job
- &ALRCLSMETH SYS *CHAR 1   Alert close method
- &ALRCLSSYS  SYS *CHAR 8   Alert close system
- &ALRCLSUSER SYS *CHAR 20  Alert close user
- &ARCASP     SYS *CHAR 10  Archive group ASP

More . . .

F3=Exit F5=Refresh F6=Add F12=Cancel F22=Print

```

Using Substitution Variables

Whenever a substitution variable is used in a command or message string, it must be typed in the following format:

&name;

&	Ampersand denotes the start of a substitution variable
name	Name of the substitution variable
;	Optional semi-colon denotes the end of a substitution variable

NOTE: The semi-colon may be omitted if the character immediately following the variable name is not upper case A-Z or 0-9.

EXAMPLE:

Assuming that the substitution variable NAME has the value of JOHN then:
A text entry of "User is &NAME." or "User is &NAME; ." results in "User is JOHN."

Audit Journal Manager Reports

Audit Journal Manager allows you to print the details of the Message and Alert Logs, system defaults plus audit journal rules that you have configured on your IBMi.

Each report is available to print separately from the Audit Journal Manager Reports menu.

Getting there

Select option **40=Reports menu** from the Audit Journal Manager main menu.

```

HAMRPT                               Halcyon Software Ltd                HAL525P3
                               Halcyon Audit Journal Manager          3/11/10 15:37:22
                               Reports Menu

Select one of the following:

  1. Print Message Log
  2. Print Alert Log

  5. Print Rules
  6. Print System Defaults

 10. Print Audit Journal Entries (Customized)

 20. Changed Auditing Values
 21. Authority Failures
 22. Obtaining Adopted Authority
 23. Command Auditing
 24. Objects Created in QSYS
 25. Objects Created

                                                                MORE...

Selection or command
==>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel

```

Report printing functions

The following functions are used on all Audit Journal Manager printing options.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=Retrieve

Use **F9=Retrieve** to display the last command entered on the command line and any included parameters. Pressing this key once, shows the last command ran. Pressing this key twice, shows the command ran before that and so on.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Print Message Log

This menu option allows you to print a report of the Message Log, subsetted to show all the messages logged by the Audit Journal Manager. Parameters on the Print Message Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Message Log](#) for information regarding the parameters on this display.

Print Alert Log

This menu option allows you to print a report of the Alert Log, subsetted to show all the alerts generated by the Audit Journal Manager rules. Parameters on the Print Alert Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Alert Log](#) for information regarding the parameters on this display.

Print Rules

This menu option allows you to print a rules report subsetted by all Audit Journal Manager rules. Parameters on the Print Rules display allow to specify further print criteria as required.

NOTE: See Reports Menu - [Print Rules](#) for information regarding the parameters on this display.

Print System Defaults

This menu option allows you to print a report of the system defaults, subsetted by Audit Journal Manager system defaults. Parameters on the Print System Defaults display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print System Defaults](#) for information regarding the parameters on this display.

Print Audit Journal Entries

This menu option allows you to specify criteria and to submit a report that lists audit journal entries that match the entered selections.

The Print Audit Journal Entries option is split over 3 pages.

- Page 1 contains general selection criteria that control which journal entries are selected from the audit journal
- Page 2 contains report formatting options
- Page 3 summarizes specific selection criteria for each journal entry type. Options and functions on this screen lead to further pages that allow you to maintain or display the selection criteria. These are optional and if no specific selections are made then all journal entries matching the selections made on page 1 are selected for the report

Getting there

Select option **10=Print Audit Journal Entries (Customized)** from the Audit Journal Manager Reports menu.

```

PRTAUDJRN                               Halcyon Audit Journal Manager                               HAL525P3
Print Audit Journal Entries (PRTAUDJRNE)  3/11/10  15:39:43
(1 of 3)

Journal entry type . . . . *ALL          *ALL, Enter type/types, F4=Prompt
-----
-----
-----
-----
-----
-----
-----
-----

Job name . . . . . *_____ Name, *
User . . . . . _____ Name
Number . . . . . _____ 000000-999999
Actioning user . . . . . *ALL_____ Name, *ALL, F4=Prompt

Starting date . . . . . *TODAY_____ date, *AVAIL, *TODAY, ... F4=Prompt
Starting time . . . . . _____ *ALL, hhmm

Ending date . . . . . _____ date, *LAST
Ending time . . . . . _____ *ALL, hhmm

F3=Exit  F12=Cancel  F13=Display Command
    
```

TIP: Local and Remote System options are available when you use the PRTAUDJRNE command directly from the command line. See [The PRTAUDJRNE command](#) for more information.

Parameters on the Print Audit Journal Entries display - page 1

The following parameters are shown on page one of the Print Audit Journal Entries display.

Journal entry type

Specify the journal entry types that are to be selected for the output. Specify *ALL to report on all journal entry types matching the other specified criteria, an individual entry type or multiple entry types. Use **F4=Prompt** to select a single, or multiple entry types from the following list.

AD	Auditing changes
AF	Authority failure
AP	Obtaining adopted authority
AU	Attribute changes
CA	Authority changes
CD	Command string audit
CO	Create object
CP	User profile changed, created or restored

CQ	Change of CRQD object
CU	Cluster operations
CV	Correction verification
CY	Cryptographic configuration
DI	Directory services (includes the IP address if an LDAP server is used)
DO	Delete object
DS	DST security password reset
EV	System environment variables
GR	Generic record
GS	Socket description was given to another job
IM	Intrusion monitor
IN	IPL after normal end
IP	Interprocess communication
IR	IP rules actions
IS	Internet security management
JD	Change to user parameter of a job description
JS	Actions that affect jobs
KF	Key ring file
LD	Link, unlink or look up any directory entry
ML	Office services mail actions
NA	Network attribute changed
ND	APPN directory search filter violation
NE	APPN end point filter violation
NR	Next journal receiver
OM	Object move or rename
OR	Object restore
OW	Object ownership changed
O1	Optical access single file or directory
O2	Optical access single file or directory
O3	Optical access volume

PA	Program changed to adopt authority
PG	Change of an object's primary group
PO	Printed output
PR	Previous journal receiver
PS	Profile swap
PW	Invalid password. Includes the IP address
RA	Authority changed during restore
RD	Audit Journal receiver deleted
RJ	Restoring job description with user profile specified
RO	Change of ownership during restore
RP	Restoring adopted authority program
RQ	Restoring a *CRDQ object
RS	Journal receiver saved
RU	Restoring user profile authority
RZ	Changing a primary group during restore
SD	Changes to system distribution directory
SE	Subsystem routing entry changed
SF	Actions to spooled files
SG	Asynchronous signals
SK	Secure sockets connections
SM	System management changes
SO	Server security user information actions
ST	Use of service tools (includes the IP address for operation console entries)
SV	System value changed (New and Old values included on report)
VA	Changing an access control list
VC	Starting or ending a connection
VF	Closing server files
VL	Account limit exceeded
VN	Logging on and off the network
VO	Validation list actions

VP	Network password entry
VR	Network resource access
VS	Starting or ending a server session
VU	Changing a network profile
VV	Changing service status
XD	Directory server extension
XP	Internal entry
X0	Network authentication
X1	Identify token
X2	Query Manager Profile Audit
YC	DLO object accessed (change)
YR	DLO object accessed (read)
ZC	Object accessed (change)
ZR	Object accessed (read)

Local system

Specifies whether the report includes entries from the local system.

*YES	The report includes entries from the local system
*NO	The report does not include entries from the local system

Remote system

Specifies whether the report includes entries from one or more remote systems.

*NONE	The report does not include any entries from remote systems
sysname	The report includes entries from the specified remote location. The named system must already be defined on the Work with Remote Locations display
*sysgroup	The report includes entries from the i5 systems defined in the specified remote location group. The named group must already be defined on the Work with Remote Locations display

Job name

If only journal entries generated by a specific job are required, enter the job name in this parameter.

*ALL	Journal entries from all jobs are selected
generic*	To specify a generic job name, type starting characters followed by an asterisk
name	Enter a specific job name

Start date/Time

If only journal entries generated during a specific date and time are required, enter the start date and time in this parameter. Special values *TODAY, *AVAIL and *YESTERDAY are available. If the start time is not specified, it is assumed that all entries generated on the first date specified are required.

*AVAIL	All available journal entries are selected
*LASTMONTH	All journal entries printed in the last full month (from the first day to the last day) before the date of the print job are selected
*LASTWEEK	All entries generated in the previous full week before the date of the print job are selected. The beginning day of the week is set in system default HAL/STARTDAYOFWEEK
*TODAY	All journal entries generated on the date of the print job are selected
*YESTERDAY	All journal entries generated on the day before the date of the print job are selected

End date/time

If only journal entries generated during a specific date and time are required, enter the end date and time in this parameter. Special values *TODAY, *LAST and *YESTERDAY are available. If the end time is not specified, it is assumed that entries generated up until midnight on the end date specified are required.

*LAST	All available journal entries from the start date/time specified are selected
*TODAY	All journal entries generated from the start date specified until the end of the print job are selected
*YESTERDAY	All journal entries generated from the start date specified until the day before the date of the print job are selected

IMPORTANT: Due to the resetting of the journal receiver sequence numbers, there is a possibility of other data than that requested being included within the dates requested.

Parameters on the Print Audit Journal Entries display - page 2

The following parameters are shown on page two of the Print Audit Journal Entries display.

Type of output

Specifies the level of detail that is required for the output.

*LIST	A list of journal entries matching the selection criteria is generated. A brief description of the journal entry type is provided, together with the date and time at which the entry was generated
*DETAIL	A list of journal entries matching the selection criteria is generated. A description of the journal type is provided along with details from the journal entry. Details vary depending on the entry type. The date and time at which the entry was generated is also included
*SUMMARY	A list of the journal entry types matching the selection criteria is generated, summarized as a count of the number of types. the entries can be summarized by Type only (Summarize by *TYPE) or broken down into reason codes (Summarize by *REASON)
*OUTSTMF	The output is generated in the form of a CSV file. Details from the journal entry are included. These details vary depending on the journal entry type

Report heading

Specify a report heading that is printed at the top of every page of the report. If *DEFAULT is used, a generic name of Print Audit Journal Entries List, Detail or Summary is printed, dependent on the output type selected.

Summarize by

If *SUMMARY is selected as the Output Type, use this parameter to specify the level of detail for the summarized count.

*TYPE	A list of journal entries is generated with a count of the entries, summarized by journal entry type
*REASON	A list of journal entries and their reason codes is generated with a count of the entries, summarized by journal entry type/reason code

PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

*NO	A PDF document is not created for the report
*YES	A PDF document is created for the report

PDF stream file path

Specifies the full directory path of where the stream file is created.

*AUTO	The stream file is generated automatically. The file is created in the default path. This is obtained from the system default value HAL/DFTDIR . The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)
path	Specify the complete directory where the stream file is created. If the suffix.pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the stream file that is created.

*NONE	No checking is performed on the existence of the stream file. An error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten
*REPLACE	Replaces the existing stream file in the specified directory if it already exists
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

Stream file column heading

If ***OUTSTMF** is specified as the Output Type, the entry in this parameter determines whether column headings are included on the resulting CSV file.

*YES	Column headings are included
*NO	Column headings are not included

Stream file end of line

If ***OUTSTMF** is specified as the Output Type, the entry in this parameter determines the end of line characters to be used to mark the end of records in the stream file.

*CRLF	End of line is marked by carriage return and line feed
*LF	End of line is marked by line feed
*CR	End of line is marked by carriage return
*LFCR	End of line is marked by line feed and carriage return

Parameters on the Print Audit Journal Entries display - page 3

The following parameters are shown on page three of the Print Audit Journal Entries display.

Selection criteria match mode

Refers to the specific selection criteria for the individual journal entry types. If no specific selections are made, then this value is ignored.

It is anticipated that Match Type *ALL is only used when a single entry type has been selected.

*ANY	Audit Journal records are selected if they match any of the individual journal entry selection records
*ALL	Audit Journal records are only selected if they match all of the individual entry types

Prior to creating the report you can, from this display, 'fine-tune' the details by only specifying the details for specific jobs, users or objects. Criteria can also be omitted if required.

Press **F6=Add** to access further report options and open the Add Selection Criteria display.

Each Audit Journal entry type that you want to detail must be entered separately. Enter the two character entry type code or use **F4=Prompt** to select from a list of valid options.

Once the Audit Journal entry type has been selected, press **Enter** to expand the displayed options relevant to the selected entry type.

```

PRTAUDJRN                Halcyon Audit Journal Manager                HAL525P3
                          Add Selection Criteria                       3/11/10  15:46:36

Audit Journal Entry Type . KF   Key ring file

Select or omit . . . . . S      S=Select, O=Omit

Job name . . . . . _____ Name, *
User . . . . . _____ Name, F4=Prompt
Number . . . . . _____ 000000-999999
Actioning user . . . . . *ALL _____ Name, *ALL, F4=Prompt

Certificate operation . . . *ALL Name, *ALL, F4=Prompt
Key ring operation . . . . *ALL Name, *ALL, F4=Prompt
Trusted root operation . . *ALL Name, *ALL, F4=Prompt
Object name . . . . . *ALL _____
                          _____ Name, *ALL

Reason code . . . . . X      Code, *=All, F4=Prompt

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel
    
```

Select or omit

Determines whether this criteria is selected or omitted from the output.

S	Select if the selection criteria are met unless omitted by another specific rule
O	Omit if the selection criteria are met

NOTE: If you have any Print Audit Journal Entry Reports that are run via Schedule or Program that include Select/Omit criteria and that were created prior to PTF Release 2011.020, then you will need to recreate them as the data passed via the PRTAUDJRNE command has changed from XML to ZML.

Remaining parameters on this display are dependent on the Audit Journal entry type selected.

TIP: A full list of parameters applicable to each audit journal entry type can be found at [Changing Audit Journal Selection Criteria](#).

When you have entered the required information for the selected Audit Journal entry type press **Enter**. The entry is now displayed on the initial Add Selection Criteria display.

From this point, you can continue to add further Audit Journal entry types using **F6=Add**.

NOTE: Applying IBM operating system PTFs may cause a new Audit Journal Receiver to be created with the sequence numbers reset; SEQOPT(*RESET). The Print Audit Journal Entries report must use sequence numbers with the IBM API that returns the information and as a result the IBM API returns multiple entries.

Running the Audit Journal Entries Report

Once you have finished adding the required selection criteria, press **Enter** to open the Confirm Job Options pop-up window.

From this Window you can decide whether to submit the report to batch, run it interactively or schedule it to run at a later time.

Run option

Determines how the report is run.

*SUBMIT	Submits the report to batch
*INTERACT	Runs the report interactively
*SCHEDULE	Adds a schedule entry for the report. An entry can be created for the IBM Job Scheduler, or if available, Halcyon Advanced Job Scheduler

Once the option has been selected, press **Enter** to generate the report and run it via the option selected in this window.

The PRTAUDJRNE command

As an alternative to using option **10=Print Audit Journal Entries** option from the Audit Journal Manager Report menu, you can type the **PRTAUDJRNE** command directly onto the command line and press **F4**.

Using the **PRTAUDJRNE** command directly allows you to specify whether to include audit data from any defined remote systems.

TIP: Please refer to the [Print Audit Journal Entries](#) topic for specific field information on this display.

```

Print Audit Journal Entries (PRTAUDJRNE)

Type choices, press Enter.

Journal entry types . . . . . *ALL          *ALL, AD, AF, AP, CA, CP...
+ for more values          _____
Local system . . . . . *YES            *YES, *NO
Remote system . . . . . *NONE          *NONE, location, group
Job name . . . . . *_____          Name, *
Job user . . . . . _____          Name
Number . . . . . _____          Character value
Actioning user . . . . . *ALL          Name, *ALL
Starting date and time:
Starting date . . . . . *TODAY        date, *AVAIL, *TODAY...
Starting time . . . . . _____    Time
Ending date and time:
Ending date . . . . . _____    date, *LAST, *TODAY...
Ending time . . . . . _____    Time
Type of output . . . . . *LIST        *LIST, *DETAIL, *SUMMARY...

More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

Local system

Specifies if audit data entries from the local system is included on the report.

*YES	Audit data entries from the local system are included on the report
*NO	The report does not include Audit data entries from the local system

Remote system

Specifies if audit data entries from one or more remote systems are included on the report.

*NONE	The report does not include information from any remote systems
location	The report includes Audit data entry information from the named remote location. This must already be defined within Work with Remote Locations
group	The report includes Audit data entries from the IBMi systems defined within the specified remote location group. The group must already be defined in Work with Remote Location Groups

NOTE: When the report is run it immediately submits and runs on all the specified locations. The data is extracted from the System Audit Journals. If these have been cleared or deleted, then the data is not available for the report.

Specifying an image for use in the Graphic PDF version of the report

When printing a graphic PDF version of the report it is possible to include a JPG image, such as a system logo for example, in a position of choice on the report. This is achieved via option **25=Change system logo** on the [Work with Remote Locations](#) display.

Pre-Configured Audit Journal Reports

Menu options 20 to 55 on the Audit Journal Manager Reports menu are pre-configured versions of menu option **10=Print Audit Journal Entries** report.

These reports cover the commonest Audit Journal Entry types and can be run in their pre-configured state or can be customized in the same way as the Audit Journal Entries report.

NOTE: See [Print Audit Journal Entries](#) for more information on completing the parameters on these displays.

The following Audit Journal Entry types are covered:

Menu	Entry Type	Description
20	AD	Changing Auditing Values
21	AF	Authority Failures
22	AP	Obtaining Adopted Authority
23	CD	Command Auditing
24	CO	Objects Created In QSYS (includes Select criteria)
25	CO	Objects Created
26	CP	User Profile Changes
27	CO	User Profile Created (includes Select criteria)
28	DO	User Profile Deleted (includes Select criteria)
29	DI	Directory Server
30	DI	EIM; Create Instance (includes Select criteria)
31	DI	EIM; Object Creation (includes Select criteria)
32	DI	EIM; Password Change (includes Select criteria)
33	DI	EIM; Delete Instance (includes Select criteria)
34	DI	EIM; Ownership Change (includes Select criteria)
35	DI	EIM; Password Fail (includes Select criteria)

36	DO	Deleted Objects
37	IM	Intrusion Detection
38	JD	Changed User On Job Description
39	NA	Network Attribute Changed
40	OM	Objects Renamed Or Moved (includes Omit criteria)
41	OR	Objects Restored
42	OW	Object Ownership Changed
43	CD	Powered Down System (Includes Select and Omit criteria)
44	PA	Programs Changed To Adopt Authority
45	PG	Changes To Primary Group
46	PS	Profile Swap
47	PW	Invalid Password Provided
48	RA	Authority Changes During A Restore
49	RO	Object Owner Changed During A Restore
50	SE	Subsystem Routing Entry Changed
51	CD	Service Tools Used (includes Select and Omit criteria)
52	CD	SQL Sessions Started (includes Select and Omit criteria)
53	SV	System Value Changes
54	ZC	Object Changed
55	ZR	Object Accessed (Read)

NOTE: Note: Where Select and OMIT entries are specified, the details can be found on page 3 of each relevant report.

New command **PRTAUDITJ** has also been added. This command is the same as the **PRTAUDJRNE** command EXCEPT that it uses the **PRTAUDJRNE** prompt display (10/HAMRPT) with the options pre-set. This command can therefore only be used Interactively.

Restricted Tasks Manager

Overview

Restricted Tasks Manager allows you to control when and how to perform restricted state functions such as **SAVSYS**, **SAVLIB *NONSYS**, **RCLSTG** and so on. These commands normally have to be initiated manually at the system console, having taken the system down into a restricted state, and therefore requiring an operator to be in attendance.

Restricted Tasks Manager enables unattended operation by allowing you to schedule these events ahead of time, or initiate them from within your own procedures or even from a job queue.

Getting there

Select option **26= Restricted Tasks Manager** from the main menu.



```
HRT                Halcyon Development Environment          HAL525P1
                  Halcyon Restricted Tasks Manager          7/05/09 13:29:55

Select one of the following:

  1. Display Message Log
  2. Work with Alert Log
  3. Display Restricted Task Run Log

  5. Work with Rules
  6. Work with System Defaults
  7. Work with Command Templates

 10. Work with Restricted Task Groups
 11. Display Saved Objects

 20. Start Console Manager
 21. Run Restricted Task Group

 40. Reports Menu

More...

Selection or command
==> _____
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Quick access

From the Restricted Tasks Manager menu you can access the following options:

Option	Function
Display Message Log	Displays the message log subsetted for messages generated by Restricted Tasks Manager
Work with Alert Log	Displays the alert log subsetted for alerts generated by Restricted Tasks Manager
Display Restricted Task Log Run	Lists the restricted task group runs that have been performed
Work with Rules	Opens the Work with Rules display subsetted by the Restricted Tasks Manager
Work with System Defaults	Opens the Work with System Defaults display subsetted for system defaults applicable to Restricted Tasks Manager
Work with Substitution Variables	Opens the Work with Substitution Variables display subsetted for substitution variables applicable to Restricted Tasks Manager
Working with Command Templates	Allows the set-up of commonly used restricted tasks commands in a template, making the addition of new restricted tasks easier
Working with Restricted Task Groups	Allows you to create and maintain restricted task groups which comprise a set of commands that are run when the system is in a restricted state
Display Saved Objects	Provides access to the objects recorded as saved by each restricted task group run
Start Console Manager	Starts the Console Manager and optionally starts processing a restricted task group
Run Restricted Task Group	Instructs the Console Manager to begin processing a specified restricted task group
Restricted Tasks Manager Reports	Displays a list of reports that can be run from within Restricted Tasks Manager
Work with Calendars	Displays the calendars that are used in Restricted Tasks Manager
Display Product Information	Displays the current Halcyon product information for this system
Display System Information	Displays the current system information for this device

Display Message Log

The Restricted Tasks Manager - Display Message Log option displays all messages generated by the Restricted Tasks Manager product installed on your IBM i. These are shown as a subsetted list of the full Message Log. See [Display Message Log](#) for more details.

```

HAL0010R              Halcyon Restricted Tasks Manager              HAL525P1
                                Display Message Log                7/05/09 13:42:42
Position to Date . . . . . _____ Subsetted List
Position to Time . . . . . _____

Type options, press Enter.
1=Select job 5=Display 6=Print 7=Alert Log 8=Network Log 9=Comms Log

Op Typ Sev Date      Time      Message
_ SYS 99 01/05/09 15:00:39 Save file XFER in QGPL already contains data. (C G)
_ SYS 40 01/05/09 15:00:39 Cancel reply received for message CPA4067.
_ SYS 30 01/05/09 15:00:39 Save or restore operation ended unsuccessfully.
_ SYS 00 01/05/09 15:00:39 Restricted Task TEST/010 failed with CPF3794.
_ SYS 00 01/05/09 15:00:40 Restricted Task Group TEST recovery phase is running
_ SYS 00 01/05/09 15:00:41 Restricted Task Group TEST is restarting controlling
_ SYS 00 01/05/09 15:00:45 Restricted Task Console Manager ended.
_ SYS 00 07/05/09 12:13:57 Restricted Task Console Manager started.
_ SYS 00 07/05/09 12:14:06 Restricted Task Console Manager ended.
_ SYS 00 07/05/09 12:19:01 Restricted Task Console Manager started.
_ SYS 00 07/05/09 12:19:07 Restricted Task Console Manager ended.

Bottom

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F18=Bottom  F21=Print

```

Access and Navigation

To view the current Restricted Tasks Manager Message Log take option **1=Display Message Log** from the Restricted Tasks Manager menu.

Messages are displayed in chronological order, most recent last. When you first open the Display Message Log display, you are automatically taken to the most recent message at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position' to Date'/'Position to Time' parameters and press **Enter**
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the messages nearest to the date/time combination requested.
- Use the **Page Up / Page Down** keys to scroll through the list of messages
- Use **F18=Bottom** to return to the most recent message
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new messages that may have arrived since the Message Log was initially displayed.

- Use **F5=Refresh** to update the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent message

Parameters on the Display Message Log display

The following parameters are shown on the Display Message Log display.

Type

Indicates the type of message entry.

MNT Maintenance message

SYS System message

Severity (Sev)

Displays the severity of each message using the following rating:

0 Information

10 Warning

20 Error

30 Severe Error

40 Abnormal end of program or function

50 Abnormal end of job

Date

The date on which the message was logged.

Time

The time at which the message was logged.

Message

Shows the message text. If this parameter is truncated use option **5=Display** to show the full message detail.

Using the Display Message Log display

Please refer to [Display Message Log](#) for more information on working with this and subsequent screens.

Work with Alert Log

The Work with Alert Log display is used to display any alert messages that have been generated as a result of user-defined rule criteria being triggered in the Restricted Tasks Manager product you have installed on your IBMi.

NOTE: See [Work with Rules](#) for more details on how to set rule criteria.

```

HAL0020R              Halcyon Restricted Tasks Manager              HAL525P1
                               Work with Alert Log                  7/05/09  14:29:20
Position to Date . . . . .
Position to Time . . . . .
Type options, press Enter.
  4=Delete  5=Display  6=Print  7=Messages  9=Reply 10=Close 11=Omit in future
13=Action history 20=Change rule
Opt Status  Date      Time      Alert Message
--
CLOSED 01/05/09 14:55:42 73457 Restricted Task Group TEST task phase is run
CLOSED 01/05/09 14:55:44 73458 Restricted Task TEST/010 is being processed.
CLOSED 01/05/09 14:55:45 73459 SAVLIB LIB(HJSNEW) DEV(*SAVF) SAVF(XFER) OUT
CLOSED 01/05/09 14:55:45 73460 Restricted Task TEST/010 failed with CPF3794
CLOSED 01/05/09 14:55:46 73461 Restricted Task Group TEST recovery phase is
CLOSED 01/05/09 14:55:47 73462 Restricted Task Group TEST is restarting con
CLOSED 01/05/09 15:00:36 73463 Restricted Task Group TEST task phase is run
CLOSED 01/05/09 15:00:38 73464 Restricted Task TEST/010 is being processed.
CLOSED 01/05/09 15:00:39 73465 SAVLIB LIB(HJSNEW) DEV(*SAVF) SAVF(XFER) OUT
CLOSED 01/05/09 15:00:39 73466 Restricted Task TEST/010 failed with CPF3794
CLOSED 01/05/09 15:00:40 73467 Restricted Task Group TEST recovery phase is
CLOSED 01/05/09 15:00:41 73468 Restricted Task Group TEST is restarting con

                               Bottom
F3=Exit  F5=Refresh  F12=Cancel  F13=Repeat  F16=User options  F24=More keys

```

The Alert Log allows you to reply to, close and delete alerts as well as view previous action history or change the rule that generated the alert.

NOTE: If Restricted Tasks Manager is installed as part of a suite of products, viewing the Alert Log from within the product rather than the suite, results in 'Subsetting List' being displayed in the top-right-hand corner of the display. This is to indicate that only alerts applicable to Restricted Tasks Manager are currently being viewed.

Access and Navigation

The Work with Alert Log display is accessed from option **2=Work with Alert Log** from the Restricted Tasks Manager menu.

Alerts are displayed in chronological order, most recent last. When you first open the Work with Alert Log display, you are automatically taken to the most recent alert at the bottom of the current list. To change the current view you can use one of three options:

- Enter a date and/or time in the 'Position to Date'/'Position to Time' parameters and press **Enter**
 - These parameters act as a 'search' facility in that once the date and/or time have been entered, the display lists (from the top of the display) the alerts nearest to the date/time combination requested
- Use the **Page Up** / **Page Down** keys to scroll through the list of alerts
- Use **F18=Bottom** to return to the most recent alert
 - This option only works if you are not already on the bottom page when used

Refreshing the Display

You may refresh the display at any time to view new alerts that may have arrived since the Alert Log was initially displayed.

- Use **F5=Refresh** to refresh the display without changing the view from the current position
- Use **F18=Bottom** to refresh the display and return to the most recent alert

Parameters on the Work with Alert Log Display

The following parameters are shown on the Work with Alert Log display.

Alert status

Shows the current status of the alert. The alerts that are displayed on the Work with Alert Log can either be open or closed. Any alert that does not have a status value of closed is an open alert.

An open alert is an alert that has been raised by a filter criteria in one of the Halcyon suite products but that has not yet been closed. An open alert indicates an issue that needs further investigation. One of seven values identify the current status of the alert.

OPEN	The alert is currently open
ACKNOWL	The alert has been acknowledged but is still open
ACTIVE	Open alert for which an action is currently in progress
CONSOLE	Open alert for which a console action has been successfully completed
SNDTXT	Open alert for which a Send Text Message action has been successfully completed
PENDING	Open alert for which an action is pending
ERROR	Open alert for which an action has failed

A 'closed' alert status indicates an alert that has had an issue resolved or has been noted. Alerts can be closed either manually or automatically.

CLOSED The alert is closed

Date

Shows the date on which the alert was logged.

Time

Shows the time at which the alert was logged.

Alert

Displays the unique identification number allocated to the alert.

Message

Displays the text of the alert. If this parameter is truncated use option **5=Display** against the required alert to view the full text.

NOTE: Characters that cannot normally be displayed are replaced with '?' within the message text when shown in the Work with Alert Log screens.

Using the Work with Alert Log display

Please refer to the chapter [Work with Alert Log](#) for more information on working with this and subsequent screens.

Display Restricted Task Run Log

The Display Restricted Task Run Log display lists the restricted task group runs that have been performed. Initially, only *LIVE runs are displayed on this log. Use option **F17=Subset** to display *TEST run log data.

Getting there

Select option **3=Display Restricted Task Run Log** from the Restricted Tasks Manager main menu.

```

HRT0300R                               Halcyon Restricted Tasks Manager                               HAL270
SOS                                     Display Restricted Task Run Log                               28/08/09 14:30:55
Position to date . . . . .                               Subsetted List
Position to time . . . . .                               _____

Type options, press Enter.
4=Delete 5=Display saved objects 7=Messages

Opt Date   Time           Group      Status   Mode   User      Job      Uid
- 24/08/09 12:34:19 TEST      Unknown *LIVE  QSECOFR  DSP01    14
- 24/08/09 12:43:17 TEST      Complete *LIVE  QSECOFR  DSP01    15
- 24/08/09 12:57:12 TEST      Complete *LIVE  QSECOFR  DSP01    16
- 24/08/09 14:09:34 TEST      Complete *LIVE  QSECOFR  DSP01    17
- 24/08/09 14:31:58 TEST      Complete *LIVE  QSECOFR  DSP01    18
- 24/08/09 15:47:24 TEST      Complete *LIVE  QSECOFR  DSP01    19
- 24/08/09 16:13:02 TEST      Complete *LIVE  QSECOFR  DSP01    20

Bottom

F3=Exit F5=Refresh F12=Cancel F17=Subset

```

Position the display by typing valid date and/or time data and press **Enter**.

Parameters on the Display Restricted Tasks Run Log display

The following parameters are available on this display.

Date

Specifies the date on which this restricted task group started running.

Time

Specifies the time at which this restricted task group started running.

Group

Displays the name of the restricted task group.

Status

Specifies the end status of this restricted task group run.

- Complete** The restricted task group run ended using the *ENDGRP options as defined within the restricted task group
- Error** The restricted task group run ended using the *ABORT options defined in the restricted task group
- Unknown** The restricted task group is still running, or ended without using wither the *ENDGRP or *ABORT options

Mode

Displays the run mode of this restricted task group run.

- *LIVE** Indicates a normal run of a restricted task group
- *TEST** Indicates a test run

User

Specifies the user profile used by this restricted task group run.

NOTE: *ALLOBJ and *SECADM special authorities are required to run a restricted task group in *LIVE mode.

Job

Specifies the name of the interactive job used by this restricted task group run.

NOTE: Restricted task groups in *LIVE mode must be run from the system console.

UID

Specifies the unique reference number of this restricted task group run.

Using the Restricted Tasks Run Log display

The following options are available when working with the Restricted Tasks Run Log display. Type the option number in the Opt column against the required log entry and press Enter.

Delete

Use option **4=Delete** to open the Confirm Delete of Restricted Task Run Log Entries display. Press **Enter** on this display to delete the selected entries or use **F12=Cancel** to abort the deletion and return to the Restricted Tasks Run Log display.

Display Saved Objects

Use option **5=Display Saved Objects** to open the Display Saved Objects display which lists the objects saved by this restricted task group run, provided that the Log Saved Objects option was used in the appropriate restricted tasks in this restricted tasks group.

Saved object information includes:

- Libraries, objects and members saved
- IFS Objects saved (use **SAV** command)
- Spooled files saved (use **SAVLIB** or **SAVOBJ** with **SPLFDTA(*ALL)**)

```

HRT0400R              Halcyon Restricted Tasks Manager              HAL525P2
SOS                   Display Saved Objects                        10/12/09  10:56:32
Group . . . . . : TEMPLATES
Date/time . . . . : 10/12/09 10:33:20

Type options, press Enter.
1=Select

Opt Seq Command                                             +
=  20 SAVLIB LIB (HALCYON) DEV (TAP03) OUTPUT (*OUTFILE) OUTFILE (QTEMP/OBJHI... +

Bottom

F3=Exit  F5=Refresh  F12=Cancel

```

The saved information is displayed hierarchically. Drill down through levels to display additional information. In all cases the top level is the command that was used to perform the save, then drill down to see subsequent levels as follows:

- Library -> Object
- Library -> File -> Member
- Library -> Output Queue -> Spooled File
- Directory -> Directory -> Directory

NOTE: See [Display Saved Objects](#) for more information on this display.

Messages

Use option **7=Messages** to open the Display Message Log display that lists all the messages logged by this restricted tasks group run.

NOTE: See [Display Message Log](#) for more information on this display.

Functions on the Display Restricted Task Run Log display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset Restricted Task Run Log display which allows you to set or clear the filter parameters that restrict the visibility of restricted task group runs on the main display.

Work with Rules

Rules are used within a restricted state to allow you to define automatic responses, such as sending a Reply of 'I' to an active file message.

Working with Rules allows you to define and maintain rules for the Restricted Tasks monitor.

Getting there

Use option **5=Work with Rules** on the Restricted Tasks Manager main menu to open the Work with Rules display.

```

HAL0030R              Halcyon Restricted Tasks Manager              HAL720P2
MANL                  Work with Rules                             8/05/19 15:48:57
Type options, press enter                                     Subsetted List
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Counts 15=Review msgs 23=Rule history...
Opt Item      Description                                     Status
|_ Restricted Tasks

Bottom
F3=Exit  F5=Refresh  F6=Add  F9=Move to top  F11=Expand  F12=Cancel
F13=Expand all  F17=Subset  F21=Command line  F22=Print  F23=More options

```

NOTE: If Restricted Tasks Manager is installed as part of a product suite, viewing the Work with Rules display from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only rules applicable to Restricted Tasks Manager are currently being viewed.

The Work with Rules display lists the information using three levels of indentation. By default, upon opening the display, only the first level is shown. Further levels are displayed by using **F11=Expand** and then **F23=Expand All**.

Work with Rules Levels of Display

The three levels of indentation available for view on the Work with Rules display are:

1. Monitors
2. The rule groups defined within each monitor
3. The rules defined within each rule group

```

HAL0030R           Halcyon Restricted Tasks Manager           HAL525P1
                   Work with Rules                          8/05/09 11:26:56
Type options, press enter                               Subsetting List
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 15=Review messages 23=Rule History
Opt                                                     Status
  Restricted Tasks                                     Stopped
  -  DEFAULT                                           Held
  -  10 All Messages
  -
                                                     Bottom
F3=Exit  F5=Refresh F6=Add  F9=Move to top F11=Expand F12=Cancel
F17=Subset F21=Command line F22=Print All F23=Expand all

```

Parameters on the Work with Rules display

The following parameters are available on this display.

Item

Shows up to three levels of rules (see above).

Description

The description of the rule level item displayed in the Item column.

Status

This shows the current status of the item. The status information shown changes dependent on the item level selected.

- **At monitor level:**
 - **Held** The monitor is held to prevent it starting
 - **Starting** The monitor is starting
 - **Started** The monitor is running

- **Ending** The monitor is ending
- **Stopped** The monitor has been stopped
- **At rule group level:**
 - **Held** The rule group is held. None of the rules are processed
 - **Released** The rule group is released. All released rules may be processed
- **At rule level:**
 - **Held** The rule is held. This rule is not processed
 - **Released** The rule is released. This rule may be processed

Rule Requirements

The following requirements must be met in order for a rule to be processed, in order that alerts may be generated and actions invoked:

1. The rule must be released.
2. The rule group containing the rule must be released.
3. The monitor containing the rule group must be started.

Using the Work with Rules display

Please refer to the following sections within [Work with Rules](#) for more information on working with this and subsequent screens.

Work with System Defaults

The Restricted Tasks Manager System Defaults display lists all the system defaults available within Restricted Tasks Manager and provides options for display and maintenance.

System defaults are values that control how Halcyon products operate, in the same way that system values affect the operating system.

Getting there

Select option **6=Work with System Defaults** from the Restricted Tasks Manager main menu.

```

HAL9010R              Halcyon Restricted Tasks Manager          HAL525P1
                        Work with System Defaults              11/05/09 13:35:35
Type options, press Enter.                               Subsetted List
2=Change 5=Display

Opt Prd Name      Description
- HRT CONSMGRCMD  Console manager command window.
- HRT DFTENDSYSMSG Restricted task ending phase message.
- HRT DFTPRESTRMSG Restricted task pre-start phase message.
- HRT LOGLVL      Restricted task logging level.
- HRT NETSNDTIMEOUT Restricted mode network send time-out in seconds.
- HRT RUNLOGLIFE  No. days to retain entries in Restricted Task run log.
- HRT SNDTXTMAXRTY Restricted mode send text msg maximum retries.
- HRT SNDTXTRTYINTV Restricted mode send text msg retry interval in secs.

F3=Exit  F5=Refresh  F12=Cancel  F17=Subset  F21=Print

Bottom

```

NOTE: If Restricted Tasks Manager is installed as part of a product suite, viewing the system defaults from within the product rather than the suite, results in 'Subsetted List' being displayed in the top-right-hand corner of the display. This is to indicate that only system defaults applicable to Restricted Tasks Manager are currently being viewed.

System Authority

In order to use the System Defaults display, you need *USE authority to the WRKSYSDF function. In addition, you need *ALL or *USE authority to the SYSDF function in each product of which you need to maintain or view the system defaults.

Parameters on the Work with System Defaults display

The following parameters are available on this display.

Product (Prd)

Displays the code of the product to which the system default relates.

Name

Displays the name of the system default.

Description

Displays a description of the system default.

Using the Work with System Defaults display

The following options are available when working with system defaults. Type the option number in the Opt column against the selection.

Change

Use option **2=Change** to open the Change System Default display. This displays the current value of the selected system default and allows you to change it to another value within the given parameters for the selected system default.

Display

Use option **5=Display** to open the Display System Default display. This displays the current value of the selected system default but does not allow change.

Functions on the Work with System Defaults display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F17=Subset

Use **F17=Subset** to open the Subset System Defaults display which allows you to set or clear the filter parameters that restrict the view of system defaults displayed.

Filtering is actioned by product code.

F22=Print

Use **F22=Print** to produce a system defaults report for all system defaults used within Restricted Tasks Manager.

Work with Substitution Variables

Substitution variables can be used in command and message strings that are defined within Halcyon products. The variable is replaced with the effective value when the command runs or when the message is sent.

Getting there

Select option **7=Work with Substitution Variables** from the Restricted Tasks Manager main menu.

```

HAL9020R                               Halcyon Restricted Tasks Manager                               HAL720P2
MANL                                     Work with Substitution Variables                               9/05/19 09:08:23
Position to . . . . .                               Subsetted List

Type options, press Enter.
2=Change 4=Delete 5=Display

Opt Name      Class Type  Attr  Description
--
@ACTIONID     SYS  *DEC   3.0  Action ID
@AFFUSER      SYS  *CHAR  10   Affected user
@ALERT        SYS  *CHAR  256  Alert Text
@ALERTID      SYS  *DEC   9.0  Alert ID
@ALRCLSDEV    SYS  *CHAR  15   Alert close device
@ALRCLSJOB    SYS  *CHAR  10   Alert close job
@ALRCLSMETH   SYS  *CHAR  1    Alert close method
@ALRCLSSYS    SYS  *CHAR  8    Alert close system
@ALRCLSUSER   SYS  *CHAR  20   Alert close user
@ARCASP       SYS  *CHAR  10   Archive group ASP
@ARCFILE      SYS  *CHAR  10   Archive file
@ARCGROUP     SYS  *CHAR  10   Archive group
@ARCLIB       SYS  *CHAR  10   Archive library

More . . .

F3=Exit F5=Refresh F6=Add F12=Cancel F22=Print

```

Using Substitution Variables

Whenever a substitution variable is used in a command or message string, it must be typed in the following format:

&name;

- &** Ampersand denotes the start of a substitution variable
- name** Name of the substitution variable
- ;** Optional semi-colon denotes the end of a substitution variable

NOTE: The semi-colon may be omitted if the character immediately following the variable name is not upper case A-Z or 0-9.

Examples of Substitution Variables

EXAMPLE:

Assuming that the substitution variable NAME has the value of JOHN then:

A text entry of “User is &NAME.” or “User is &NAME;.” results in “User is JOHN.”

EXAMPLE:

Command text of: ‘User is &NAME;;’ results in: ‘User is John;’

EXAMPLE:

Command text of: ‘User temporary library is &NAME TEMP.’ results in: ‘User temporary library is JOHN TEMP.’ but produces unwanted space.

EXAMPLE:

Command text of: ‘User temporary library is &NAME;TEMP.’ results in: ‘User temporary library is JOHNTEMP.’

EXAMPLE:

Command text of: ‘User temporary library is &NAMETEMP.’ causes an error as variable ‘&NAMETEMP’ does not exist.

Working with Command Templates

Command templates can be used to set up commonly used restricted tasks, making the addition of new restricted tasks easier. When a command template is selected, the restricted task is populated with the command defined in the command template.

Command templates are used when adding a restricted task to a restricted task group. See [Working with Restricted Task Groups](#) for more information.

The Work with Command Templates display lists the command templates that have been defined and provides options for display and maintenance.

Getting there

Select option **7=Work with Command Templates** from the Restricted Tasks Manager main menu.

```

HRT1100R              Halcyon Restricted Tasks Manager              HAL525P1
                        Work with Command Templates                11/05/09  16:34:53

Type options, press Enter.
2=Change  4=Delete  5=Display

Opt Name      Description
- APYPTF      Apply Program Temporary Fix
- DSPTAP      Display Tape
- DUPTAP      Duplicate Tape
- INSPTF      Install Program Temporary Fix
- INZTAP      Initialise Tape
- LODPTF      Load Program Temporary Fix
- SAV         Save Object
- SAVCFG      Save Configuration
- SAVCHGOBJ   Save Changed Objects
- SAVDLO      Save Doc Lib Objects
- SAVLIB      Save Libraries *NONSYS
- SAVOBJ      Save Objects
- SAVSAVFDTA Save Save File Data
- SAVSECDTA   Save Security Data

More...

F3=Exit  F5=Refresh  F6=Add  F12=Cancel

```

Parameters on the Work with Command Templates Display

The following parameters are available on this display.

Name

Specifies the name of the command template.

Description

Provides a description of how the command template is used.

Using the Work with Command Templates display

The following options are available when using the Work with Command Templates display. Type the option number in the Opt column against the required command template.

Change

Use option **2=Change** to open the Change Command Template display, allowing you to alter the details of an existing command template.

Delete

Use option **4=Delete** to open the Confirm Deletion of Command Template display. Press **Enter** on this display to confirm the deletion or **F12** to cancel the procedure.

Display

Use option **5=Display** to open the Display Command Template display where the details of the command template can be viewed but not amended.

Functions on the Work with Command Templates display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Command Template display, allowing you to define a new command template.

NOTE: See [Adding a Command Template](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Default Command Templates

The following command templates are supplied with Restricted Tasks Manager and provide options for common restricted state tasks.

Apply Program Temporary Fix (**APYPTF**)

The Apply Program Temporary Fix command template applies program temporary fixes (PTF) to a specified product.

Display Tape (**DSPTAP**)

The Display Tape command template displays the volume label and data file label information that is contained on a standard labelled magnetic tape or the volume type and density. This information can be printed or displayed.

Duplicate Tape (**DUPTAP**)

The Duplicate Tape command template can be used to copy the contents of one tape to another tape.

Install Program Temporary Fix (**INSPTF**)

The Install Program Temporary Fix command template allows the user to load and apply PTFs for multiple products with a single command. PTF groups are copied to the system when they do not already exist on the system or when the level of the PTF group on the media is higher than the level of the PTF group that exists on the system.

Initialize Tape (**INZTAP**)

The Initialize Tape command template is used to initialize magnetic tape for use on the system. This command is used to initialize a tape with a standard volume label for standard label magnetic tape processing or to initialize a tape with no labels for unlabeled magnetic tape processing.

Load Program Temporary Fix (**LODPTF**)

The Load Program Temporary Fix command template loads PTFs for a specified product from a tape, diskette, optical device, or save file into the product PTF library.

Save Object (**SAV**)

The Save Object command template saves a copy of one or more objects that can then be used in the integrated file system.

Save Configuration (**SAVCFG**)

The Save Configuration command template saves all configuration and system resource management objects without requiring the system to be in a restricted state.

Save Changed Objects (**SAVCHGOBJ**)

The Save Changed Object command templates saves a copy of each changed object or group of objects located in the same library. When *ALL is specified for the Objects parameter, objects can be saved from all user libraries or from a list of libraries. When saving to a save file, only one library can be specified. For database files, only the changed members are saved. The HRTxxxx (where xxxx is the name of the environment) library is excluded by default.

Save Doc Lib Objects (**SAVDLO**)

The Save Document Library Objects command template saves a copy of the specified documents, folders, or distribution objects (mail).

Save Libraries (**SAVLIB**)

The Save Libraries command template allows you to save a copy of one or more libraries. The HRTxxxx (where xxxx is the name of the environment) library is excluded by default.

Save Libraries *NONSYS (**SAVNONSYS**)

The Save Libraries *NONSYS command template allows you to save a copy of all non-system libraries. The HRTxxxx (where xxxx is the name of the environment) library is excluded by default.

Save Objects (**SAVOBJ**)

The Save Object command template saves a copy of a single object or a group of objects located in the same library. The system saves the specified objects by writing a copy of each object on tape or optical media, or in a save file.

Save Save File Data (SAVSAVFDTA)

The Save Save File Data command template saves the contents of a save file to tape or optical media. This saves the save data in the save file to a device in a way that allows you to restore objects directly from the device.

Save Security Data (SAVSECDTA)

The Save Security Data command template saves all security information.

Save Storage (SAVSTG)

The Save Storage command template saves a copy of the licensed internal code and the contents of auxiliary storage (except unused space and temporary objects) to tape. This function is intended for disaster recovery backup.

Save System (SAVSYS)

The Save System command template saves a copy of the licensed internal code and the QSYS library in a format compatible with the installation of the operating system.

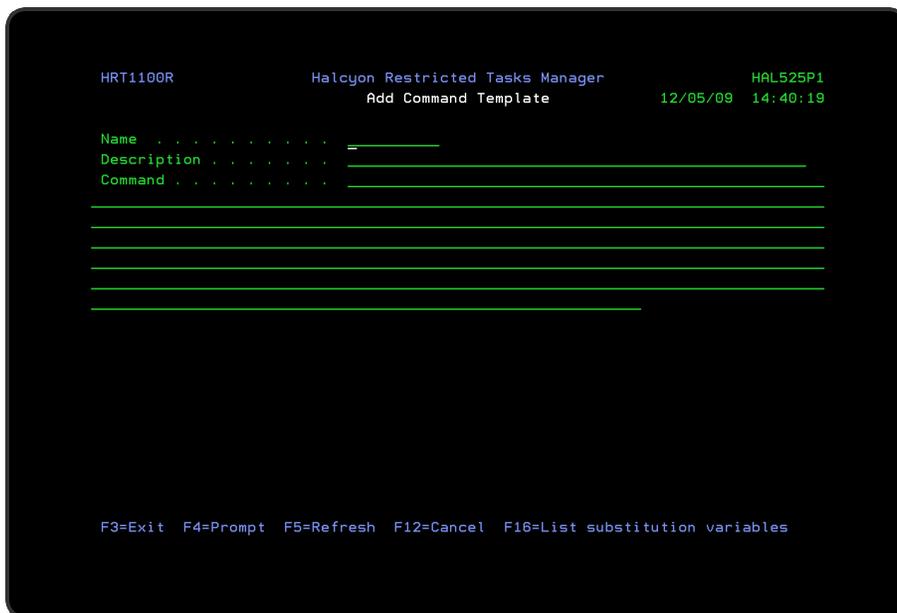
Verify Tape (VFYTAP)

The Verify Tape command template allows for verification of tape unit operations for all tape units.

Adding a Command Template

Getting there

To add a new command template, use **F6=Add** on the Work with Command Templates display to open the Add Command Template display.



Parameters on the Add Command Template display

The following parameters are available on this display.

Name

Enter a name by which this command template is identified. This cannot be changed once entered and confirmed.

Description

Enter a description that provides an accurate account of the purpose of the command template.

Command

Enter the command for this command template. You can specify any command that is allowed to run in the *EXEC environment (in most cases, the same commands that can be run in a command line).

When entering a command, Halcyon substitution variables may be included. The special variable '&N' may be used as a placeholder if the value for a command parameter may vary each time the command is used to add a restricted task. When the command template is selected, the user is forced to replace any '&N' placeholders with some other variable or a fixed value.

Substitution Variables **must** be typed in the following format:

&name;

& Ampersand denotes the start of a substitution variable
name Name of the substitution variable
; Optional semi-colon denotes the end of a substitution variable

Functions on the Add Command Template display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=Substitution variables

Use **F16=Substitution variables** to display a pop-up window containing a list of substitution variables from which a selection can then be made.

NOTE: The cursor must be positioned in the 'Command' parameter for **F16=Substitution variables** to be available for selection.

Working with Restricted Task Groups

Each restricted task group comprises of a set of commands that are run when the system is in a restricted state. Various control and notification options are also included to assist in the running of the restricted task group.

- There is no processing mode. All task groups are created as run mode using *SCHEDULE, *SUBMIT or *RUN.
- To submit a task group, submit the **RUNTSKGRP** command
- To schedule a task group, schedule the **RUNTSKGRP** command
- To run a task group, do one of the following:
 - Start the Console Manager using the **STRCONMGR** command and specify the task group using the `GROUP` parameter
 - Run the **RUNTSKGRP** command
 - Use option **9=Run** from the Work with Restricted Task Groups display

NOTE: Using Halcyon Record & Playback within Restricted Task Groups

HRP Scripts can only run if a relevant subsystem has been started for the Virtual Terminal to run within.

The Work with Restricted Tasks display lists all of the current restricted task groups that have been defined. Options for maintaining these as well as adding new restricted task groups are provided on this display

Getting there

Select option **10=Work with Restricted Task Groups** from the Restricted Tasks Manager main menu.

```

HRT0100R              Halcyon Restricted Tasks Manager          HAL525P1
                    Work with Restricted Task Groups          13/05/09  08:51:20

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 9=Run

Opt  Name      Description
--  -
=   IFS        Test2
-   NOHIST     Test
-   PM        Test
-   SKYVIEW   Test
-   SPLF      SPLF
-   TEST      Test
-   TURNOVER  Test
-   USERDATA  Test

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F21=Print

Bottom

```

Parameters on the Work with Restricted Tasks Group display

The following parameters are available on this display.

Name

Displays the name of the restricted task group.

Description

Displays a textual description of the restricted task group.

Using the Work with Restricted Task Groups display

The following options are available when using the Work with Restricted Task Groups display. Type the option number in the Opt column against the required restricted task group.

Change

Use option **2=Change** to open the Change Restricted Task Group display from where you can change the attributes of a restricted task group that has previously been defined.

NOTE: You cannot change the name of an existing restricted task group.

See [Adding a Restricted Task Group](#) for more information relating to the parameters on the Change Restricted Task Group display.

Copy

Use option **3=Copy** to open the Confirm Copy of Restricted Task Groups display. This allows you to copy the details of an existing restricted task group into a new group to save you time in re-keying core elements of the restricted tasks that are the same in both groups.

Enter a name for the new restricted task group and press **Enter** to complete the copy procedure.

Delete

Use option **4=Delete** to open the Confirm Delete of Restricted Tasks Groups display. Press **Enter** to confirm the deletion or **F12** to cancel the procedure.

Display

Use option **5=Display** to open the Display Restricted Task Group display, from where you can view, but not change, the details of the restricted task group.

Run

Use option **9=Run** to open the Confirm Run of Restricted Task Group display. Press **Enter** to confirm the running of the selected restricted task group or **F12** to cancel the procedure.

NOTE: Only one restricted task group can be selected when using option **9=Run**. The Console Manager must be running.

See [Start Console Manager](#) for more information.

Submitting to batch

Alternatively, you can submit the run of restricted task group to batch, by using **F19** on the Confirm Run of Restricted Task Group display.

This submits Console Manager and requests that the selected task must be processed immediately. You can specify the job queue to which to submit the run. The default setting is ***JOB**. The submitted job must be running in the controlling subsystem or else it fails.

NOTE: When submitting a restricted task group to run in batch, the Console Manager must not be running.

Functions on the Work with Restricted Task Groups display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add

Use **F6=Add** to open the Add Restricted Task Group display, allowing you to define a new restricted task group.

NOTE: See [Adding a Restricted Task Group](#) for more information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Restricted Task Group

Getting there

Use **F6=Add** on the Work with Restricted Task Groups display to add a new restricted task group.



There are four pages to complete when adding a new restricted task group.

Parameters on the Add Restricted Task Group display

The following parameters are available on this display.

Task group

Enter a name by which the restricted task group is identified. This name cannot be amended once the restricted task group has been added.

Description

Enter a description for the restricted task group that accurately reflects the purpose.

Start time option

This parameter lets you specify the times during which this restricted task group is allowed to initiate a restricted state.

- *ANY** No time restrictions apply
- *CAL** Restricted to dates and times defined on a specified calendar
- *TIMES** Restricted to a specific time range

Calendar (only visible if *CAL selected as the Start Time option)

Specify the name of the calendar to be used when determining the permitted start times for this restricted task group.

NOTE: Use **F4=Prompt** to display a pop-up window of defined calendars which can be selected for use in this parameter.

Mode (only visible if *CAL selected as the Start Time option)

Specifies how the calendar is used to obtain the permitted start times.

- *ON** The restricted task group is permitted to initiate restricted state on the dates and times set to on in this calendar
- *OFF** The restricted task group is permitted to initiate restricted state on the dates and times set off in this calendar

From (only visible if *TIMES selected as the Start Time option)

Specify the start time of the permitted time range for this restricted task group.

To (only visible if *TIMES selected as the Start Time option)

Specify the end time of the permitted time range for this restricted task group. If the time in this parameter is earlier than that in the 'From' parameter, it refers to the following day.

Pre-start command

Used to specify any pre-start command that you want to run prior to the restricted task group being run. This command may include substitution variables if required.

- *NONE** No pre-start command is run
- command** Specify a command that is then run immediately before the restricted state is initiated. If the command times out on job switch 1 or sends an Escape message, the restricted task group run is aborted

Press **Page Down** to move to the second page of the Add Restricted Task Group display.

```

HRT0100R              Halcyon Restricted Tasks Manager              HAL525P1
                        Add Restricted Task Group                  13/05/09  14:30:37
Task group . . . . . DEMO                                         (2 of 4)
Description . . . . . Demonstration Task Group

Pre-start phase:
Time-out . . . . . 3600          0-99999 secs
Time-out action . . . . . *ENDJOB      *ENDJOB, *ABORT
Message . . . . . *DFT

-----

End system phase:
Time-out . . . . . 3600          0-99999 secs
Message . . . . . *DFT

-----

More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F16=List substitution variables

```

Pre-start Phase

Once the end system phase has been started, it cannot be canceled. For this reason, the end system phase is preceded by a pre-start phase.

A message is sent to all users that are signed-on to the system at the start of the pre-start phase, and every 10 minutes thereafter. Users can sign on and off as usual during the pre-start phase. The pre-start phase ends when all users have signed off or the time-out period has expired.

Restricted Tasks Manager now sends messages to workstation message queues as break messages to ensure they are displayed immediately.

Time-out

Specifies the maximum duration of the pre-start phase and is measured in seconds. The default setting is 3600 seconds (1 Hour).

Time-out action

Specifies what happens if the pre-start phase expires while users are still signed on.

- *ENDJOB** The end system phase commences. Any users still signed on to the system are ended if they do not sign off within the time specified for the end system phase time-out
- *ABORT** The restricted task group is aborted and the system remains available

Message

Specifies the message that is sent to users that are signed on to the system at the start of the pre-start phase and every 10 minutes thereafter. This message may include substitution variables.

- *DFT** The message defined for system default [HRT/DFTPRESTRMSG](#) is used
- *NONE** No message is sent
- message** Specify the text of the message that you want to send

NOTE: See also system default: [HRT/NFYMSGQ](#). Warning messages sent to workstation message queues are always sent as break messages, overriding the delivery mode actually set. This ensures that messages are displayed immediately.

End System Phase

When the End System Phase starts, a controlled end request is sent to all active subsystems and jobs, which should then come to a controlled end. When the End System Phase times out, any jobs that are still active are ended *IMMED. Twenty minutes after this point, any that are still active are ended abnormally using the **ENDJOBABN** command.

Users cannot sign on to the system during the end system phase. Any users still signed on and any batch jobs still active when the end system phase expires, are ended. Any outstanding actions already invoked by Restricted Tasks Manager alerts are processed providing they are completed within the time period specified within the system default [HRT/ENDMONTIMLMT](#).

Time-out

Specifies the maximum duration of the end system phase and is measured in seconds. The default setting is 3600 seconds (1 hour). If a value other than zero is specified, a message is sent to all users that are signed on to the system at the start of the end system phase. No further messages are sent.

Message

Specifies the message that is sent to users that are signed on to the system at the start of the end system phase. This message may include substitution variables.

- *DFT** The message defined in system default [HRT/DFTENDSYSMSG](#) is used
- *NONE** No message is sent
- message** Specify the text of the message that you want to send

Press **Page Down** to move to the third page of the Add Restricted Task Group display.

This page is used to add the actual restricted tasks that run whenever this restricted task group is invoked. When adding a new restricted task group, this display is initially blank. Use **F6=Add** to open the Add Restricted Task display.

```

HRT0100R          Halcyon Restricted Tasks Manager          HAL525P3
LVL4              Add Restricted Task                      27/07/11  16:43:52
Task command . . . . .
Task label . . . . . *CMD                               Text, *CMD
Log saved objects . . . . *NONE                       *NONE, *LIB, *OBJ, *MBR
Accept error msg ID . . . *NONE                       *NONE, *ALL, msgid*
Error recovery . . . . . *ABORT                         *CONT, *ENDGRP, *ABORT

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F18=List substitution variables

```

Adding Restricted Tasks to a Restricted Task Group

The following parameters are available when adding restricted tasks to a restricted task group.

Task command

Specify the restricted task command to be run. The command may include substitution variables. Use **F18=Substitution variables** to display a pop-up window containing a list of valid substitution variables.

To prompt for a list of pre-defined command templates, press **F4=Prompt** while the 'Task command' parameter is still blank.

NOTE: See [Working with Command Templates](#) for more information.

To prompt a single command, type the command name and then press **F4=Prompt**.

Major events that occur during the running of a task group automatically send messages to QSYSOPR. If you want these (or any other messages raised) to be sent to a cell phone, you must create a rule that instructs Restricted Tasks Manager to perform this action. It is

not necessary to know the message ID for these events as the following special keywords are recognized in the message ID parameters in the selection criteria.

***GRPEND** End of Task Group
 ***GRPSTR** Start of Task Group
 ***TSKCMD** Task Command
 ***TSKCPL** Task Complete
 ***TSKERR** Task Failed
 ***TSKRCV** Task Recovery
 ***TSKSTR** Task Running

Task label

The task label is used within Restricted Task messages to help identify the task. The task label is output as part of the messages sent when a restricted tasks group is running and is shown immediately after the Group and Task on the following messages (where GROUP is the Group, TSK is the Task No. and LABEL is the new Task Label):

- HRT8007 - Restricted Task GROUP/TSK (LABEL) is being processed
- HRT8008 - Restricted Task GROUP/TSK (LABEL) failed with ERROR
- HRT8009 - Restricted Task GROUP/TSK (LABEL) recovery option is OPTION
- HRT8019 - Restricted Task GROUP/TSK (LABEL) completed

***CMD** The command name is used as the task label
label Enter the text to be used for the task label

Log saved objects

Specify whether to save a list of the objects saved by the task command. The saved objects log can then be reviewed later using the Display Saved Objects (**DSPDSAVOBJ**) command or menu option, or by using option **5=Display saved objects** from the Display Restricted Task Run Log display. See [Display Saved Objects](#) or [Display Restricted Task Run Log](#) for more information.

NOTE: The valid values for this parameter depend on the command typed in the 'Task command' parameter.

***LIB** Saves the list of saved libraries and is valid with the following commands:
SAVCHGOBJ
SAVLIB
SAVOBJ

- *OBJ** Saves the list of libraries and is valid with the following commands:
 SAV
 SAVCFG
 SAVCHGOBJ
 SAVDLO
 SAVLIB
 SAVOBJ
 SAVSAVFDTA
 SAVSECDTA
 SAVSYS
- *MBR** Saves the list of saved libraries, objects, file members and spooled files and is valid with the following commands:
 SAVCHOBJ
 SAVLIB
 SAVOBJ
- *NONE** Do not log saved objects. Valid with all commands

Accept error message ID

Specify up to 5 escape messages, sent by the task command, which are accepted by Restricted Tasks Manager. If the Task errors with one of the accepted messages then it is treated as though it has completed successfully. If the Task fails with a message that is not on the accepted list then it will be treated as failed.

- *NONE** All error messages are treated as a failure. This is as previous functionality. This is the default value. If specified, this is the only value allowed
- *ALL** All error messages are accepted. This means that the task is never treated as failed. If specified, this is the only value allowed
- MsgID** Specify up to 5 actual Message IDs that are to be accepted. The Task is treated as completing successfully if the errors are specified as accepted, If an error message not specified occurs, then the task is treated as having failed
- generic*** Specify a mix of up to 5 actual Message IDs and generic values. The task is treated as completing successfully if the errors are specified as accepted either as an actual value or as a match to a generic value. If an error message not specified or not matching a generic value occurs, then the task is treated as having failed

Error recovery

Specify the action to be taken if the entered command fails:

- *CONT** The error is ignored and the next task in the group is processed
- *ENDGRP** No further tasks are processed. The task group ends using the Normal recovery options. Task group is set to Complete status
- *ANORT** No further tasks are processed. The task group ends using the error recovery options. The task group is set to Error status

When you have finished entering the details of the restricted task command press **Enter** to return to the third page of the Add Restricted Task Group display, where the entered restricted task command is now displayed.

Use **F6=Add** to enter the details of another restricted task for this restricted task group or press **Page Down** to complete the details on the fourth and final page for this restricted task group.

```

HRT0100R                               Halcyon Restricted Tasks Manager                               HAL525P3
DMS                                     Add Restricted Task Group                               16/05/13 12:38:26
Task group . . . . .                               (4 of 4)
Description . . . . .

Batch mode time limit . . *SYSDFT           5-9999 mins, *NOMAX, *SYSDFT
Normal recovery:
Action . . . . . *STRSYS           *STRSYS, *PWRDWN

Error recovery:
Action . . . . . *STRSYS           *STRSYS, *PWRDWN

Exit command . . . . . *NONE

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F16=List substitution variables

```

Batch mode time limit

Specifies the maximum amount of time (in minutes) that Console Manager can remain in restricted state in batch when running this Task Group. While the system is in this restricted state, system reference code A900 3C70 is displayed. If the specified time limit is reached, Console Manager ends and the controlling subsystem restarts.

- *SYSDFT** Use the value from the system default [HRT/BCHTIMLMT](#). This is the default shipped value
- *NOMAX** No time limit is applied
- value** Specify a value from 5mins to 9999mins (166hrs 39mins) that is the maximum run time for the Group

Normal recovery action

Specify the recovery action that occurs when a restricted task group ends normally.

- *STRSYS** The system is recovered from its restricted state by starting the controlling subsystem
- *PWRDWN** The system is powered down

Error recovery action

Specify the recovery action that occurs when an active restricted task group is aborted.

- *STRSYS** The system is recovered from its restricted state by starting the controlling subsystem
- *PWRDWN** The system is powered down

Restart date (*PWRDWNonly)

If *PWRDWN is selected in either or both the Normal or Error Recovery Action parameters, the entry in this parameter specifies when the system should be restarted.

- *IMMED** The system is immediately restarted after being powered down
- *TODAY** The system is started on the same day on which it was powered down and at the time specified in the 'Restart time' parameter. If that time has already passed, the system is restarted immediately
- *TOMMO** The system is restarted on the day following the day on which it was powered down and at the time specified in the 'Restart time' parameter. If that time has already passed, the system is restarted immediately
- *NO** The system is not restarted
- date** The system is restarted on the specified date and at the time specified in the 'Restart time' parameter. If that time has already passed, the system is restarted immediately

Restart time

If Restart date parameter is *TODAY, *TOMMO, or date, then specify the restart time in this parameter.

Exit Command

Specify the exit command to run. The command may include substitution variables.

- *NONE** No exit command is run
- command** Specify the command that is run after the system is restarted out of restricted state using the *STRSYS option. This command is not run if the *PWRDWN option is used, even if the system is subsequently restarted

Press **Enter** to add the restricted task group to the system.

Functions on the Add Restricted Task Group Display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F16=Substitution variables

Use **F16=Substitution variables** to display a pop-up window containing a list of substitution variables from which a selection can then be made. The following variables are specific to Restricted Tasks Manager:

ENDSYSDATE	SYS	*DATE
ENDSYSMINS	SYS	*DEC
ENDSYSTIME	SYS	*TIME
RTMGRP	SYS	*CHAR
RTMGRP	SYS	*CHAR

Copy Task Group (CPYTSKGRP) command

Use the Copy Task Group (**CPYTSKGRP**) command to copy a task group within or into the product environment in which this command is running.



Parameters on the Copy Task Group (CPYTSKGRP) Command display

The following parameters are available on this display.

From task group

Enter the name of the task group that you want to copy.

To task group

Enter the name of the task group to be created.

Replace

If the task group specified in the 'To task group' parameter already exists, the entry in this parameter specifies whether or not it is replaced by this new task group.

- *NO** If the task group to be created already exists, an error occurs and the task group is not copied
- *YES** If the task group to be created already exists, it is replaced with this task group

Press **Enter** to copy the task group with the specified parameters.

Functions on the Copy Task Group (CPYTSKGRP) Command display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F10=Additional Parameters

Use **F10=Additional Parameters** to display additional fields that are not available on the default view.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Display Saved Objects

The Display Saved Objects display lists the objects recorded as saved by each restricted task group run.

Getting there

Select option 11=Display Saved Objects from the Restricted Tasks Manager main menu.

```

HRT0400R                               Halcyon Restricted Tasks Manager                               HAL525P2
SOS                                     Display Saved Objects                               10/12/09  10:56:32
Group . . . . . : TEMPLATES
Date/time . . . . : 10/12/09 10:33:20

Type options, press Enter.
1=Select

Opt Seq Command                               +
=   20 SAVLIB LIB (HALCYON) DEV (TAP03) OUTPUT (*OUTFILE) OUTFILE (QTEMP/OBJHI... +

F3=Exit  F5=Refresh  F12=Cancel                               Bottom

```

NOTE: To enable the recording of saved objects, the Log Saved Objects option must be set in the appropriate restricted tasks within the restricted task groups. See [Log saved objects](#) for more information.

The saved object information is displayed hierarchically. Drill down through levels to display additional information. In all cases the top level is the command that was used to perform the save, then drill down to see subsequent levels as follows:

- Library -> Object
- Library -> File -> Member
- Library -> Output Queue -> Spooled File
- Directory -> Directory -> Directory

Using the Display Saved Objects display

This display works in a different way to the other screens within Restricted Tasks Manager.

The first level of the display lists the sequence numbers and commands of those restricted tasks for which saved information is available.

Use option **1=Select** against any of the listed commands to drill down into a restricted task to view the top level objects that were saved by that command.

```

HRT0400R          Halcyon Restricted Tasks Manager          HAL525P2
SOS              Display Saved Objects                    10/12/09  10:56:52
Group . . . . . : TEMPLATES
Date/time . . . . : 10/12/09 10:33:20

Type options, press Enter.
1=Select 5=Display

Opt Library          Type          Sts ! +
= HALCYON           *LIB          SAV  +

Bottom

F3=Exit  F5=Refresh  F12=Cancel
    
```

The next display shown, is the list of libraries saved by that restricted task, or for IFS objects, the list of paths specified on the Save Object (**SAV**) command within the restricted task.

Use option **5=Display** to view the details of a saved object.

```

HRT0400R          Halcyon Restricted Tasks Manager          HAL525P2
SOS              Display Saved Objects                    10/12/09  10:57:03
Group . . . . . : TEMPLATES
Date/time . . . . : 10/12/09 10:33:20
Library . . . . . : HALCYON

Type options, press Enter.
1=Select 5=Display

Opt Object          Type          Sts ! +
= ANALYZER         *MENU        SAV
_ AUTOMATION       *MENU        SAV
_ AVAILABLE        *MENU        SAV
_ DATA            *MENU        SAV
_ DATACENTER      *MENU        SAV
_ DDZ00            *FILE        SAV
_ DDZ00            *PGM         SAV
_ DDZ01            *DTAARA      SAV
_ DDZ02            *DTAARA      SAV
_ DDZ03            *DTAARA      SAV
_ DDZ04            *DTAARA      SAV
More...

F3=Exit  F5=Refresh  F12=Cancel
    
```

If the '+' indicator is shown on the right of the saved object then option **1=Select** may be used again to drill further into the data.

You can drill into a library to view the object contained within and then into a physical or logical file to view the members in that file (providing that you have specified *MBR level on the save).

You can also drill into directories to view the sub-directories and objects in that directory.

Parameters on the Display Saved Objects display

The following parameters are available on this display.

Group

Display the name of the restricted task group that saved the objects.

Date/Time

Displays the start date and time of the restricted task group run that saved the objects.

Parent object

Displays the parent object of the objects currently listed.

- When IFS objects are listed, this parameter indicates the directory that contains those objects, except for the first level, where the full path is shown in the object name
- When i5/OS objects are listed, this parameter indicates the library that contains those objects
- When file members are listed, this parameter indicates the file that contains those members
- When spooled files are listed, this parameter indicates the output queue that contains those spooled files.

Sequence (Seq)

Displays the restricted task sequence number.

Command

Displays the restricted task command.

Library

Displays the library name.

+

'+' in this column indicates that **1=Select** may be used to drill into this item to view its contents.

Functions on the Display Saved Object display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

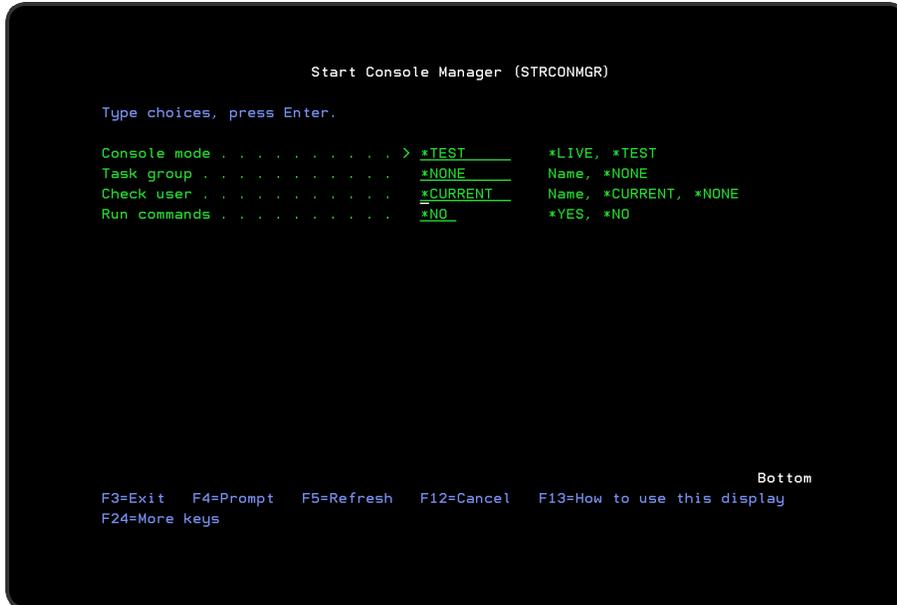
Use **F12=Cancel** to exit this display and return to the previous display.

Start Console Manager

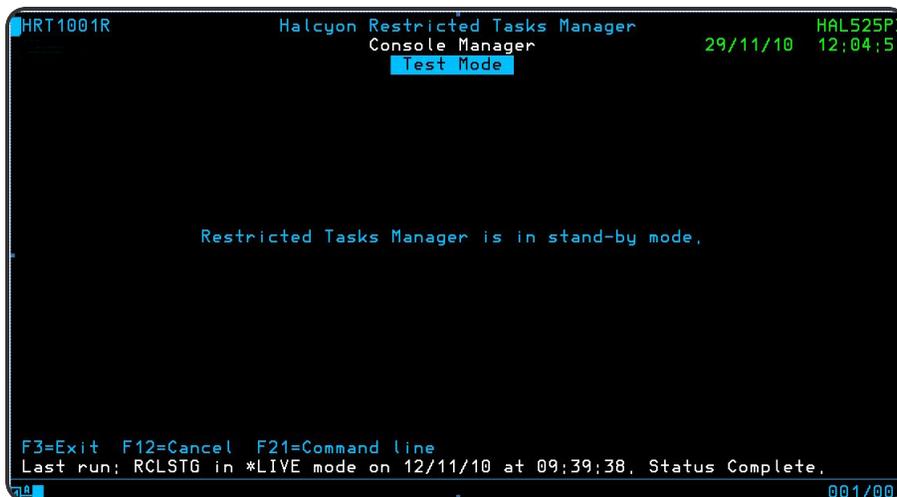
The Start Console Manager (**STRCONMGR**) command starts the Console Manager and optionally starts processing a Restricted Task Group.

Getting there

Select option **20=Start Console Manager** from the Restricted Tasks Manager main menu.



The Restricted Tasks Manager Console displays a message when it is in 'stand-by' mode.



When in a Restricted State, restricted messages are displayed in 'reverse-image red'.

Console Manager Restrictions

The following restrictions apply when you start Console Manager:

- Another Console Manager cannot already be running in this environment (including *TEST mode)
- To start Console Manager in *LIVE mode, you must be signed on to the system console
- To start Console Manager in *LIVE mode you must be signed on to a workstation running within the controlling subsystem
- To start Console Manager in *LIVE mode you must have *SECADM and *ALLOBJ special authorities

Use system default [HRT/CONSMGRCMD](#) to allow the Console Manager to be interrupted while in idle mode to obtain a command line. If the Console Manager might be left unattended, we recommend the use of *NO or *PWD with this default to prevent unauthorized user getting access to a powerful command line. For the same reason, system request - 2 performs a sign-off instead of the usual end request. It is not possible to block a system request - 2 completely.

Parameters on the Start Console Manager display

The following parameters are available on this display.

Console mode

Specify the operating mode for the Console Manager.

- *LIVE** Console Manager operates in live mode. Live mode is only valid when run on the system console

***TEST** Console Manager operates in test mode. It is not necessary to check the system code

Pre-checking for users that are signed on to the system is optional. See the [Check User](#) parameter for more information

The system is not taken into a restricted state

Running of the restricted task commands is optional. See the Run Commands parameter. If commands are run, any that require a restricted state, fail

The system does not power down at the end of the restricted task group run, if this option was requested

Any informational messages created by Restricted Tasks Manager are sent to the message queue of the user running this command instead of QSYSOPR. However, system messages are still sent to QSYSOPR

Restricted Tasks Manager monitors the user message queue instead of QSYSOPR

Task group

Specify the name of the restricted task group that you want the Console Manager to begin processing.

***NONE** Console Manager does not immediately begin processing a task group. Instead, it goes into 'idle' mode and waits for a task group to be requested by the Run Task Group (**RUNTSKGRP**) command

group Specify the task group to begin processing

End of group option

The entry in this parameter specifies what happens when a Task group is completed and the system restarts out of restricted state.

***AUTO** If running interactively, it returns to stand-by mode. If running in batch mode it ends

***STANDBY** Console Manager returns to stand-by mode and waits for further requests using the **RUNTSKGRP** command

***SIGNOFF** Console Manager signs-off (or ends if running in batch mode)

Job queue

Specifies whether to submit Console Manager to batch.

- *NONE** Console Manager is not submitted to batch
- *JOBQ** Console Manager is submitted to the job queue specified in the current users default job description
- name** Enter the qualified name of a job queue to which Console Manager is submitted

NOTE: The specified job queue must be in the controlling subsystem. Console Manager cannot be submitted to batch in *TEST mode. If the Console Manager is already running in batch mode, either via being submitted or scheduled, the JOBQ parameter is ignored.

Check user (only visible if Console Mode is *TEST)

When running Console Manager in *TEST mode, this parameter specifies the user Id of the interactive jobs which must end before the End System phase can start. When running in *LIVE mode, this parameter is ignored and all interactive jobs must end, except the job that is running this command.

- *CURRENT** Interactive jobs being run under the user ID that is running this command, except the job running this command, must end before the End System phase can start
- *NONE** No interactive jobs must end before the End System phase can start
- userid** Specify the name of the user ID of the interactive jobs that must end before the End System phase can start

Run commands (only visible if Console Mode is *TEST)

When running Console Manager in *TEST mode, this parameter specifies whether to run the pre-start, task and exit commands. As the system is not taken down to a restricted state when in *TEST mode, any task commands that require a restricted state, fail. When running in *LIVE mode, this parameter is ignored and the pre-start, task and exit commands are run.

- *NO** Pre-start, task and exit commands are not run in *TEST mode
- *YES** Pre-start, task and exit commands are run in *TEST mode

Functions on the Start Console Manager display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

NOTE: Restricted Tasks Manager Console requires you to provide the password when you use **F3=Exit**. If you provide an incorrect password for the maximum attempts you will still be signed off on use of **F3=Exit**.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Running the Console Manager in Batch Mode

Instead of running the Console Manager interactively, you can also submit it to batch. By using this option, you do not tie up the system console, you avoid the risk of leaving the system console signed on and possibly unattended and you do not have to remember to start the Console Manager before a restricted task is scheduled to run. However, by running the Console Manager in batch mode you lose the visual feedback that you get when running interactively.

Getting there

To run the Console Manager in batch mode do one of the following:

- Run the **STRCONMGR** command or use option **20=Start Console Manager** and specify a value for the 'Job queue' parameter
- Submit the **STRCONMGR** command
- Schedule the **STRCONMGR** command

Batch Mode Restrictions

The following restrictions apply when running in batch mode:

- The batch mode must be submitted to a job queue that runs in the controlling subsystem
- You cannot run in *TEST mode

Using the Console Manager in Batch Mode

Console Manager in batch mode works the same way as in interactive mode, with a pre-start phase followed by an end system phase. During the end system phase, all other jobs are terminated (including the system console) leaving just the Console Manager job running in batch. It then runs restricted state tasks and then either powers the system down or restarts it out of restricted state. When running in batch mode it is advised to capture all Halcyon Restricted Tasks Manager (HRT) messages and send them to a remote console as a means of tracking what is happening as there is no visual indication.

NOTE: You must set up both Message Manager and Restricted Task rules to perform the console tracking.

```

Start Console Manager (STRCONMGR)

TYPE CHOICES, PRESS ENTER.

Console mode . . . . . *LIVE      *LIVE, *TEST
Task group . . . . . *NONE      Name, *NONE, *SELECT
End of group option . . . . . *AUTO   *AUTO, *STANDBY, *SIGNOFF
Job queue . . . . . *NONE      Name, *NONE, *JOB
Library . . . . . _____ Name

BOTTOM
F3=EXIT  F4=PROMPT  F5=REFRESH  F12=CANCEL  F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS

```

Parameters on the Start Console Manager (Batch Mode) display

The following parameters are available on the Start Console Manager (batch mode) display.

Console mode

This must be set to *LIVE when running in batch mode.

Task group

Specify the name of the restricted task group that you want the console manager to begin processing.

- *NONE** Console Manager does not immediately begin processing a task group. Instead, it goes into 'idle' mode and waits for a task group to be requested by the Run Task Group (**RUNTSKGRP**) command
- *SELECT** Displays a list of restricted task groups from which a selection can be made
- group** Specify the task group to begin processing

End of group option

Specifies what happens when a Task group is completed and the system restarts out of restricted state.

- *AUTO** If running interactively, it returns to stand-by mode. If running in batch mode, it ends
- *STANDBY** Console Manager returns to stand-by mode and waits for further requests using the **RUNTSKGRP** command
- *SIGNOFF** Console Manager signs-off (or ends if running in batch mode)

Job queue

Specifies whether to submit Console Manager to batch.

- *NONE** Console Manager is not submitted to batch
- *JOB** Console Manager is submitted to the job queue specified in the current users default job description
- name** Enter the qualified name of the job queue to which Console Manager is submitted

NOTE: The specified job queue must be in the controlling subsystem. Console Manager cannot be submitted to batch in ***TEST** mode.

If the Console Manager is already running in batch mode, either via being submitted or scheduled, the 'Job queue' parameter is ignored.

Recovery when running in Batch Mode

Should an error occur when running in batch mode and go into MSGW status, there is no way to answer or even know that a message exists. In this instance, adopt one of the following methods:

- View the remote console and wait for messages to be sent from the machine in restricted state. If messages appear, but then suddenly stop after a period of time, you can deduce that an error has probably occurred and the processing of restricted tasks has failed. You must then recover by hard reboot from the button or via the restart partition option on the Hardware Management Console.
- Specify the maximum amount of time that restricted state is allowed to last. When this period has expired, the Console Manager batch mode is ended (whether failed or not) and the system restarts out of restricted state. This value is specified in the system default [HRT/BCHTIMLMT](#) and defaults to 120 minutes

Functions on the Start Console Manager display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Console timeout

It is possible to configure the Restricted Tasks Manager Console to timeout and force standby mode.

Command window timeout

This feature is controlled by system default [HRT/CONSMGRCMDTIME](#). This allows you to specify the amount of time, in minutes that the command window in the Console can remain open without a command being issued. The default value is set to *OFF.

When the time-out expires a window pops-up on the Console which requires the user to press **Enter** within one minute. If the user presses **Enter**, the timeout is reset and the command window remains open. If **Enter** is not pressed the command window is closed and the Console returns to standby mode.

This functionality requires the Action Monitor to be running.

Password check timeout

The window that prompts to check the user password has an in-built timeout of 30 seconds. If the window is still open after 30 seconds it will exit, returning the Console to standby mode.

Monitoring the Console Manager state

It is possible to alert for the current state of the Console Manager you can define Admin Alerts for the following messages then create Message Manager rules to monitor for these messages.

- HRT0048 - Restricted Task Console Manager started
- HRT0049 - Restricted Task Console Manager ended
- HRT0164 - Console Manager is in command window mode
- HRT0165 - Console Manager returned to stand-by mode

NOTE: The HRT0164/HRT0165 messages are normally only logged when in *LIVE mode. See [Work with Administrator Alert Criteria](#) and [Message Queue Groups and Rules](#) for more information.

Run Restricted Task Group

The Run Restricted Task Group (**RUNTSKGRP**) command instructs the Console Manager to begin processing a specified restricted task group. If the Console Manager is not running, this command fails and issues an error message.

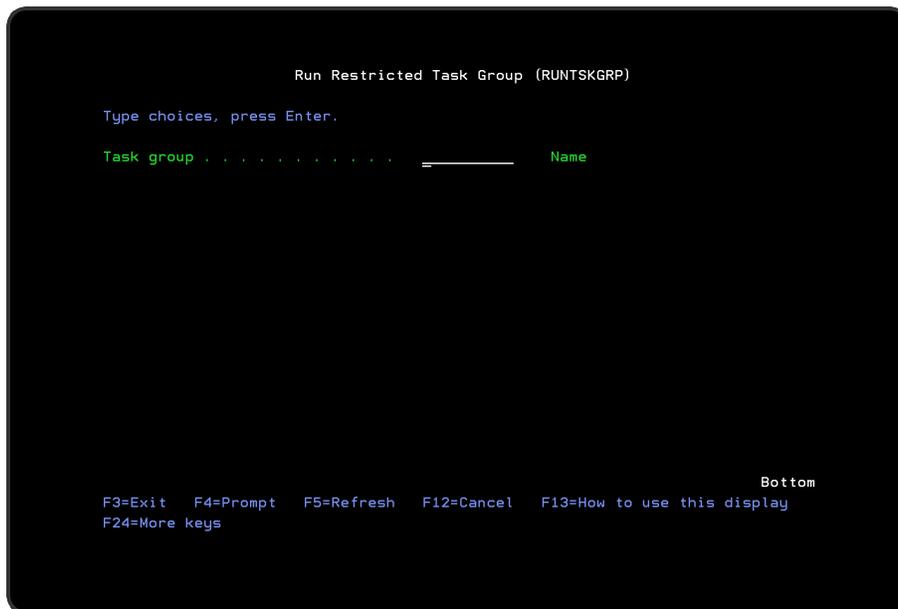
When the Primary Action Monitor is started it does not check the status of the last Restricted Task Group run. If the run failed or the Network Interface could not be started, the messages HRT0161 and HRT0162 is added to the Halcyon [Message Log](#) and [Admin Alert Criteria](#). This specifies:

```
Task Group GROUPNAME ended unexpectedly. Reason code n.
```

where GROUPNAME is the name of the Group and n is the Reason Code.

Getting there

Select option **21=Run Restricted Task Group** from the Restricted Tasks Manager main menu. This opens a window, allowing you select the restricted task group that you want to run. Use option **1=Select** against the required restricted task group and press **Enter**.



Parameters on the Run Restricted Task Group display

The following parameters are available on this display.

Task group

Specify the name of the restricted task group that you want the Console Manager to begin processing.

Functions on the Run Restricted Task Group display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Restricted Tasks Manager Reports

Restricted Tasks Manager allows you to print the details of the Message and Alert Logs, system defaults plus queue and group rules that you have configured on your IBMi.

Each report is available to print separately from the Restricted Tasks Manager Reports menu.

Getting there

Select option **40=Reports** from the Restricted Tasks Manager.



```
HRTRPT          Halcyon - A division of HelpSystems          HAL720P2
MANL            Halcyon Restricted Tasks Manager          10/05/19  10:24:33
                Reports Menu

Select one of the following:

  1. Print Message Log
  2. Print Alert Log

  5. Print Rules
  6. Print System Defaults

 10. Print Restricted Task Groups

                                Bottom

Selection or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
```

Reports

The following reports are available on the Restricted Tasks Manager Reports menu

Print Message Log

This menu option allows you to print a report of the Message Log, subsetting to show all the messages logged by the Restricted Tasks Manager Monitor. Parameters on the Print Message Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Message Log](#) for information regarding the parameters on this display.

Print Alert Log

This menu option allows you to print a report of the Alert Log, subsetted to show all the alerts generated by the Restricted Tasks Manager rules. Parameters on the Print Alert Log display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print Alert Log](#) for information regarding the parameters on this display.

Print Rules

This menu option allows you to print a rules report subsetted by Restricted Tasks Manager. Parameters on the Print Rules display allow to specify further print criteria as required.

NOTE: See Reports Menu - [Print Rules](#) for information regarding the parameters on this display.

Print System Defaults

This menu option allows you to print a report of the system defaults, subsetted by Restricted Tasks Manager. Parameters on the Print System Defaults display allow you to specify further print criteria as required.

NOTE: See Reports Menu - [Print System Defaults](#) for information regarding the parameters on this display.

Print Restricted Task Groups

This menu option allows you to print a report showing the Restricted Task Groups configured on your system.

Parameters on the Print Restricted Task Groups display

The following parameters are shown on the Restricted Task Groups display.

Task group

Specify the level of task group information on which you want to report.

***ALL** All restricted task groups are printed
name Specify the restricted task group

PDF formatted file required

If you require the Restricted Tasks Groups report to be produced in PDF format, specify ***YES** in this parameter.

PDF stream file path

Specifies the full directory path of where the stream file is created.

***AUTO** The stream file is generated automatically. The file is created in the default directory path. This is obtained from the system default value in [HAL/DFTDIR](#). The file name in the directory is Report_YYYY-MM-DD_SSS.pdf. This is where: Report is the report name, YYYY-MM-DD is the date the report was created (except for date based reports where it is the starting date in the report) and _SSS is the sequence number (only added if the file name already exists)

path Specify the complete directory where the stream file is created. If the suffix .pdf is omitted from the directory path, it is inserted by the command

Stream file option

Specifies the checking options to perform for the PDF stream file that is created. ***NONE** states that no checking is performed on the existence of the stream file and an error is raised if the stream file already exists in the specified directory. The existing stream file is not overwritten. Use ***REPLACE** to replace the existing PDF stream file in the specified directory if it already exists. If you specify ***ADDSEQ**, a suffix is added to the PDF stream file so as to create a unique file name if necessary.

Press **Enter** to generate the Restricted Tasks Groups report using the specified selection parameters.

Functions on the Restricted Tasks Manager Reports Menu display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F9=Retrieve

Use **F9=Retrieve** to display the last command entered on the command line and any included parameters. Pressing this key once, shows the last command ran. Pressing this key twice, shows the command ran before that and so on.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Work with Calendars

The Work with Calendars display shows the calendars available to Restricted Tasks Manager. Individual dates, date ranges and time ranges can be set on the calendars. To create a calendar, press **F6=Add**. The calendar initially has no dates set.

To set dates, use any of the following methods:

- Use the Calendar view and use the various calendar commands to set 'on' or 'off' individual days or ranges of days
- Use the List View and type the dates and times to be set to 'on'
- Press **F6=Bulk Add** and use the options available to set dates according to set pattern
- Use the Change Calendars (**CHGCAL**) command

Getting there

Select option **50=Work with Calendars** from the Restricted Tasks Manager main menu.

```

HAL4000R                               Halcyon Software                               HAL720P2
MANL                                     Work with Calendars                               10/05/19  11:11:26

Type options, press Enter.
2=Change 3=Copy 4=Delete 5=Display 6=Print 8=Where used

Opt Name      Description                                     Populated
- *DEFAULT    *DEFAULT                                     2011-2023
- BACKUPS     Weekend backups on Sat 01:00 - 03:00         2019-2019
- BLAH2       Demo #2
- DEMO        Demo
- FRI         Friday's
- INVERSE     Inverse
- MON         Monday's
- OFFICEHRS   Office Hours                                   2015-2020
- SAT         Saturday's
- SUN         Sunday's
- THU         Thursday's
- TUE         Tuesday's
- WED         Wednesday's

Bottom
F3=Exit  F5=Refresh  F6=Add  F12=Cancel

```

NOTE: For more information on working with calendars see Configuration - [Work with Calendars](#).

Custom Monitor

Overview

The Custom Monitor allows you to monitor your own in-house written or any third party programs that you may have running within the IBMi enterprise.

Any command, of up to 512 characters can be specified along with a user profile under which the command will run. The command may use substitution variables.

All custom event commands are run by the Custom Monitor at the interval specified in the rule group. The following outcomes are possible:

- If the command runs successfully nothing happens.
- If the command ends by sending an escape message to the requester (in other words, to the monitor) an alert is raised. The escape message becomes the alert message.
- If the monitor cannot swap to the user specified - for example, if it no longer exists - an error is logged and the rule is held. An alert is not raised.
- If the user command has an unrecognized error, the monitor goes into MSGW status. If you then cancel the command failure, the monitor regains control, logs a message and holds the rule. An alert is not raised.

It is recommended to use the Monitor Supervisor to supervise the Custom Monitor, so that if a user command encounters an internal error, the MSGW gets answered and the rule is held. The user then needs to fix the command and release the rule.

IMPORTANT: Unlike COMMAND actions, Custom Event commands do not support Unicode and can only run in CCSID 37. This is because selection criteria is currently stored as Ebcdic not Unicode.

The Custom Monitor is pre-supplied with a simple example that checks that a data area exists:

```
CHKOBJ OBJ(QGPL/TEST) OBJTYPE(*DTAARA)
```

If you write your own commands or programs you should be able to check almost anything within your IBMi environment.

Authorizing use of Custom Monitor

Custom Monitor is an additional plug-in module to Halcyon Product Suites. It can only be activated by purchase of an additional license. Please email halcyon.sales.admin@fortra.com or contact your local reseller for details.

Once you have a license code, please use the following instructions to apply the license code to authorize the use of Custom Monitor.

1. From the Halcyon main menu, select option **42=Configuration**.
2. Select option **1=Work with Authorization Codes**.
3. Use **F6=Add** to open the Add Authorization Code display.
4. Type (or cut and paste) your **Authorization Code** exactly as supplied.
5. Unless you are installing the software on a remote system, leave the System parameter as ***LOCAL**,
6. Press **Enter** to authorize the use of Custom Monitor on this system.

Once the authorization code has been entered, the details of the license code, in this instance, Custom Monitor are displayed along with the license expiry date.

Use option **5=Display** against a authorization code to display the details of the Halcyon products secured by the selected code.

User authorities required for Custom Monitor

In order to be able to set and maintain Custom Monitor rules you must have *ALL or *CHG authority set against Custom Rules (CSTRULES).

To set the user authorities for Custom Monitor:

1. From the Halcyon main menu, select option **42=Configuration**.
2. Select option **2=Work with User Authority**.
3. In the **HEM** column, against the user for which you want to set the authority, replace the current entry with '2' in order to change the setting (see screen shot below).

```

HAL9000R                               Halcyon Software                               HAL720P4
0A                                     Work with User Authority                               24/03/15 15:28:32
Type options, press Enter.
2=Change 4=Delete 5=Display
Y=All P=Partial N=None X=Exclude
----- Product Codes -----
User      H H H H H H H H H H H
Opt Profile * M M M S C M Q X P T P
-----
*PUBLIC   P X X P X P X X X X X X
ALLOBJ    P P Y P Y P Y N Y Y Y N
ANDY      Y P Y 2 Y Y Y Y Y Y Y Y
HWILKINSON P P Y P Y P Y N Y Y Y P
JLAKEY    P P Y P Y P Y Y Y Y Y P
MCUSER    X X X X X X X X X X X X
MIKE      Y P Y Y Y Y Y Y Y Y Y Y
NEVANS    P P Y Y Y P Y Y Y Y Y Y
PASSWORD  P N N P N N N N N N N N
QMOM      P N N N N N N Y N N N N
QMOMADM   P N N N N N N Y N N N N
More...

F3=Exit F5=Refresh F6=Add F12=Cancel F22=Print

```

4. Press **Enter**.
5. Scroll down to the **CSTRULES** function and change the authority to *ALL or *CHG.
6. Press **Enter** to confirm.

```

HAL9000R                               Halcyon Software                               HAL525P3
CUSTM                                  Work with Function Authority                       18/09/13 10:47:07
Product . . . . . Halcyon System Event Manager
User profile . . . . . *PUBLIC
Description . . . . .

Change authorities, press Enter.
Func      Description                               Auth
GENERAL  General product use                           *EXCL *ALL,*EXCL
ALERT    Alerts                                  *EXCL *ALL,*CHG,*USE,*EXCL
ARCHIVE  Spooled file archives                       *EXCL *ALL,*CHG,*USE,*ITEM,*EXCL
ARCNOTES Archive Notes                          *EXCL *ALL,*CHG,*USE,*ITEM,*EXCL
ASWGUI   Authority Swapper GUI                      *EXCL *ALL,*EXCL
AUTHSWAP Authority Swapper                        *EXCL *ALL,*CHG,*USE,*EXCL
BUNDLES  Report bundles                             *EXCL *ALL,*CHG,*USE,*ITEM,*EXCL
CSTRULES Custom Rules                          *ALL  *ALL,*CHG,*USE,*EXCL
DATATBL  Tables                                 *EXCL *ALL,*CHG,*USE,*EXCL
DEVRULES Device Rules                         *EXCL *ALL,*CHG,*USE,*EXCL
DSQRULES Distribution Queue Rules            *EXCL *ALL,*CHG,*USE,*EXCL
INARULES Inactivity Rules                   *EXCL *ALL,*CHG,*USE,*EXCL
JOBRRULES Job Queue Rules                   *EXCL *ALL,*CHG,*USE,*EXCL
MORE...

F3=Exit  F5=Refresh  F12=Cancel  F16=Item authority
    
```

IMPORTANT: In order for the Custom Monitor to execute the command, the user running the Custom Monitor must have at least *USE authority to the user specified on the Rule to run the command, plus the user specified on the command must have authority to the command to be run. See system default [HEM/CSTMONUSR](#).

Work with Monitors

The following monitors can be applied when working with the Custom Monitor:

Monitor Supervisor

The Monitor Supervisor acts as the controlling monitor for the other monitors if they are Started. If any monitor fails for any reason, the Monitor Supervisor attempts to end and restart the monitor. If the Supervisor is unable to continue to supervise a monitor it sends a message to the Halcyon [Message Log](#) and the message queue defined in the system default [HAL/ADMINMSGQ](#).

NOTE: The Monitor Supervisor cannot monitor itself.
The Monitor Supervisor cannot supervise monitors that are stopped.
The Monitor Supervisor cannot supervise auxiliary monitors.

Primary Action monitor

The Primary Action monitor performs the actions as requested from the rules, for example; Send to Console, Send Text Message and so on. If an action relates to a network device (such as another IBMi or Enterprise Console) it sends the action to the relevant monitor. So, for example, a Send to Console action goes to the Network monitors and a Send Text Message action goes to the Primary Communications monitor. If the Primary Action monitor gets too busy you can use Auxiliary Action monitors.

Auxiliary Action monitor

Auxiliary Action monitors are additional monitors used to spread the workload. If your machine is busy, these can improve performance by getting actions processed. The number of Auxiliary monitors is controlled in system defaults [HAL/ACTMONMIN](#), [HAL/ACTMONMAX](#) and [HAL/ACTMAXBUSY](#).

Network Receive monitor

This monitor is required if actions are to be performed on this system for alerts generated elsewhere in the network. This function is also required when the alert originated on this system, the details were passed to another system in the network, and a reply or acknowledgment will be returned.

Network Send monitor

If the actions required for alerts on the local system are to be performed on another system, then the details of the alert are passed to the Network Send monitor. This then determines the route (DDM or TCP/IP) to that other system and pass the data across the network. This function is also required to process replies or acknowledgments from the central console, when the information is passed back to the original system.

Auxiliary Network Send monitor

Auxiliary Network Send monitors allow network actions to be carried out across multiple systems simultaneously (such as Send alert to Enterprise Console A, Send alert to Enterprise Console B, Send alert to another IBMi and so on). Each of these network actions can then go through a different auxiliary Network Send monitor so they get actioned quicker than sitting in a queue waiting for the previous action to finish.

Custom monitor

The Custom monitor checks the status of the custom command rules and raises an alert if the command ends by sending an escape message to the requester. Alerts are processed by the Primary Action monitor.

Controlling the Monitors

There are three ways to start and end the Halcyon monitors:

- Using the direct command interface
- Using Autostart and ENDSBS
- Using the Work with Monitors display

Using the Direct Command Interface

To start and end the monitors using the command interface, use the following commands (where PROD represents the name of the environment):

HALPROD/STRMON MONITOR ((HEM CST)) Starts the Custom monitor

HALPROD/STRMON MONITOR ((HAL ACT)) Starts the Action monitor

HALPROD/ENDMON MONITOR ((HEM CST)) Ends the Custom monitor

HALPROD/ENDMON MONITOR ((HAL ACT)) Ends the Action monitor

Using Autostart and ENDSBS

Using an Autostart Job

It is possible to start the Halcyon monitors automatically when the IBMi is IPL'd by adding the following Autostart Job Entry to any subsystem that is automatically started during the IPL process:

```
ADDAJE SBS(DQCTL) JOB(ZHALPROD)
```

```
JOB(D HALPROD/STRMON (where PROD is the environment name)
```

The example shown above uses the QCTL subsystem, but it can use another subsystem if required. When the Halcyon subsystem ZHALPROD is started, any monitors that are not in a held status, are started automatically.

Using ENDSBS

There are three commands available to end the Halcyon subsystem:

```
ENDSBS ZHALPROD
```

```
ENDSBS *ALL
```

```
PWRDWN SYS
```

If the Halcyon subsystem ZHALPROD is ended, any active monitors end in a controlled manner.

Using the Work with Monitors display

You can also start and end monitors using options **1=Start** and **4=End** on the Work with Monitors display.

Work with Monitors display

The Work with Monitors display allows you to manage the operation of the monitors.

Getting there

Select option **3 = Work with Monitors** from the Halcyon main menu or alternatively, by entering the **WRKMON** command.

```

HAL0110R                               Halcyon Software                               HAL525P3
CUSTM                                   Work with Monitors                               19/09/13 12:27:04

Type options, press Enter.
1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
9=Stop supervising

Opt Monitor Description                Sup Status  Function
_  HALAAA  Monitor Supervisor                N Stopped
_  HALACT  Primary Action Monitor                N Active   DEQW
_  HALAX1  Auxiliary Action Monitor #1            N Active   DEQW
_  HALRCV  Network Receive Monitor                N Stopped
_  HALSND  Network Send Monitor                  N Active   DEQW
_  HALSX1  Auxiliary Network Send Monitor #1      N Active   DEQW
_  HEMCST  Custom Monitor                        N Active   DEQW

                                           BOTTOM
F3=Exit F5=Refresh F12=Cancel F15=Work with subsystem jobs F17=Subset
    
```

Parameters on the Work with Monitors display

The following parameters are available on this display.

Monitor

Displays the name of the monitor.

Description

Displays the description of the monitor.

Supervised (Sup)

Indicates whether the monitor is enabled for supervision by the monitor supervisor.

Y	Supervision is enabled
N	Supervision is not enabled
(Blank)	Supervision is not applicable to this monitor

Auxiliary monitors and the Supervisor itself cannot be supervised. When the Supervisor is active, the following occur for monitors that have supervision enabled and are released:

- If a monitor is stopped, the Supervisor starts it.
- If a monitor has failed and is waiting for an inquiry message reply (MSGW status), the Supervisor replies to the message, trying replies in the following order:
 - **D** (Dump)
 - **C** (Cancel)
 - Default reply

Status

Displays the status of the monitor.

Held	This monitor is stopped and held. A monitor that is held is not started by the Start Monitors command using STRMON MONITOR (*ALL)
Starting	This monitor is starting
Active	The monitor is active and is being supervised
Active-Sup	This monitor is active and is being supervised
Ending	This monitor is ending
Stopped	The monitor is stopped

Function

For an active monitor, this indicates the function that the monitor is currently performing. Monitors that are currently idling will typically show DEQW, EVTW, SELW or MSGW status.

MSGW in normal video indicates a monitor waiting for a non-specific message. This is the normal idle status of the Job Scheduler Reply Monitor. If MSGW is shown in reverse video red, the monitor has failed and is waiting for an inquiry message reply.

Using the Work with Monitors display

The following options are available when using the Work with Monitors display. Type the option number in the Opt column against the required selection.

Start

Use option **1=Start** to start the selected monitor. If the ZHALPROD subsystem is not active, you are prompted to start it. If you continue, any monitors that are not held, start. If the subsystem was already active, only the selected monitor starts.

Hold

Use option **3=Hold** to hold the selected monitor. You can only hold this monitor if it is currently stopped. Holding the monitor prevents it from being automatically started by the **STRSBS** command.

End

Use option **4=End** to stop the selected monitor.

Display

Use option **5=Display** to show performance statistics for the Custom Monitor.

Release

Use option **6=Release** to release the selected monitor that was previously held.

Messages

Use option **7=Messages** to open the Display Message Log display which shows all messages that have been raised by the selected monitor.

Supervise

Use option **8=Supervise** to open the Confirm Supervise of Monitors display. Press **Enter** on this display to confirm enabling supervision of the selected monitor.

NOTE: This only enables supervision. Actual supervision only occurs when the Supervisor is running.

Stop supervising

Use option **9=Stop supervising** to open the Confirm Stop Supervising Monitors display. Press **Enter** on this display to confirm disabling supervision of the selected monitors.

Functions on the Work with Monitors display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F15=Work with Subsystem Jobs

Runs the Work with Subsystem Jobs (**WRKSBSJOB**) command for the Halcyon Custom Monitor's subsystem.

F17=Subset

Use **F17=Subset** to open a subset window from where you can set a filter to display the monitors for all products or for one specific product.

```

HAL0110R                               Halcyon Software                               HAL720P4
QA                                       Work with Monitors                               25/03/15  08:16:08

Type options, press Enter.
1=Start 3=Hold 4=End 5=Display 6=Release 7=Messages 8=Supervise
9=Stop supervising
Opt Monitor Description                Sup Status  Function  Busy
-----
Subset Monitors
Type choices, press Enter.
Product code . . . *ALL          *ALL, HAM, HDM, HEM, HJS...
Status . . . . . *ALL          *ALL, *ACTIVE
Show web agents  *YES          *YES, *NO
Show AX monitors *YES          *YES, *NO
F3=Exit  F5=Refresh  F12=Cancel
-----
HJSCTL  Job Scheduler Control Monitor    N Active  DEOW    0%
HJSRPY  Job Scheduler Reply Monitor      N Active  MSGW    0%
More...
F3=Exit  F5=Refresh  F12=Cancel  F15=Work with subsystem jobs  F17=Subset

```

Product code

Enter the product code of the monitors that you want to display. For example, enter HEM to select only the monitors in the System Event Manager product. Type *ALL to select all monitors.

NOTE: It is only possible to subset by product code and not by individual monitor.

Status

Enter the status of the monitors that you want to display.

*ALL	All monitors are displayed, regardless of status
*ACTIVE	Only monitors that are currently active, or that are starting or ending are displayed

Show web agents

Specifies whether the Work with Monitors display shows the generic web agents which are used to serve the Halcyon GUI applications. See system default [HAL/SHOWWEBAGENTS](#).

*YES	Generic web agents are shown
*NO	Generic web agents are not shown

Show AX monitors

As up to 35 auxiliary monitors can be active at any one time, this parameter allows you to specify whether these monitors should be included in the subset display.

*YES	Auxiliary monitors are shown on the subset monitors display
*NO	Auxiliary monitors are not shown on the subset monitors display

Custom Monitor Rules

The following section details how to add and change the Custom Monitor rule group and rules.

NOTE: Information regarding the options and functions available when working with rules can be found in the chapter [Work with Rules](#).

Adding a Custom Rule Group

This option is used to add a new Custom rule group to the existing Custom rule groups.

Getting there

Select option **5=Work with Rules** from the Halcyon main menu.

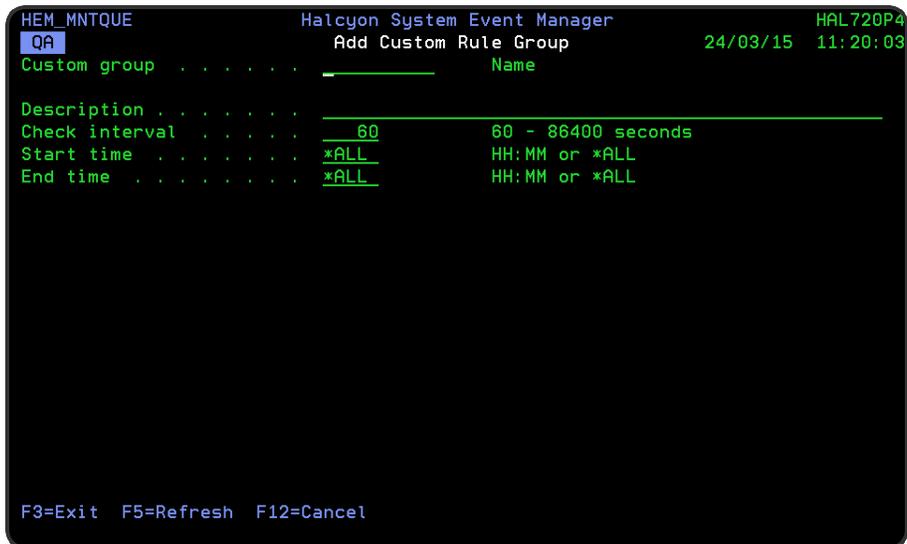
Note that on first use, no rule groups exist. This action is taken with the cursor positioned against the Custom Monitor on the Work with Rules main display.

```

HAL0030R                               Halcyon Software                               HAL720P4
QA                                       Work with Rules                               24/03/15  11:13:04
Type options, press enter
1=Insert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold 8=Alerts
9=Print 10=Reset 13=Export 14=Msg count 15=Review msgs 23=Rule history..
Opt  Item      Description                               Status
--  ---
--  Message Queue                               Active
--  TCP/IP                                         Active
--  Job Log                                       Active
--  Output Queue                               Active
--  Device                                       Active
--  Job Queue                                   Active
--  Performance                               Active
--  User                                       Active
--  Distribution Queue                         Active
--  Inactivity                               Active
--  Object                                    Active
1  Custom                                       Active
--  Alert Intelligence                         Active
--  Restricted Tasks                           Stopped
                                          More...
F3=Exit F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel
F13=Expand all F17=Subset F21=Command line F22=Print F23=More options

```

Selecting option **1=Insert** or **F6=Add** at this point opens the Add Custom Rule Group display.



Parameters on the Add Custom Rule Group display

The following parameters are available on this display.

Custom group

Enter the name by which this custom rule group is identified.

Description

Enter a description for this custom rule group. The entry made here is displayed on the [Work with Rules](#) main display.

Check interval

Specifies the interval in seconds between each check of the rules defined within this queue or rule group. The value entered must be a value within the range 60-86400.

NOTE: The value entered here is used by the monitor to control the next check time for each rule. If the Start time value has been set and used by the monitor, and you subsequently change this value to a smaller value, the original time value must expire before your new value is used.

Start time

Specifies the time at which monitoring starts for this rule group.

*ALL	Always monitor this group
HH:MM	Start monitoring at the specified time (24 hour clock)

End time

Specifies the time at which monitoring ends for this rule group.

*ALL	Always monitor this group
HH:MM	End monitoring at the specified time (24 hour clock)

Type the details as required and press **Enter** to add this rule group to the Custom Monitor.

Functions on the Custom Monitor Rules display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Adding a Custom Rule

To add a rule to a Custom rule group, select either option **1=Insert** or **F6=Add** against an existing Custom rule group to open the Add Custom Rule display.

```

HEM_MNTRUL          Halcyon System Event Manager          HAL720P2
MANL                Add Custom Rule                      27/01/16 10:05:16
Custom group . . . . . @QA                               (1 of 2)
Description . . . . . QA Rules
Rule number . . . . . 0015
Rule description . . . . .
Monitor by calendar . . . *NONE_____ Name, F4=Prompt
                        Mon Tue Wed Thu Fri Sat Sun
Monitor on days . . . . . Y Y Y Y Y Y Y
Time range . . . . . 00:00 - 23:59
Suspend on alert . . . . *DFT_          *DFT, *NONE, 1-1440 minutes
Console comment . . . . . *NO_          *YES, *NO
On-close action . . . . . *NONE_____ Name, F4=Prompt

F3=Exit F4=Prompt F5=Refresh F12=Cancel F21=Command Line
Description is required.
More...

```

Parameters on the Add Custom Rule display

The following parameters are available on this display.

Rule group

Displays the name of the rule group to which this rule belongs.

Description

Displays the description of the rule group to which this rule belongs.

Rule number

When adding a group rule, this parameter is automatically defaulted to the next available number (+10) (+5 (or less) if positioned between existing rules). This sequence number can be overridden but must remain unique within this group configuration.

Rule description

Enter a description for the new rule. This parameter is mandatory. The entry here is displayed on the Work with Rules main display. If you leave the default setting *AUTO the description is automatically resolved from the entered criteria.

Monitor by calendar

Specifies the name of the calendar that contains the dates and times when you want this rule to be enabled to run.

Use **F4=Prompt** to display a window showing a list of existing calendars from which a selection can be made. Providing you have the appropriate level of user authority you can also display and change the settings of the calendar from this window. See [Work with Calendars](#) for more information on using calendars in this product.

Specify ***NONE** here to enable the rule using the 'Monitor on days' and 'Time range' parameters.

Calendar mode

If the 'Monitor by calendar' parameter is set to a named calendar, specify how the calendar is used.

N	Normal. The rule is active on the dates and times that are enabled on the calendar
I	Inverse. The rule is active on the dates and times that are not enabled on the calendar

Monitor on days

Automatically defaults to monitor on every day of the week. Overtyping 'N' on any days on which you do not want the monitor to operate.

Time range

Defines the time range over which monitoring is active.

HHMM	The 24 hour time range for checking the user group
-------------	--

Suspend on alert

If an alert is triggered by this rule, you can automatically suspend the monitoring by up to 1440 minutes (24 hours). For example, if an alert occurs, it may not be necessary to continue issuing the alert (and possible paging) at every check interval. After the specified number of minutes has elapsed, the rule is reset and checking resumes until another alert is generated.

*DFT	System default HAL/DFTSUSPENDALT determines the suspend action for this rule
*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected at the interval specified in the 'Check interval' parameter

1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time. When the suspend time elapses, a new alert is raised if the condition that raised the original alert still exists
-------------	---

Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBMi based [Message Console](#).

*YES	A comment is required. Console actions raise an Inquiry Alert as the equivalent of a Message Manager Inquiry Alert in that a reply is expected. The comment cannot be left blank. The reply can be viewed by using the Display Message Log functionality
*NO	No comment is required

NOTE: This parameter only applies within [Message Console](#). It does not apply to [Work with Alert Log](#), Enterprise Console or any use of the Close Alert (CLSALT) command including in SMS commands.

On-close action

Specify the name of the action schedule that defines the action to take when an alert raised by this rule is closed. Use *NONE if no action is required.

NOTE: Conditional actions plus CLOSE, CONSOLE and REPLY actions are not supported for On-close actions. If the Action Schedule contains these actions they are ignored.

Press **Page Down** to move to the second page of parameters.

```

HEM_MNTRUL          Halcyon System Event Manager          HAL525P3
CUSTM              Add Custom Rule                      18/09/13 15:39:58
Custom group . . . . . CUSTOMGRP2                      (2 of 2)

Description . . . . . Secondary Level Custom Rules
Type options, press Enter.
2=Change 4=Delete 9=Move down
Opt Rule type      Command
_ *CSTEVT          CHKOBJ OBJ(QGPL/TEST) OBJTYPE(*DTAARA)

          Actions
Action                                           Delay

F3=Exit F5=Refresh F6=Add action F12=Cancel
BOTTOM

```

The second page of this display shows the current rule criteria, displayed directly above the 'Actions' line. These can be amended using option **2=Change** against the required criteria.

Actions

At this point, there are no actions applied to the user rule, so any alerts raised by this rule criteria are not recognized. To add an action to this rule use **F6=Add action**.

NOTE: See [Adding Actions to Rules](#) for more information.

Using the Add Custom Rule display

The following options are available when working with this display:

Change

Use option **2=Change** to change existing rule criteria or action.

NOTE: See [Changing Custom Rule Criteria](#) for more information.

Delete

Use option **4=Delete** to remove the selected rule criteria or action.

Move down

Use option **9=Move down** to reorder the actions by moving the current action down one line. This allows you to control the order in which the actions are processed.

NOTE: This option is not valid with selection criteria.

Functions on the Add Custom Rule display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F6=Add action

Use **F6=Add action** to open the Add Custom Action display from where a new action can be added to this rule.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Changing Custom Rule Criteria

This option is invoked by taking option **2=Change** against the Custom rule criteria displayed on the Add/Change Custom Rule display. This opens the Change Custom Criteria display.

```

HEM0010R          Halcyon System Event Manager          HAL525P3
CUSTM             Change Custom Criteria                18/09/13 15:48:42

Rule group . . . . . CUSTOMGRP2
Rule number . . . . . 50

Rule type . . . . . *CSTEVT

Command . . . . . CHKOBJ OBJ(QGPL/TEST) OBJTYPE(*DTAARA)

-----

User profile . . . . . QSYSOPR      Name, F4=Prompt

-----

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F21=Command Line  F24=More keys

```

Parameters on the Change Custom Criteria display

The following parameters are available on this display.

Rule group

Displays the name of the Custom rule group that contains this rule.

Rule number

Displays the sequence number of the rule to which this criteria is applied.

Rule type

Specifies the type of rule. This parameter is always set to *CSTEVT to identify it as a custom event.

Command

Specifies the command to be run. Up to 512 characters can be used.

By default, a command that checks a test data area is automatically inserted into this parameter. This requires amending with the new command.

All custom event commands are run by the Custom Monitor at the interval specified in the rule group.

The following outcomes are possible:

- If the command runs successfully nothing happens.
- If the command ends by sending an escape message to the requestor (in other words, to the monitor) an alert is raised. The escape message becomes the alert message.
- If the monitor cannot swap to the user specified - for example, if it no longer exists - an error is logged and the rule is held. An alert is not raised.
- If the user command has an unrecognized error, the monitor goes into MSGW status. If you then cancel the command failure, the monitor regains control, logs a message and holds the rule. An alert is not raised.

User profile

Specifies the user profile used to run the command. Use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. The default monitor user profile is set in system default [HEM/CSTMONUSR](#).

NOTE: In order for the Custom Monitor to execute the command, the user running the Custom Monitor must have at least *USE authority to the user specified on the Rule to run the command, plus the user specified on the command must have authority to the command to be run.

Adding Actions to Rules

From the Add/Change Custom Monitor Rule display, use **F6=Add action** to open the Add Action display and assign a new action to the rule.

NOTE: Please see [Rule Actions](#) for more information.

Functions on the Change Custom Criteria display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F4=Prompt

Use **F4=Prompt**, when supported, to display a list with valid entries for that field.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

F21=Command Line

Use **F21=Command Line** to display an IBMi command line.

F24=More Keys

Use **F24=More Keys** to display additional functions that are not visible on the default view.

Technical Information

Overview

The Technical Information section of the Halcyon Product Suite consists of:

- Details of Halcyon products installed on your IBMi
- System information of your IBMi

```

HALINF          QA Environment          HAL720P4
QA              Halcyon Software        19/03/15  12:30:13
              Technical Information Menu
Select one of the following:

  1. Display Product Information
  2. Display System Information

Selection or command
==>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel
  
```

Quick access

From the Technical Information menu you can access the following options:

Option	Function
Display Product Information	Displays the details of the Halcyon products you have installed on this system
Display System Information	Displays system information that may be required if you need to raise a support ticket

Display Product Information

This display lists the installed Halcyon products together with version information and authorization status.

Getting there

Select option **1=Display Product Information** from the Technical Information menu to open the Display Product Information screen.

```

HAL0006R                               Halcyon Software                               HAL525P3
DMS                                     Display Product Information                       17/12/13  15:47:37
Type options, press Enter.
5=Display

Opt Installed Product                   Version PTF                               Authorization
_ Halcyon Operations Center             V5.0                                       Type Expires
_ Halcyon Audit Journal Manager         V9.0   PTF2013.343   *TEMP 31/12/13
_ Halcyon Disk Space Manager            V9.0   PTF2013.343   *TEMP 31/12/13
_ Halcyon System Event Manager          V11.0  PTF2013.343.3   *TEMP 31/12/13
_ Halcyon Advanced Job Scheduler        V11.0  PTF2013.343   *TEMP 31/12/13
_ Halcyon Message Communicator          V9.0   PTF2013.343   *TEMP 31/12/13
_ Halcyon Message Manager               V9.0   PTF2013.343   *TEMP 31/12/13
_ Halcyon Restricted Tasks Manager      V9.0   PTF2013.343   *TEMP 31/12/13
_ Halcyon Common Library                 V11.0  PTF2013.343.1   *TEMP 31/12/13
_ Halcyon System Event Manager          V11.0  PTF2013.343.3   *TEMP 31/12/13
_ Halcyon HA-MX Monitor                  V11.0  PTF2013.343   *TEMP 31/12/13
_ Halcyon Record & Playback              V11.0  PTF2013.343   *TEMP 31/12/13

F3=Exit  F5=Refresh  F11=Show monitors  F12=Cancel

BOTTOM
    
```

TIP: You can also display product information by selecting option **5=Display Product Information** from the [Work with Environments](#) display.

Parameters on the Display Product information display

The following parameters are available on this display.

Installed product

Describes the installed item. There are three levels which can be displayed:

- **Primary**
 - Primary items are suites or separate products (those which are not part of an installed suite). Primary items are shown in white.

- **Component products**
 - Component products are those which are part of an installed suite. Component products are shown in green and are indented
- **Monitors**
 - Only monitors which can be individually authorized are shown. Monitors are shown in blue and are double indented

NOTE: Some suites include only some monitors of a particular product. In these cases, the product is listed twice; once as a suite component with those monitors that are included in that suite and also as a separate product with the remaining monitors

Version

Displays the version of the installed suite or product. The following rules apply:

- **Suite**
 - The version shown is the latest known version of the suite. Initially, this is the version of the suite that was originally installed. Upgrading any product, whether part of the suite or not, may reveal a later version of the suite
- **Product**
 - The version shown is the version currently installed. With products that are components of a suite, the version is highlighted if the installed version is insufficient to qualify for the indicated suite version. If any products are highlighted, then you do not have the full version of the suite

NOTE: Version does not apply to monitors.

PTF

Displays the PTF release of the product. The PTF comprises the year and day of release in julian format.

NOTE: PTF doesn't not apply to suites or monitors.

The software supports incremental 'Revision' releases at the same PTF Level. Revision releases are the same PTF Level with a specific additional fix directly applied. Revision releases are shown as a single digit following the PTF Level.

Authorization type

Displays the type of authority you have for this item. There are four levels of authority:

*PERM	Permanent authority
*TEMP	Temporary authority. The authority expires after the indicated date
*NON	Not authorized to this item
*VARY	Various authority. Applies to suites and also to products that allow individual authorization of their monitors. Check the component authorities for details

Authorization expires

Displays authorization expiry information:

- **Permanent authority (*PERM)**

The authority is permanent. The date shown is the date that maintenance cover expires. An entry of *NOMAINT in this parameter indicates that maintenance cover has already expired. The product continues to run after maintenance cover expires but you are no longer authorized to upgrade or install PTF's

NOTE: After maintenance cover has expired, you may still upgrade providing that the upgrade version has a release date that precedes the maintenance expiry date. Do not attempt to upgrade to a later version as it will not run.

- **Temporary authority (*TEMP)**

The date displayed is the last date on which the authority is valid. The product will not run after this date

NOTE: A message is displayed advising you of which products you are not currently authorized to use, should your authority expire (see below).

Authorization Code Expiry Messages

The warning messages sent when authorization codes and maintenance on authorization codes are about to or have expired are only generated when a product has an authorization or maintenance issue across all authorization codes.

Using the Display Product Information display

The following options are available on the Display Product Information display.

Display

Use option **5=Display** to display detailed information about the selected suite, product or monitor.

Functions on the Display Product Information display

The following functions are available on this display.

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F5=Refresh

Use **F5=Refresh** to update the display with current information.

F11=Show (Hide) monitors

Use **F11=Show (Hide)** to show or hide monitors within products. Only monitors which can be individually authorized are displayed.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Display System Information

The Display System Information screen which contains information about your system that may prove important if you need to make a call to technical support or raise a support ticket.

Getting there

Select option **2=Display System Information** from the Technical Information menu.



```
HALCYON                QA Environment                HAL720P4
Display System Information
System name . . . . . : HAL720P4
Serial number . . . . . : 06A22BT
Model . . . . . : E4D
Feature . . . . . : EPCL
LPAR number . . . . . : 8
Performance group . . . : P10
ASP Group . . . . . : *NONE
System Processors . . . : 6
On-Demand Processors . . : 6
Partition Processors . . : 2
Active OS Processors . . : 6
Shared Processors . . . : 6
OS level . . . . . : V07R02M00
Bottom
F3=Exit F12=Cancel
```

Parameters on the Display System Information display

The following parameters are available on the Display System Information display.

System name

Displays the current system name.

Serial number

Specifies the system serial number.

Model

Specifies the main card enclosure model number, commonly known as the system processor card model number.

Feature

Specifies the processor capacity card type, commonly known as the feature code.

LPAR number

Specifies the current partition identifier.

Performance group

Specifies the performance group (or processor group) for this system. This gives a indication of relative processor performance.

Processors in system

Specifies the number of processors available for this system.

Processors activated

Specifies the number of processors that are currently active within this system.

Maximum license capacity

Specifies the maximum number of licenses that can be present on this system.

Current license capacity

Specifies the number of licenses that are currently deployed across this partition.

OS level

Specifies the current operating system version in VxxRxxMxx format, where Vxx is the version, Rxx is the release and Mxx is the modification.

Functions on the Display System Information display

The following functions are available when displaying system information:

F3=Exit

Use **F3=Exit** to close the current display and return to the main menu.

F12=Cancel

Use **F12=Cancel** to exit this display and return to the previous display.

Appendix - System Defaults

Overview

System Defaults are values that control how Halcyon products operate, in the same way that system values affect the IBMi operating system.

Getting there

Select option **7=Work with System Defaults** from the Halcyon Configuration menu, to list the available system defaults. This display also provides options enabling you to display or change settings.

```

HAL9010R                               Halcyon Software                               HAL720P2
MANL                                     Work with System Defaults                       7/08/19 09:58:58
Type options, press Enter.
2=Change 5=Display

Opt Prd Name                            Description
- HAL ACKNSUSPTIME                       Acknowledged alert suspend minutes.
- HAL ACTLOGLIFE                          Number of days to retain actions in the action log.
- HAL ACTMAXBUSY                          Action monitor maximum busy %.
- HAL ACTMONMAX                           Maximum number of auxiliary action monitors.
- HAL ACTMONMIN                           Minimum number of auxiliary action monitors.
- HAL ACTMONPTY                            Action Monitor run priority.
- HAL ACTMONUSER                           Action Monitor user profile.
- HAL ADMINMSGQ                           Administrator Message Queue.
- HAL ALTAUTOCLOSE                         Number of days after which to auto close open alerts.
- HAL ALTCLOSEEXITPGM                     Close Alert user exit program.
- HAL ALTLOGLIFE                           Number of days to retain closed alerts in alert log.
- HAL AUTHMODE                             Authority control mode.
- HAL AUTOEXPORTMODE                       Automatic export control.
- HAL AUTOEXPORTRETRY                      Automatic export retry interval minutes.
- HAL AUTOEXPORTTHOUT                      Automatic export time-out hours.
More...

F3=Exit F5=Refresh F12=Cancel F17=Subset F22=Print

```

System Default Authority

In order to actively use this display, you need *USE authority to the HAL-WRKSYSDF function.

In addition, you need *ALL or *USE authority to the SYSDFT function in each product of which you need to maintain or view the system defaults.

Common Library System Defaults

The following is a list of system defaults that control specific elements within the Halcyon Common Library.

Acknowledged alert suspend minutes (HAL/ACKNSUSPTIME)

This entry specifies the number of minutes for which a rule should be suspended when an acknowledgment is received for an alert. If the rule accepts variable conditions, such as generic names or has variable types, the suspension only applies to the specific values of the alert. The default value is 5 minutes.

0-1440	Enter the number of minutes for which the rule is suspended
--------	---

Number of days to retain messages in the action log (HAL/ACTLOGLIFE)

Specifies the number of days messages are retained in the Action Log before being automatically deleted.

1-365	Specify the number of days
*NOMAX	Messages are not automatically deleted. Use the Clear Action Log (CLRACTLOG) command to manually purge the Action Log

TIP: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Action monitor maximum busy % (HAL/ACTMAXBUSY)

Specifies the target maximum busy percentage value for Action Monitors. This value is compared to the actual busy percentage value of the Action Monitors to determine the optimum number of Action Monitors to run, within the limits specified by the [HAL/ACTMONMIN](#) and [HAL/ACTMONMAX](#) system defaults.

Maximum number of auxiliary action monitors (HAL/ACTMONMAX)

Specifies the maximum number of Auxiliary Action monitors that are run. See [HAL/ACTMAXBUSY](#).

*NONE	Auxiliary action monitors are not used. The primary monitor handles all of the actions
1-35	Specify the maximum number of Auxiliary action monitors that can run simultaneously

Minimum number of auxiliary action monitors (HAL/ACTMONMIN)

Specifies the minimum number of Auxiliary Action monitors that are run. See [HAL/ACTMAXBUSY](#).

*NONE	Auxiliary action monitors are not used. The primary monitor handles all of the actions
1-35	Specify the minimum number of Auxiliary action monitors that can run simultaneously

Action Monitor run priority (HAL/ACTMONPTY)

Specifies the run priority of the Primary and Auxiliary Action monitors.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Action monitors

Action monitor user profile (HAL/ACTMONUSER)

Specifies the user profile used when running the Primary and Auxiliary Action monitors.

*JOB	The user profile in the STRMON job description is used. The value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the User Profile for the Action monitor is changed, a check is made to ensure that the new profile has LMTCPB(*YES) and *PARTIAL limited capabilities set.

Administrator message queue (HAL/ADMINMSGQ)

Specifies the message queue to which administrator messages are sent. These would include messages such as those warning of an imminent authorization code expiry date.

Number of days after which to close alerts (HAL/ALTAUTOCLOSE)

Specifies the number of days for which Open and Acknowledged alerts are retained in the Alert Log before being closed automatically. The shipping default is 90 days. Alerts are automatically closed after this time has elapsed.

7-365	Specify the number of days
*NONE	Alerts are not closed automatically

TIP: To automatically delete closed alerts see the system default [HAL/ALTLOGLIFE](#).

Close alert user exit program (HAL/ALTCLOSEEXITPGM)

Specifies the qualified name and library of the program to be called whenever a local alert is closed.

*NONE	No exit program is specified
-------	------------------------------

name	Enter the name and library of the program to call. The user program is passed the following parameters: *DEC 9 Alert ID of the alert that was closed *CHAR 1 The method used to close the alert. See below *CHAR 20 The user who closed the alert. If the alert was closed from an IBMi system, this is the user ID of the user who closed it. If the alert was closed from a PC Enterprise Console, this is the PC logon name of the user who closed it *CHAR 8 If the alert was closed by a remote environment, this is the remote location of that environment as defined on the local environment *CHAR 32 If the alert was closed by a PC Enterprise Console, this is the PC name of the system on which the Enterprise Console was running The possible values for the method parameter are: A Close Alert (CLOSE) action B Close Alert (CLOSE) action with condition *COMP or *COMPNOERR C Close Alert (CLSALT) command D Clear Alert Log (CLRALTLOG) command E Enterprise Console or Message Console O 4=Delete or 10=Close on the Work with Alert Log display M Automatically closed - Situation no longer current R Inquiry message was replied to S SMS device T Automatically closed via HAL/ALTAUTOCLOSE system default X Remote close action or command
-------------	---

The user program may retrieve additional information about the alert from substitution variables. For example, the text of the alert can be retrieved using:

RTVSBSVAR VAR(ALERT) ALERT(&ALERTID) CHAR256(&TEXT)

Number of days to retain closed alerts in the alert log (HAL/ALTLOGLIFE)

Specifies the number of days that closed alerts are retained in the Alert Log before being automatically deleted. The number of days is measured from when the alert

was logged, not from when it was closed.

1-365	Specify the number of days
*NOMAX	Closed alerts are not automatically deleted. Use the Clear Alert Log (CLRALTLOG) command to manually purge the Alert Log

TIP: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Authority control mode (HAL/AUTHMODE)

Specifies the authority control mode used.

0	Users with *ALLOBJ special authority do not automatically have *ALL authority to Halcyon products and functions. Authority is derived from function authority in the normal way
1	Users with *ALLOBJ special authority automatically have *ALL authority to all Halcyon products and functions, overriding any previous function authority that has been defined. This is the default setting

Automatic export control (HAL/AUTOEXPORTMODE)

Specify whether and how to automatically export rules to remote systems.

OFF	Automatic export is disabled
*UPPADD	Automatic export is enabled in add-update mode. Changing (but not adding) a rule group or rule causes that rule or group to be added or updated on the systems enabled for the auto-report
*UPDATE	Automatic export is enabled in update only mode. Changing (but not adding) a rule group or rule causes that group or rule to be updated on the systems enabled for auto-export. It is not added to those systems if it does not already exist. With this setting, if you require a rule group or rule on a remote system to be automatically updated in future, you must first manually export it using option 13=Export on the Work with Rules display or by using the Export Rules (EXPRULE) command. Once created on the remote system, it is automatically updated with any subsequent changes on the source system

*MIRROR	Automatic export is enabled in mirror mode. Adding, changing or deleting a rule group or rule causes the action to be mirrored on the systems enabled for auto-export
----------------	---

Automatic export retry interval minutes (HAL/AUTOEXPORTRETRY)

Specifies the automatic export retry interval in minutes. If an automatic export cannot connect to the remote system, additional attempts are made at the interval specified here until the export is successful or until the time-out specified by system default [HAL/AUTOEXPORTTMOUT](#) expires.

Automatic export timeout hours (HAL/AUTOEXPORTTMOUT)

Specifies the automatic export time-out in hours. If an automatic export cannot connect to the remote system, additional attempts are made at the interval specified by system default [HAL/AUTOEXPORTRETRY](#) until the export is successful or until the time-out specified here elapses.

Banner background character (HAL/BANNERBACKGRD)

Specifies the background character used for large text in the spooled file manager bundle and segment headers. Defaults to blank.

Banner foreground character (HAL/BANNERFOREGRD)

Specifies the foreground character used for large text in the spooled file manager bundle and segment headers. For best effects it is recommended that you use a high density character such as '@' (default) or '#'.

Automatically populate default calendar (HAL/CALAUTOPOPULATE)

Specifies the number of years of default data with which the *DEFAULT calendar should be automatically populated on an ongoing basis.

The default data sets the *DEFAULT calendar on Mondays through Fridays using the times specified by system defaults [HAL/CALDFTSTRTIME](#) and

[HAL/CALDFTENDTIME](#). The data is added in whole years. A year is only populated if that year previously contained no enabled dates.

*NONE	The *DEFAULT calendar is not automatically updated
1-20	Specify the number of years to automatically populate the *DEFAULT calendar, including the current year. For example, in 2012, a value of 5 would ass data to any unpopulated years between 2012 and 2016. Then in 2013, the data for 2017 would also be populated

Calendar command clear day ([HAL/CALCMDCLRDAY](#))

Specifies the command character for the Clear Day option on the [Work with Calendars](#) display.

Calendar command end contiguous days ([HAL/CALCMDENBLOCK](#))

Specifies the command character for the End of Contiguous Days option on the [Work with Calendars](#) display.

Calendar command set day ([HAL/CLCMDSETDAY](#))

Specifies the command character for the Set Day option on the [Work with Calendars](#) display.

Calendar command start contiguous days ([HAL/CALCMDSTRBLOCK](#))

Specifies the command character for the Start of Contiguous Days option on the [Work with Calendars](#) display.

Calendar command view day ([HAL/CALCMDVIEWDAY](#))

Specifies the command character for the View Day option on the [Work with Calendars](#) display.

Calendar default end time (HAL/CALDFTENDTIME)

Specifies the default end of day time used with the various calendar and schedule related options.

Calendar default start time (HAL/CALDFTSTRTIME)

Specifies the default start of day time used with the various calendar and schedule related options.

Number of days warning of calendar expiry (HAL/CALENDAREXPWARN)

Specifies the number of days warning that is given for calendar expiry. A warning message is sent to the message queue defined in [HAL/ADMINMSGQ](#) for each calendar that does not have any days set 'on' beyond the current date plus the number of days specified in this system default.

7-365	Specify the number of days
*NOMSG	No warning messages are issued

Auto-delete redundant authorization codes (HAL/CODEAUTODELETE)

Specifies whether to automatically delete product authorization codes that have expired. The default setting is *TEMP.

*NO	Do not automatically delete any Product License Codes
*TEMP	Expired temporary Product License Codes are automatically deleted
*ALL	Expired temporary Product License Codes are automatically deleted. Also, permanent Product License Codes will be deleted if they do not have Maintenance (*NOMAINT) and there is another Product License Code that does authorize the Product

Allow authorization code upload (HAL/CODEUPLOAD)

Specifies whether this environment accepts product authorization codes entered via a Code Upload utility.

*YES	Code uploads are accepted so long as the codes are valid
*NO	Code uploads are rejected in this environment

TIP: To automatically delete temporary codes that have expired, set system default [HAL/CODEAUTODELETE](#) to *YES.

Number of days to retain closed alerts in the message console (HAL/CONLOGLIFE)

Specifies the number of days that Closed alerts are retained by the 'green-screen' Message Console before being automatically deleted. This system default has no effect on the PC-based Enterprise Console. The number of days is measured from when an alert was logged and not from when it was closed.

1-365	Specify the number of days
*NOMAX	Closed alerts are not automatically deleted from the Message Console. Use the Clear Message Console (CLRMSGCON) command to manually purge the Message Console
*NONE	Closed alerts are not retained

TIP: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Message Console default color control (HAL/CONDFTCOLORCTL)

Specifies the default color control scheme used by Message Console. The actual scheme may be changed individually by each user via use of **F16=User Options** on the Message Console display.

*SYS	The default scheme is set by system. The color scheme can be modified by taking option 2=System Attributes from the Message Console - Systems View
*SEV	The default scheme is set by message severity. The color scheme may be modified using F22=Alert Attributes from the Message Console - Alerts View

Default message for on-close actions (HAL/DFTCLSALTMMSG)

Specifies the message text returned by the &DFTALRTEXT variable in actions invoked by an Action Schedule defined in the On-Close Action field in a rule. This message may comprise fixed text and/or substitution variables. Press F16 to obtain a list of substitution variables.

Default directory (HAL/DFTDIR)

Specifies the default directory used for stream file output, such as PDF and CSV files. The initial value is automatically set during installation and depends on the environment name.

For environment name PROD, the installer sets the default directory to /Halcyon/HALPROD, creates the directory and shares the sub-directory. If this value is subsequently changed, the user is responsible for creating and sharing the specified directory.

Default logo (HAL/DFTLOGO)

System logos are shown on graphical PDF reports and are defined for each i5 system using option **25=Change System Logo** on the [Work with Remote Locations](#) display.

The default value is *DFT. This system default, and the associated [HAL/DFTLOGOPOSITION](#) system default, determine the logo and logo positioning used when *DFT is specified.

*HALCYON	The Halcyon logo is used as the default logo
*FORTRA	The Fortra logo is used as the default logo
path	Specify the path to the JPEG file that contains the default logo

Default logo position (HAL/DFTLOGOPOSITION)

System logos are shown on graphical PDF reports and are defined for each i5 system using option **25=Change System Logo** on the [Work with Remote Locations](#) display. The default value is *DFT. This system default, and the associated [HAL/DFTLOGO](#) system default, determine the logo and logo positioning used when *DFT is specified.

*LEFT	The logo is positioned at the upper left position of the logo space and trimmed if necessary
*SCALE	The logo is centralized and symmetrically scaled to the maximum size that will fit in the logo space
*CENTRE	The logo is centralized and trimmed if necessary
*FILL	The logo is centralized and asymmetrically scaled to completely fill the logo space

NOTE: This value is ignored when system default [HAL/DFTLOGO](#) is set to *HALCYON or *HELPSYS.

Default monitor run priority (HAL/DFTMONPTY)

Specifies the default run priority for the Halcyon monitors and agents. The run priority selected here, is used when the specific monitor run priority is set to *DFT. Each monitor has its own system default setting which may be set to override the setting entered here.

Value 1-99	Specify the default run priority. The default value setting is 40
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Default message for ACTSCH action (HAL/DFTMSGACTSCH)

Specifies the default message for Action Schedule (ACTSCH) actions. This message may comprise fixed text and/or substitution variables. Press F16 to view a list of valid substitution variables.

Default message for console action (HAL/DFTMSGCONSOLE)

Specifies the default message for console alert (CONSOLE) actions. This message may comprise fixed text and/or substitution variables. Press F16 to view a list of valid substitution variables.

Default message for send message action (HAL/DFTMSGSENDMSG)

Specifies the default message for Send Message Queue Message (SENDMSG) actions. This setting defaults to the alert text. This message may comprise fixed text and/or substitution variables. Press F16 to view a list of valid substitution variables.

Default message for send text action (HAL/DFTMSGSENDTXT)

Specifies the default message for the Send Text Message (SENDTXT) actions. This setting defaults to the system name and the alert. This message may comprise fixed text and/or substitution variables. Press F16=**Substitution variables** to view a list of valid substitution variables.

Default open alert action (HAL/DFTOPNALTACTION)

Specifies the default value for the Open Alert Action option for rules. This option specifies which action is performed for previously raised alerts if the alerting criteria no longer applies.

*DISABLE	Open alert processing is disabled
*NONE	Open alert processing is enabled with the default value *NONE
*ACK	Open alert processing is enabled with the default value *ACK
*CLOSE	Open alert processing is enabled with the default value *CLOSE. This is the default setting

Default message for SENDTXT email subject (HAL/DFTSUBJECT)

Specifies the default subject for the Send Text Message (SENDTXT) actions. The subject line is only used when the message is sent as an email.

*AUTO	The subject comprises the first sentence of the text sent in the message. Specifically, the beginning of the text up to the first occurrence of a period (.), followed by a space is used. The maximum subject length is 44 characters
subject	Specify the actual subject text. This text may include substitution variables. Press F16 to view permitted substitution variables

Default suspend on alert (HAL/DFTSUSPENDALT)

Specifies the default value for the Suspend on Alert option for rules. This option specifies whether and for how long to suspend a rule when an alert is generated by that rule.

*NONE	The rule is not suspended when an alert is raised. A new alert is raised whenever the condition that caused the alert is detected, at the interval specified by the 'Check interval' parameter in the queue or rule group header
1-1440 mins	The rule is suspended for the amount of time specified. No further alerts are raised by this rule during this time period. When the time period elapses, a new alert is raised if the condition that caused the original alert still exists

Exit Point Management (HAL/EXITPNTMGT)

Specifies whether the primary handler programs are to be used as the registered exit programs for the various exit points used by Halcyon products, or whether a different program is to be used.

A number of exit points used by more than one Halcyon product have a limit of one exit program. In addition, you may have additional software that requires use of a particular exit point. The solution is to register primary handlers to each exit point, and have the primary handlers call each secondary handler in turn. You can use the default primary handlers or you can provide your own.

*HALCYON	The Halcyon primary handlers are used. These programs may be registered using the Set Exit Points (SETEXITPNT) command or the Work with Exit Point Handlers display. The Halcyon primary handlers call Halcyon secondary handler in each product as required. If you have other software that requires use of the same exit points, you can arrange for the Halcyon primary handlers to call your exit programs by defining your exit programs as user defined secondary handlers on the Work with Exit Point Handlers display
*USER	Provide your own primary handler programs. In this instance, your own programs must be the registered exit programs. You must configure your exit programs to subsequently call the appropriate Halcyon primary handler for each exit point

Number of days to retain failed syslog messages (HAL/FAILSYSLOGLIFE)

Specifies the number of days that failed syslogs are retained in the failed syslog file before being automatically deleted. The default setting is 31 days.

1-365	Specify the number of days
*NOMAX	Failed syslogs are not automatically deleted. Use the Clear Failed Syslogs (CLRFSYSLOG) command to manually purge the failed syslog file.

NOTE: A value of 1 retains only today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Disk Space Manager environment (HAL/HDMENV)

Specifies the Halcyon environment that contains the Halcyon Disk Space Manager product.

*CURRENT	Option 27 on the Halcyon main menu accesses the Halcyon Disk Space Manager product in the current environment
environment	Option 27 on the Halcyon main menu accesses the Disk Space Manager product in the environment specified. This is useful when you have a high availability setup which has two Halcyon environments with one used when the system is in production mode and the other when in stand-by mode. This system default makes it easier to use the same copy of Disk Space Manager regardless of the current system role. The copy used may be in one of the role swapping environments, or in a third independent environment

NOTE: This system default only affects main menu option 27. You can still access specific installations of Halcyon Disk Space Manager using the **GO** command and a library qualified Halcyon Disk Space Manager menu name.

Record & Playback menu option (HAL/HRPMENUOPTION)

Invalid job CCSID action (HAL/JOBCCSIDACTION)

Specifies the action to be taken when the user requests a Halcyon menu with incompatible job attributes. The job attributes are incompatible when **both** the following are true:

- Coded character set identifier (CCSID) is set to 65535
- Default coded character set identifier (DFTCCSID) is not set to 37

These settings cause incorrect storage and retrieval of data in the Halcyon database. Specify the correct cause of action to take.

*ERRMSG	Issue an error message and prevent access to the Halcyon system
*JOBDFI	Automatically change the coded character set identifier (CCSID) to the value of the default coded character set identifier (DFTCCSID)

NOTE: For jobs with CCSID = 65535 a **CHGJOB** command is automatically initiated unless this system default is set to *ERRMSG.

Number of days to retain journal receivers (HAL/JRNRCVLIFE)

Specifies the number of days to retain journal receivers after they are detached. The Halcyon Action monitor automatically deletes journal receivers older than this number of days.

1 to 365	Specify the number of days to retain data
*NOMAX	Journal receivers are not automatically deleted. Use the Purge Journal (CLRJRNRV) command to manually purger the journal receivers

NOTE: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Journal receiver size in KB (HAL/JRNRCVSIZE)

Specifies the size in Kb for each newly created receiver. The Halcyon journal receivers are automatically changed by the system once this size is exceeded.

NOTE: A receiver may exceed this value by a small percentage until changed. If you want to change the journal receiver size immediately, change this value and then force the system to change the receiver using **F10** from the **WRKJRNL** command screen.

100000 to 1000000000	Specify the number of Kb (minimum is 100000)
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Maximum connection time in seconds (HAL/MAXCNNTIME)

Specifies the maximum time-out value used when attempting to connect to a remote system. The minimum time-out value is two seconds. The actual time-out value used when connecting to a remote system is calculated from previous successful connection times. This system default sets the upper limit of the calculated value. If the remote system cannot be contacted in the time allowed, it is assumed to be unreachable.

Monitor user profile (HAL/MONUSRPRF)

Specifies the user profiles associated with job descriptions; Start Monitors (**STRMON**), Start Subsystem (**STRSBS**) and Supervisor (**SUPERVISOR**). If *VARY is shown, this indicates that the job descriptions have different user profiles. Change the value as required and press **Enter** to change the user profile associated with all three job descriptions. Changing the value to *VARY has no effect.

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.
The user profiles can also be changed using the Change Job Description (**CHGJOB**) command.

NOTE: The Halcyon job description for Web GUI's, used when starting Web Agents also has the user profile set by this system default. However, this setting can be overridden by the setting in system default [HAL/WEBMONUSER](#) if this is set to a character value rather than *JOBID.

Number of days to retain messages in the message log (HAL/MSGLOGLIFE)

Specifies the number of days for which messages are retained in the [Message Log](#) before being automatically deleted.

1 to 365	Specify the number of days
*NOMAX	Messages are not automatically deleted. Use the Clear Message Log (CLRMSGLOG) command to manually clear the message log

TIP: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Auto-configure remote location on receive (HAL/NETAUTOCFG)

Specifies whether to automatically define a remote location when valid network data is received from a previously unknown system or environment.

*YES	A new remote location is automatically defined and the incoming data is accepted
*NO	The incoming data is rejected

Allow auto-config update by default (HAL/NETAUTOCFGUPD)

Specifies the default value of the 'Allow automatic update' parameter used when new remote locations are added automatically.

*YES	When applicable, 'Allow automatic update' is set to *YES
*NO	'Allow automatic update' is set to *NO

Automatically delete inactive i5 system definitions (HAL/NETAUTODLT15)

Specifies whether to delete inactive (not connecting to this system) i5 systems from the [Work with Remote Locations](#) display.

*OFF	Inactive i5 systems are not automatically deleted
1-365	Inactive i5 systems are automatically deleted from the Work with Remote Locations display after the number of specified days

Automatically delete inactive PC system definitions (HAL/NETAUTODLTPC)

Specifies whether to delete inactive (not connecting to this system) PC systems from the [Work with Remote Locations](#) display.

*OFF	Inactive PC systems are not automatically deleted
1-365	Inactive PC systems are automatically deleted from the Work with Remote Locations display after the number of specified days

Network Send: Bind to Host IP Address (HAL/NETBINDHOST)

Specifies that Network Manager Send is to bind to the host IP.

NOTE: Auto Configuration HAL/AUTOCFG should be turned off when this value is anything other than *NONE. System default HAL/NETBINDPORT must also be set correctly.

*NONE	The Network Manager Send (HALSND) does not bind to a specific IP and port. If more than one interface is active, the operating system will select which outgoing IP/port to use
*SYSTEM	The Network Manager Send (HALSND) will bind to the IP address of this system and the port specified in the system default HAL/NETBINDPORT

Network Send: Bind to Host port (HAL/NETBINDPORT)

Specifies that Network Manager Send is to bind to the host IP and port.

NOTE: Auto Configuration HAL/AUTOCFG should be turned off when this value is anything other than *NONE. This value will not be used if HAL/NETBINDPORT is set to *NONE. If more than one Network Manager Send monitor is to be run (see [HAL/SNDMONMIN](#) and [HAL/SNDMONMAX](#)) the value specified here is treated as the first port number in a range for the number of possible Network Send jobs. For example, if 15000 is specified here and HAL/SNDMONMAX is 8, ports 15000 to 15009 must be reserved for this purpose. Care needs to be taken assigning these port numbers particularly if multiple environments exist on a single partition.

*NONE	The Network Manager Send (HALSND) does not bind to a specific IP and port. If more than one interface is active, the operating system will select which outgoing IP/port to use
*SYSTEM	The Network Manager Send (HALSND) will bind to the IP address of this system and the port specified in the Halcyon configuration for this system
1-65535	The Network Manager Send (HALSND) will bind to the IP address of this system and the port number specified here

Network manager diagnostics (HAL/NETDIAG)

Specifies the logging level of Network Manager diagnostics.

*HIGH	Error and diagnostic messages as well as additional operational messages are logged. If network problems are being encountered, the additional information may assist technical support in resolving the issue
*NORMAL	Error and diagnostic messages are logged. This is the recommended and default value
*LOW	Only error messages are logged. No diagnostic messages are logged

Number of days to retain network data in network log (HAL/NETLOGLIFE)

Specifies the number of days for which messages are retained in the Network Log before being automatically deleted.

1-365	Specify the number of days
*NOMAX	Messages are not automatically deleted. Use the Clear Network Log (CLRNETLOG) command to manually clear the Message Log

TIP: A value of 1 only retains today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Log failed remote system communication checks (HAL/NETLOGPING)

Specifies whether failed remote system communications checks are logged to the Message Log.

*YES	Each communications check which is failed is logged
*NO	Communication checks are not logged

Network monitor run priority (HAL/NETMONPTY)

Specifies the run priority of the Network Monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Network Monitor

Network monitor user profile (HAL/NETMONUSR)

Specifies the user profile to be used when running the Network Send and Network Receive Primary and Auxiliary Monitors.

*JOB	The user profile within the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Receive timeout warning threshold (HAL/NETSLOWRSPWARN)

Specifies the threshold at which to log a warning message regarding slow receive from a remote system. The value specified here is the percentage of the 'Receive Wait Time-Out' value specified on the [Work with Remote Locations](#) display. This value must be exceeded for a message to be logged.

For example, if 'Receive Wait Time-Out' for a system is set to 1000mS and this system default is set to 50mS, a message is logged if the if a receive took more than 500mS.

1-99	Specify the threshold percentage above which warning messages are logged
*OFF	Slow receive messages are not logged

Network transfer method (HAL/NETXFRMODE)

Specifies the method used by the various export commands to transfer data to a remote system. The setting in this system default applies to the following commands:

- Export Action Schedules (**EXPACTSCH**)
- Export Call Schedules (**EXPCALLSCH**)
- Export Rules (**EXPRULE**)
- Export User Authorities (**EXPUSRAUT**)
- Export Group (**EXPGRP**)

NOTE: This system default does not apply to the Export Remote Locations (**EXPRMTLOC**) command as remote locations cannot be updated while Network Manager is running. Import Environment (**IMPENV**) cannot use Network Manager because of the volumes of data involved. Both these commands must use ***FTP**.

*FTP	Data is exported using FTP
*NETMGR	Data is exported using Network Manager

PDF Print Color (HAL/PDFCOLOR)

Specifies the print color for text in a PDF.

*STANDARD	The print is gray
*BLACK	The print is black
*BOLD	The print is bold black

Number of days warning of maintenance expiry (HAL/PERMCOEEXPWARN)

Specifies the number of days warning that is given for permanent authorization codes where the maintenance is about to expire. The warning message is sent to

the message queue defined in the [HAL/ADMINMSGQ](#) system default.

1 to 90	Specify the number of days
*NOMSG	No warning messages are issued

Exit program QIBM_QTMF_CLIENT_REQ/VLRQ0100 (HAL/QTMF_CLIENT_REQ)

Specifies the qualified name of a secondary exit program for exit point QIBM_QTMF_CLIENT_REQ with format VLRQ0100.

Exit point QIBM_QTMF_CLIENT_REQ, with format VLRQ0100, may be used by a number of Halcyon products but has a limit of one exit program. Therefore the software uses a primary exit program (HAL_QTMFCR) to call one or more secondary Halcyon exit programs as required. If you have other software that requires use of this exit point, you can arrange for the Halcyon primary exit program to call your exit program by defining your exit program using this system default.

*NONE	No secondary exit program is specified
Name	Specify the name and library of the exit program to call

NOTE: The secondary exit program is not called unless the primary exit program is enabled. To enable the primary exit program, run command:

```
SETEXITPNT PRIMARY(*ENABLE)
```

Exit program QIBM_QTMF_SERVER_REQ/VLRQ0100 (HAL/QTMF_SERVER_REQ)

Specifies the qualified name of a secondary exit program for exit point QIBM_QTMF_SERVER_REQ with format VLRQ0100.

Exit point QIBM_QTMF_SERVER_REQ, with format VLRQ0100, may be used by a number of Halcyon products but has a limit of one exit program.

Therefore Halcyon uses a primary exit program (HAL_QTMFSR) to call one or more secondary Halcyon exit programs as required. If you have other software that requires use of this exit point, you can arrange for the Halcyon primary exit

program to call your exit program by defining your exit program using this system default.

*NONE	No secondary exit program is specified
Name	Specify the name and library of the exit program to call

NOTE: The secondary exit program is not called unless the primary exit program is enabled. To enable the primary exit program, run command:

SETEXITPNT PRIMARY(*ENABLE)

Exit program QIBM_QTMF_SVR_LOGON/TCPL0100 (HAL/QTMF_SVR_LOGON)

Specifies the qualified name of a secondary exit program for exit point QIBM_QTMF_SVR_LOGON with format TCPL0100.

Exit point QIBM_QTMF_SVR_LOGON, with format TCPL0100, may be used by a number of Halcyon products but has a limit of one exit program. Therefore Halcyon uses a primary exit program (HAL_QTMFSL) to call one or more secondary Halcyon exit programs as required. If you have other software that requires use of this exit point, you can arrange for the Halcyon primary exit program to call your exit program by defining your exit program using this system default.

*NONE	No secondary exit program is specified
Name	Specify the name and library of the exit program to call

NOTE: The secondary exit program is not called unless the primary exit program is enabled. To enable the primary exit program, run command:

SETEXITPNT PRIMARY(*ENABLE)

Exit program QIBM_QTMX_SERVER_REQ/VLRQ0100 (HAL/QTMX_SERVER_REQ)

Specifies the qualified name of a secondary exit program for exit point QIBM_QTMX_SERVER_REQ with format VLRQ0100.

Exit point QIBM_QTMX_SERVER_REQ, with format VLRQ0100, may be used by a number of Halcyon products but has a limit of one exit program. Therefore Halcyon

uses a primary exit program (HAL_QTMXSR) to call one or more secondary Halcyon exit programs as required.

If you have other software that requires use of this exit point, you can arrange for the Halcyon primary exit program to call your exit program by defining your exit program using this system default.

*NONE	No secondary exit program is specified
Name	Specify the name and library of the exit program to call

NOTE: The secondary exit program is not called unless the primary exit program is enabled. To enable the primary exit program, run command:

SETEXITPNT PRIMARY(*ENABLE)

Exit program QIBM_QTOD_SERVER_REQ/VLRQ0100 (HAL/QTOD_SERVER_REQ)

Specifies the qualified name of a secondary exit program for exit point QIBM_QTOD_SERVER_REQ with format VLRQ0100.

Exit point QIBM_QTOD_SERVER_REQ, with format VLRQ0100, may be used by a number of Halcyon products but has a limit of one exit program. Therefore Halcyon uses a primary exit program (HAL_QTODSR) to call one or more secondary Halcyon exit programs as required.

If you have other software that requires use of this exit point, you can arrange for the Halcyon primary exit program to call your exit program by defining your exit program using this system default.

*NONE	No secondary exit program is specified
Name	Specify the name and library of the exit program to call

NOTE: The secondary exit program is not called unless the primary exit program is enabled. To enable the primary exit program, run command:

SETEXITPNT PRIMARY(*ENABLE)

Subsystem status scan interval in minutes (HAL/SBSSCANINTERVAL)

Specifies the time interval, in minutes, that the Subsystem Availability Data Collection program waits before performing a scan for active subsystems.

Show monitor activity (HAL/SHOWMONACTIVITY)

Specifies whether the %Busy column is displayed on the Work with Monitors display.

*NONE	Column is not displayed
*BUSY	Column displayed shows '%Busy' figures
*EVENT	Column displayed shows total events processed by the monitor

Show web agents (HAL/SHOWWEBAGENTS)

Specifies whether generic web agents are displayed by default upon initial entry to the [Work with Monitors](#) display.

*YES	Generic Web Agents are displayed
*NO	Generic Web Agents are not displayed

Log SLA alerts to SLA audit log (HAL/SLAAUDITLOG)

Specifies whether to add an audit message into the SLA audit log, HALSLALG, when an SLA condition is triggered.

*YES	A message is added to the SLA audit log when an SLA condition is triggered
*NO	Messages are not added to the SLA audit log

Number of days to retain data in SLA audit log (HAL/SLAAUDITLOGLIFE)

Specifies the number of days messages are retained in the SLA audit log, HALSLALG, before being automatically deleted. The default value is 30 days.

1-365	Specify the number of days
*NO	Messages are not automatically deleted. Use the Clear SLA Log (CLRSLALOG) command to manually purge the action log.

NOTE: A value of 1 retains only today's information. To guarantee that data is retained for at least 24 hours, specify a value of 2.

Maximum number of auxiliary network send monitors (HAL/SNDMONMAX)

Specifies the maximum number of Auxiliary Network Send Monitors that are run. The actual number varies between this value and the value specified for [HAL/SNDMONMIN](#). The Primary Network Send Monitor may adjust the number of Auxiliary Monitors from time to time in response to the amount and destinations of waiting network messages.

*NONE	Auxiliary monitors are not used. The Primary monitor handles all outgoing network data
1-8	Specify the maximum number of Auxiliary monitors that can be simultaneously. The Primary monitor may adjust the number of Auxiliary monitors from time to time in response to the amount and destinations of outgoing network data

Minimum number of auxiliary network send monitors (HAL/SNDMONMIN)

Specifies the minimum number of Auxiliary Network Send Monitors that are run. The actual number varies between this value and the value specified for [HAL/SNDMONMAX](#). The Primary Network Send Monitor may adjust the number of Auxiliary Monitors from time to time in response to the amount and destinations of waiting network messages.

*NONE	Auxiliary monitors are not used. The Primary monitor handles all outgoing network data
1-8	Specify the minimum number of Auxiliary monitors that can be simultaneously.

Default SNMP manager (HAL/SNMPMANAGER)

Specifies the host name or IP Address of the default SNMP trap manager. This may be used by the Send SNMP Message (**SNDSNMPMSG**) command or the SNMP action. If a host name is used, the entry must be defined within either the TCP/IP Host table or via a domain name server.

To define the host in the TCP/IP Host Table, use the Add TCP/IP Host Table Entry (**ADDTCPHTE**) command. To define domain name servers, use the Change TCP/IP Domain (**CHGTCPDMN**) command.

*LOCAL	The default SNMP trap manager is resident on the local IBMi system
host or IP	Enter either a host name or an IP Address

Default SNMP source port (HAL/SNMPSRCPORT)

Specifies the source port used when sending an SNMP message using the SNMP action, and the default source port used when sending an SNMP message using the Send SNMP Message (**SNDSNMPMSG**) command.

*AUTO	The system allocates the source port. Any available port may be used
1-65535	Specify the source port to be used

Start day of the week (HAL/STARTDAYOFWEEK)

Specifies the first day of the week for reporting purposes. When a report uses *LASTWEEK in the date parameter, this value is used to determine the start day of the week.

Number of days to retain Halcyon daily statistics (HAL/STATDAYLIFE)

Specifies the number days for which Halcyon Daily Statistics are retained.

Number of days to retain Halcyon hourly statistics (HAL/STATHOURLIFE)

Specifies the number days for which Halcyon Hourly Statistics are retained.

Number of days to retain Halcyon monthly statistics (HAL/STATMONTHLIFE)

Specifies the number days for which Halcyon Monthly Statistics are retained.

Number of days to retain Halcyon weekly statistics (HAL/STATWEEKLIFE)

Specifies the number days for which Halcyon Weekly Statistics are retained.

Stream file code page (HAL/STMFCODPAG)

Specifies the method of obtaining the stream file code page and the CCSID equivalent of the code page that is used for data conversion. This value is used by commands and actions when STMFCODPAG(*SYSDFT) is specified.

*PCASCII	If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, a code page in the Microsoft Windows encoding scheme (X4105) is calculated. This code page is associated with the target stream file and is used for data conversion if requested. The resulting data can be used by Microsoft Windows applications
*STDASCII	If the stream file exists, this option is only valid if the code page associated with the stream file is the same as the specified value, otherwise this operation fails. If the stream file does not exist, a code page in the IBM PC data encoding scheme (X2100) is calculated. This code page is associated with the target stream file and is used for data conversion if it is requested
1-32767	Specify the code page used. If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value, otherwise the operation fails. If the stream file does not exist, the specified code page is associated with the stream file when it is created

Supervisor run priority (HAL/SUPMONPTY)

Specifies the run priority of the Monitor Supervisor.

*DFT	The run priority specified by system default HAL/DFTMONPTY is used
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1-99	Enter a specific run priority
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System CCSID (HAL/SYSCCSID)

Specifies the CCSID used internally by the system for processing text stored in Halcyon message files. This setting can usually be left at the default value of *AUTO, although some DBCS systems may require a specific value.

*AUTO	The system automatically determines the CCSID value to be used
1-65533	Enter a specific value of the CCSID to be used. Note that specific values within the permitted range may not be valid on your system. If an invalid value is entered, an error message is displayed

Syslog Format (HAL/SYSLOGFMT)

Determines which format syslog messages are created by the SNDSYSLOG2 command and alert action.

IMPORTANT: The SNDSYSLOG command will only create RFC3164 format syslog messages

Number of days warning of temporary code expiry (HAL/TEMPCODEEXPWARN)

Specifies the number of days warning that is given for temporary authorization codes that are about to expire. The warning message is sent to the message queue defined in the [HAL/ADMINMSGQ](#) system default.

1 to 90	Specify the number of days
*NOMSG	No warning messages are issued

Generic web agent initialization timeout (HAL/WEBINZTIMEOUT)

Specifies the number of seconds after which the generic web agent initialization will be timed out.

Log web agent transactions (HAL/WEBLOGDATA)

Specifies whether to log the data sent between Halcyon graphical user interfaces and Halcyon web agents. Any logged data is then purged according to the setting within system default [HAL/WEBLOGLIFE](#).

*YES	Data is logged
*NO	Data is not logged

Number of days to retain data in the Web data log (HAL/WEBLOGLIFE)

Specifies the number of days messages are retained in the Halcyon web agent data log before being automatically deleted. The log records the data sent from and to each graphical user interface.

1-365	Specify the number of days for which messages are retained
*NOMAX	Messages are not automatically deleted. Use the Clear Web Data Log (CLRWEBLOG) command to manually purge the log

NOTE: A value of 1 retains only today's information. To guarantee that data is retained for at least 24 hours you must specify a value of 2.

Web agent run priority (HAL/WEBMONPTY)

Specifies the run priority of Halcyon web agents.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Enter a specific run priority

Web agent user profile (HAL/WEBMONUSR)

Specifies the user profile used by Halcyon web agents

*JOB	The user profile in the STRWEB job description is used
user	Enter a specific user profile name

Work with rules display format (HAL/WRKRULESFMT)

Specifies the display format used by the Work with Rules display.

*STD	The standard display format shows rule number, description and current status
*TIMES	This format shows rule number, a truncated description, monitoring days and times and the current status

Audit Journal Manager System Defaults

The following is a list of system defaults that control specific elements within Halcyon Audit Journal Manager.

Maximum number of Audit Journal auxiliary monitors (HAM/AUDMONMAX)

Specifies the maximum number of Audit Journal auxiliary monitors that can be run simultaneously.

*NONE	Auxiliary monitors are not used. The Primary monitor (HAMAUD) raises all alerts and actions for events detected by Audit Journal Manager
2-35	Specify the maximum number of Auxiliary monitors that can be run. The Primary monitor (HAMAUD) detects all events but the Auxiliary monitors raise all alerts and actions for Audit Journal Manager. The actual number of Auxiliary monitors running at any time is controlled by the Primary monitor and varies between 1 and the value specified, depending on work load

Audit journal monitor run priority (HAM/AUDMONPTY)

Specifies the run priority of the Audit Journal Monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Audit Journal Monitor

Audit journal manager user profile (HAM/AUDMONUSR)

Specifies the user profile used when running the Audit Journal Monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

HAM diagnostic for group name (HAM/GRPDIAGFOR)

Specifies the Audit Journal Group name for which diagnostic messages are logged.

Name	An Audit Journal Group. Diagnostic messages for this group are logged to the Message Log
*ALL	All groups log diagnostic messages to the Message Log
*NONE	No groups log diagnostic messages to the Message Log

HAM diagnostic message type (HAM/GRPDIAGTYPE)

Specifies the message type that is logged.

*MNT	Maintenance type messages only
*SYS	System type messages only
*ALL	All system message types are logged
*NONE	No message types are logged

Custom Journal Monitor Log activity (HAM/JRNAUXLOGACT)

Specifies whether activity messages are logged into the message log.

*NO	Messages are not logged
*YES	Message are logged in the message log indicating which journals are being processed and the start and end point for each auxiliary monitor job

No of Auxiliary Custom Journal Monitors (HAM/JRNAUXMON)

Specifies the number of auxiliary Custom Journal Monitor's to start. The Custom Journal monitor (HAMJRN) delegates tasks to auxiliary monitors (HAMJXn) which enables concurrent execution. The number of monitors can be changed whilst the Custom Journal monitor is active. One auxiliary monitor can process many journal groups sequentially but a backlog may occur if large numbers of entries are processed. Increasing this value allows journals to be processed concurrently. This value must be set to at least the number of different independent ASP's to be monitored plus 1 for *SYSBAS.

NOTE: Note: A single auxiliary monitor can process journals residing on *SYSBAS and a single independent ASP group. The ASP group is set when the auxiliary monitor job starts. The Custom Journal Monitor (HAMJRN) will attempt to start an auxiliary monitor for each rule group/ASP in released state when monitoring is started, up to a maximum of this value.

1-35	Number of monitors
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Custom Journal Monitor run priority (HAM/JRNMONPTY)

Specifies the run priority of the Custom Journal Monitor.

*DFT	The run priority specified by system default HAL/DFTMONPTY is used
1-99	Specific run priority

Custom Journal Monitor receive limit (HAM/JRNMONRCVLMT)

Specifies the number of times that an auxiliary Custom Journal Monitor will accept zero entries returned before allowing the next journal group to be processed. One auxiliary monitor can process many journal groups sequentially but a backlog may occur if large numbers of entries are processed. Increasing this value allows the auxiliary monitors (HAMJXn) to retain control for the journal group longer. Decreasing this value will force the auxiliary monitor to release control for the journal group earlier.

1-10	Number of zero entry cycles
*DFT	5 zero entry cycles

Custom Journal Monitor user profile (HAM/JRNMONUSR)

Specifies the user profile when running the Custom Journal Monitor's monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Type a specific user profile

Audit journal library (HAM/QAUDJRNLIB)

Specifies the name of the library that contains the audit journal (QAUDJRN). The audit journal is usually located in QSYS but can be moved to another library if required.

System Event Manager System Defaults

The following is a list of system defaults that control specific elements within System Event Manager.

Custom monitor run priority (HEM/CSTMONTY)

Specifies the run priority of the Custom monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Custom monitor

Custom monitor user profile (HEM/CSTMONUSR)

Specifies the user profile to be used when running the Custom monitor.

*JOB	The user profile within the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Device monitor run priority (HEM/DEVMONTY)

Specifies the run priority of the Device monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Device monitor

Device monitor temporary library (HEM/DEVMONTEMLIB)

Specifies the temporary library that Device monitor will use. This should be set to QTEMP unless you want to use device monitor with rule types *CLN or *CRG to monitor cluster nodes or cluster resource groups. For rule types *CLN or *CRG,

device monitor uses API calls which cannot use library QTEMP. Set this value to the HEM product library or another suitable library name.

NOTE: If you have set system value QALWUSRDMN to a value other than *ALL, this library name must be included in the libraries added to system value QALWUSRDMN.

QTEMP	This is the default value
Library name	Specify a library name. The user profile running the device monitor must have authority to create and manage objects in the library

Device monitor user profile (HEM/DEVMONUSR)

Specifies the user profile used when running the Device monitor.

*JOB	The user profile within the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Default check interval in seconds (HEM/DEFMONINTV)

Specifies the default interval, in seconds, between consecutive checks of a rule. This interval may be changed if required. The check interval is defined on a 'per queue' basis for queue based rules (Output Queue, Job Queue and Distribution Queue) and on a per rule basis for all other rules.

60-300	The number of seconds between consecutive checks
*INDEXED	Indexed archive format

Distribution Queue Monitor run priority (HEM/DSQMONPTY)

Specifies the run priority of the Distribution Queue monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Distribution Queue monitor

Distribution Queue Monitor user profile (HEM/DSQMONUSER)

Specifies the user profile used when running the Distribution Queue monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Inactivity Monitor run priority (HEM/INAMONPTY)

Specifies the run priority of the Inactivity monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Inactivity monitor

Inactivity Monitor user profile (HEM/INAMONUSER)

Specifies the user profile used when running the Inactivity monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Job Queue Monitor run priority (HEM/JOBMONPTY)

Specifies the run priority of the Job Queue monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Job Queue monitor

Job Queue Monitor user profile (HEM/JOBMONUSER)

Specifies the user profile used when running the Job Queue monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Object Monitor diagnostics (HEM/OBJMONDIAG)

Specifies whether to log Object Monitor diagnostic messages relating to IFS object processing.

*NO	Diagnostics are not logged
*YES	Diagnostics are logged

Maximum number of Object Monitor auxiliary monitors (HEM/OBJMONMAX)

Specifies the maximum number of auxiliary Object monitors that can be run simultaneously.

*NONE	Auxiliary monitors are not used. The primary monitor handles all alerts
1-35	Specify the maximum number of auxiliary monitors that can be run. The actual number of auxiliary monitors running at any time is controlled by the primary monitor and varies between zero and the specified value, depending on workload

Minimum number of Object Monitor auxiliary monitors (HEM/OBJMONMIN)

Specifies the minimum number of auxiliary Object monitors that can be run simultaneously.

*NONE	Auxiliary monitors are not used. The primary monitor HEMOBJ handles all object alerts
1-35	Specify the minimum number of auxiliary monitors that can be run

Object Monitor run priority (HEM/OBJMONPTY)

Specifies the run priority of the Object monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Object monitor

Object Monitor user profile (HEM/OBJMONUSER)

Specifies the user profile used when running the Object monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Output Queue Monitor diagnostics (HEM/OUTMONDIAG)

Specifies whether to log Output Queue Monitor diagnostic messages relating to high volume output queue processing.

*NO	Diagnostics are not logged
*YES	Diagnostics are logged. Additionally, should a spooled file be missed, a message is generated for each omission plus the reason why it was omitted

IMPORTANT: The numeric values are for Halcyon testing purposes only. Do not use.

Output Queue Monitor run priority (HEM/OUTMONPTY)

Specifies the run priority of the Output Queue monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Output Queue monitor

Output Queue Monitor user profile (HEM/OUTMONUSER)

Specifies the user profile used when running the Output Queue monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Performance Monitor processing interval (HEM/PFMBASEINTV)

Specifies the Performance monitor base interval in minutes. This system default value regulates how frequently the Performance rules are checked and alerts generated accordingly. The default setting is 1 minute which is also the minimum collection level that can be used. 5 and 15 minute intervals can also be stipulated and cause Performance monitor to use less resources but rules are less responsive and the performance data is less detailed.

*1MIN	Performance monitor runs and checks rules every minute. This is the minimum collection level
*5MIN	Performance monitor runs and checks rules every five minutes. Job list information is not collected
*15MIN	Performance monitor runs and checks rules every 15 minutes. Job list information is not collected

Cache Battery check interval in minutes (HEM/PFMCACHEBATINTV)

Specifies whether the Performance monitor should collect cache battery data from the system.

*NONE	No data is collected. Rules for systems statistics BATTERYWRN and BATTERYERR cannot be executed unless this values is set to a number of minutes
1-1440	Cache battery data is collected at this time interval between each collection

HPM GUI initialization time-out (HEM/PFMGUIINZTIMEOUT)

When a Performance Manager GUI starts, it contacts the Network Receiver (NETRCV) monitor which then starts a new HPM GUI server monitor to handle the connection. NETRCV must wait for the server to start before passing connection information. This value specifies the number of seconds that NETRCV allows for the GUI server to respond. If the GUI server does not respond within the time specified, message HAL0814 is specified and the GUI start up fails.

PFM Library collector user profile (HEM/PFMLIBCOLUSER)

Specifies the user profile used when running the Performance Monitor Library Collector.

*JOBDD	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

Performance monitoring of Halcyon MQ Monitor data (HEM/PFMMONHMQDATA)

Specifies whether the Performance Monitor should collect data from the Halcyon HQ Monitor. If this data is collected, it can be displayed and graphed in the same way as other performance data. When using the Display Performance Data display, set the Mode field to *HMQ. Only applicable if you have the Halcyon MQ Monitor installed.

*YES	Halcyon MQ Monitor data is collected
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*NO	Halcyon MQ Monitor data is not collected
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Performance Monitoring of Halcyon HA-MX Monitor data (HEM/PFMMONHMXDATA)

Specifies whether the Performance Monitor should collect data from the Halcyon HA-MX Monitor. If this data is collected, it can be displayed and graphed in the same way as other performance data. When using the Display Performance Data display, set the Mode field to *HMX. Only applicable if you have the Halcyon HA-MX Monitor installed.

*YES	Halcyon HA-MX Monitor data is collected
*NO	Halcyon HA-MX Monitor data is not collected

Performance Monitor run priority (HEM/PFMMONPTY)

Specifies the run priority of the Performance monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Performance monitor

Performance Monitor user profile (HEM/PFMMONUSER)

Specifies the user profile used when running the Performance monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Request monitor diagnostic dump (HEM/PFMREQDIAGDUMP)

Requests the Performance Monitor to perform a diagnostic dump. To request a dump, set this value to *YES. The Performance Monitor will then dump diagnostic information and change this value back to *NO.

Audit Journal Library (HEM/QAUDJRNLIB)

Specifies the name of the library that contains the audit journal (QAUDJRN). The audit journal is usually located in library QSYS but can be moved to a different directory.

SLA Condition Latency in Minutes (HEM/SLALATENCY)

SLA Conditions Met is a Performance Analyzer statistic that is recorded each minute. It is set to '1' if all individual SLA conditions are on and to '0' if any individual SLA conditions are off. Individual SLA conditions are defined using Performance Analyzer rules by setting the SLA Statistic to *YES. Ideally, conditions are continuously monitored but in practice they are actually checked at regular intervals, typically once per minute, and these checks are not necessarily in synchronization with Performance Analyzer SLA statistic recording.

This system default specifies the maximum age in minutes that an individual SLA condition can be in order to be treated as current by Performance Analyzer.

*DFT	The latency is 1 minute more than the value specified for system default HEM/PFMBASEINTV
2-20	Enter the latency in minutes

TIP: This value should typically be set to 1 minute more than the longest check interval specified on any SLA enabled rule. On slow systems or when many rules are defined, this value may need to be increased.

User Profile Monitor run priority (HEM/USRMONPTY)

Specifies the run priority of the User Profile monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
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1-99	Specify the run priority value for the User Profile monitor
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User Profile Monitor user profile (HEM/USRMONUSER)

Specifies the user profile used when running the User Profile monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Message Communicator System Defaults

The following is a list of system defaults that control specific elements within Message Communicator.

Service provider to use for ad-hoc phones (HMC/ADHOCSVCPRV)

Specifies the Service Provider used when sending a text message to an Ad-Hoc phone. An Ad-Hoc phone is a phone not defined on the Work with Phones display. To send a message to an Ad-Hoc phone, use the Send Text Message (SNDTXTMSG) command.

Allow SMS commands from cell phones (HMC/ALLOWSMSCMD)

Specifies whether to accept SMS commands received from cell phones or other SMS devices.

*PHONE	SMS commands are accepted from selected phones. To specify which phones may send SMS commands, use the Work with Phones display and set 'Allow SMS commands' to *YES or *NO
*NONE	SMS commands are not accepted from any phone. This overrides the setting on the Work with Phones display

NOTE: This setting excludes inquiry message replies which are controlled by the [HMC/ALLOWSMSREPLY](#) system default.

Allow SMS replies from cell phones (HMC/ALLOWSMSREPLY)

Specifies whether to accept SMS inquiry message replies received from cell phones or other SMS devices in the form of a reply opcode mapped to the Reply by Alert ID (RPYALT) command.

*PHONE	SMS replies are accepted from selected phones. To specify which phones may send SMS commands, use the Work with Phones display and set 'Allow SMS replies' to *YES or *NO
*NONE	SMS replies are not accepted from any phone. This overrides the setting on the Work with Phones display

Bytware SNMP pager name (HMC/BYTWARESNUMPPGR)

Specifies the name of a Bytware pager that had a Pager Type of *SNMP. This value is used by the Halcyon Send Pager Message (**SNDPGRMSG**) command which is provided for compatibility with the Bytware command of the same name. When the value of the 'To pager' parameter matches this system default, the Halcyon (**SNDPGRMSG**) command sends an SNMP trap to the SNMP Manager defined in system default [HAL/SNMPMANAGER](#). When the value does not match, the replacement entry should be a valid message device name.

*NONE	A Bytware SNMP pager has not been defined
name	Enter the name of the Bytware SNMP pager

Number of days to retain data in the communications log (HMC/CMNLOGLIFE)

Specifies the number of days that messages are retained in the communications log before being automatically deleted.

1-365	Specify the number of days
*NOMAX	Messages are not automatically deleted, Use the Clear Communications (CLRCMNLOG) command to manually purge the Communications Log

Message Communicator monitor run priority (HMC/COMMONPTY)

Specifies the run priority of the Message Communicator Primary and Auxiliary Monitors.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value fro the Message Communicator Primary and Auxiliary monitors

Message Communicator user profile (HMC/COMMONUSER)

Specifies the user profile used when running the Message Communicator Primary and Auxiliary Monitors.

*JOB	The user profile in the STRMON job description is used. The value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Default international direct dialing code (HMC/DFTIDDPREFIX)

Specifies the default IDD (International Direct Dialing) prefix. The default IDD prefixes are combined with user specified phone numbers to form full international format phone numbers when necessary. The default IDD prefix is used when the user specified phone number in a Service Provider or Phone does not begin with a Plus (+) sign. Example IDD prefixes:

*NONE	No IDD prefix is specified
+1	United States
+44	United Kingdom

Default SMS reply opcode format (HMC/DFTSMSFORMAT)

Specifies the default SMS Opcode format. This value only affects the format the system uses when automatically adding opcodes to a phone on the [Work with Phones](#) display.

*PARMS	Space delimited positional parameters are used in all cases
*KEYWORDS	The REF opcode is used to pass the 'Alert reference' parameter

EXAMPLE: Examples of the commands that might be assigned to the RPY opcode using the Work with Phones display:

1. RPYALT ALERT(&P1) REPLY(&P2)
2. RPYALT ALERT(&REF) REPLY(&P1)

Example 1 uses the *PARMS format. The SMS message to reply C to alert 1234 is:

RPY.1234 C

Example 2 uses the *KEYWORDS format which is compatible with older versions of Message Communicator. The SMS message to reply C to alert 1234 is either of:

RPY.C REF.1234

REF 1234 RPY.C

NOTE: Opcodes are not sensitive when used.

Default service provider for pagers (HMC/DFTSVCPRPAGERS)

Specifies the default service provider for pagers. When defining a new pager, the service provider for the pager is preset to that specified in this default.

*NONE	No default service provider is specified
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Default service provider for phones (HMC/DFTSVCPRVPHONES)

Specifies the default service provider for phones. When defining a new phone, the service provider for the phone is preset to that specified in this default.

*NONE	No default service provider is specified
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Include alert ID in email messages (HMC/EMAILADDALEERT)

Specifies whether to automatically add the alert ID at the start of messages sent as emails, when the email is invoked from an alert action.

*YES	The alert ID is added at the start of the message
*NO	The alert ID is not added

TIP: If this value is set to *NO, you can add the alert ID to a specific email message by including the &Alert substitution variable in the message text.

Email distribution address (HMC/EMAILADDRESS)

Specifies the default value for the address part of the two-part name (consisting of User ID and address) via which emails are sent. This default can be overridden for specific email addresses by changing the 'Distribution address' on the [Work with Email Addresses](#) display.

Max size of email attachments (KB) (HMC/EMAILATTMAX)

Specifies the maximum size of attachments that will be allowed in KB. When multiple attachments are specified each size is added in turn to the total until the maximum size is passed. If this happens, the current attachment is not attached and the next attachment is attempted until insufficient space remains.

*NOMAX	No maximum limit is applied. This is the default setting
1-99999	Specify the maximum size in KB

Email document character set (HMC/EMAILCHRID)

Specifies the Graphic Character Set part of the character identifier for documents sent as email attachments.

*SYSVAL	The value for both Graphic Character Set and Code Page are obtained from the QCHRID system value
1-32767	Specify the Graphic Character Set

NOTE: This value is not used when emails are sent using MSF.

Email document code page (HMC/EMAILCODEPAGE)

Specifies the Code Page part of the character identifier for documents sent as email attachments. When *SYSVAL is specified for system default [HMC/EMAILCHRID](#), the value for Code Page is obtained from the QCHRID system value, and the value specified here is not used. Otherwise, specify a value in the range 1-32767.

NOTE: This value is not used when emails are sent using MSF.

Email send format (HMC/EMAILFORMAT)

Specifies the format of email messages sent via an external SMTP server. This setting has no effect on email messages sent using IBM Distribution Services or IBM Mail Server Framework (MSF).

*MIME	Emails sent via an external SMTP Server use Multipurpose Internet Mail Extensions (MIME)
*ARPA	Emails sent via an external SMTP Server use ARPA Internet Text format. This format does not support the sending of attachments or importance/priority settings
*AUTO	MIME format is used if attachments are being sent. Otherwise, ARPA format is used

Email from address (HMC/EMAILFROMADDR)

Specifies how the sender is identified to the recipient when emails are sent via SMTP when using the SNDTXT action and Send Text Message (**SNDTXTMSG**) command, and also by the Send Email Message (**SNDEMLMSG**) command when FROM(*DFT) is specified. This setting does not apply to emails sent using distribution services.

IMPORTANT: If you wish to receive replies or failure messages from messages sent, specify a real email address and not a symbolic value. Some external SMTP servers validate the return address, and in these cases, a real email address is required.

*CURRENT	<p>A symbolic identification (not a real email address) is derived from the user ID of the user associated with the action The mail address used is in the format: uuuuuuuuuu.hhhhhhhhhh.ddddddddd where: u user ID h TCP/IP host name of this system d the name of the TCP/IP domain of which this i5/OS host is a member</p>
	The last two values are set by the Change TCP/IP Domain (CHGTCPDMN) command
address	Enter the sender email address or symbolic value that is seen by the recipient

Message Communicator email send method (HMC/EMAILMETHOD)

Specifies the email send method used by Message Communicator. This controls the method used by the Send Text Message (**SNDTXTMSG**) command and by the Send Text Message (SNDTXT) and Email Spooled File (EMAILSPLF) actions.

*SMTP is more efficient when sending messages to multiple recipients, particularly when attachments are sent.

**SMTP	Emails are sent using SMTP either via the IBMi Mail Server Framework (MSF) or via an external SMTP server, using the Send Email Message (SNDEMLMSG) command. To use an external SMTP server, specify the server using system default (HMC/SMTPSERVER). To use IBMi MSF, specify HMC/SMTPSERVER as *NONE
**DSTSRV	Emails are sent using Distribution Services, using the Send Distribution (SNDDST) command
*OAUTH	Emails are sent using the OAUTH protocol details configured within the communications resource name specified in system default HMC/OAUTHRESOURCE . In this release, only the Microsoft graph API is supported to use an office365/outlook mailbox specifies in system default HMC/EMAILFROMADDR and the appropriate communications resource for *OAUTH.

NOTE: See also system default: [HMC/EMAILFROMADDR](#)

Email maximum retries (HMC/EMAILRETRY)

Specifies the maximum number of retries that are made for a failed send attempt of an email. The system default applies to the sending of emails throughout Halcyon except when using the (**SNDEMLMSG**) command.

*NONE	Failed email sends are not retried
1-999	Specify the maximum number of retries. Specify the time period between each retry attempt by using system default HMC/EMAILRETRYINTV

Email retry interval (HMC/EMAILRETRYINTV)

Specifies the time to wait after a send attempt has failed before retrying. The system default applies to the sending of emails throughout Halcyon except when using the (**SNDEMLMSG**) command.

10-3600	Specify the retry interval in seconds
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Email distribution user id (HMC/EMAILUSERID)

Specifies the default value for the User ID part of the two-part name (consisting of User ID and address) via which emails are sent. This default can be overridden for specific email addresses by changing the 'Distribution User ID' parameter on the [Work with Email Addresses](#) display.

Email ZIP attachments (HMC/EMAILZIPATTACH)

Specifies the default value for the Zip attachments (ZIP) parameter of the Send Email Message (**SNDEMLMSG**) command. The value specified here is used when ZIP(*SYSDFT) is specified with the (**SNDEMLMSG**) command.

NOTE: This functionality requires Java. If Java is not installed on the partition then this functionality will fail.

*YES	All stream files and spooled files sent by the SNDEMLMSG command are sent in a single zip file attachment named Attachments.zip
*NO	All stream files and spooled files sent by the SNDEMLMSG command are sent as individual attachments

Include comms id in messages for *ESCLIST (HMC/ESCADDCOMMSID)

Specifies whether to automatically add the comms ID at the start of messages sent when the message is invoked from an escalation list that is not raised as the result of an alert. The comms ID can be used to stop the escalation list by issuing command ENDESC specifying the comms ID.

*YES	The comms ID is added at the start of the message
*NO	The comms ID is not added

NOTE: If an email message invoked from an escalation list is associated with an alert the alert ID will be specified providing that system default [HMC/EMAILADDALEERT](#) is *YES. For a phone or pager message invoked from an escalation list the relevant flag to include the alert id must be set on the device configuration. In those cases the escalation can be stopped by issuing command ACKALT or CLSALT specifying the alert ID.

GSM mode character conversions (HMC/GSMCHARCONV)

Message Communicator does not support using all EBCDIC characters with GSM terminal devices. More characters are supported when using the UCS2 character set than when using the GSM 03.38 character set. The character set to use with each GSM is specified using the [Work with Communications Resources](#) display. This system default allows EBCDIC characters not supported in GSM mode to be replaced by other EBCDIC characters or by a character string. Message Communicator handles any non-supported characters that remain after user-specified replacements are performed. Such characters may be replaced with a close match if available, with an inverted question mark or omitted altogether.

*NONE	No specific character conversion is done
conversion	<p>When character conversion is required, the value of this system statements default comprises a list of conversion statements in the form:</p> <p>original = replacement where: original is the character to be replaced = Delimiter replacement is the replacement character or string</p> <p>The replacement character or string may be any of the following: A single character A string of up to 10 characters A single EBCDIC code point enclosed in square brackets</p>

GSM Status Retrieve Interval (HMC/GSMSTSRTVINTV)

Specifies the interval in minutes between executions of the GSM status script for Communications Resources of type *GSM and *NETGSM. The status script setting is optional and is defined for each GSM using the [Work with Communications Resources](#) display. The default setting is 10 minutes.

Log communications resource control messages (HMC/LOGRSCCTL)

Specifies whether or not to log communications resource control messages. These messages log the configuration and control of the lines, controllers and device descriptions used by Message Communicator.

*YES	Resource Control Messages are logged
*NO	Resource Control Messages are not logged
*ERROR	Resource Control Error Messages are logged

MIME directory (HMC/MIMEDIR)

Specifies the default directory used by the Send Email Message (**SNDEMLMSG**) command. The initial value for this system default is set during installation and is based upon the environment name. For example, for environment name PROD the default directory is set to /Halcyon/HALPROD/MIME. If this value is later changed, the user is responsible for setting up the required directory.

Mail server framework time-out in seconds (HMC/MSFTIMEOUT)

Specifies the time allowed for QMSF to process a MIME file when an email message is sent. If the MIME file has not been processed within the time frame allowed, QMSF is assumed to be inactive or have failed and any other temporary files associated with the email message are deleted. The default setting is 10 seconds.

Oauth Certificate Store (HMC/OAUTHCERTSTORE)

Specifies the path of the certificate store to be used for TLS negotiation when retrieving email using the OAUTH protocol.

Oauth mailbox user (HMC/OAUTHFROMADDR)

Specifies the email user name whose inbox will be accessed to retrieve email using the OAUTH protocol.

NOTE: This is required if you want to receive replies from messages sent. Specify a real email address and not a symbolic value. In most cases this will be the same as system default [HMC/EMAILFROMADDR](#), that is, the from address (sender) specified on outgoing emails.

Oauth Log file (HMC/OAUTHLOGFILE)

Specifies the path and name of the log file to be produced during a communication session when retrieving email using the OAUTH protocol. When set to a valid folder/file name, detailed communication data is logged to the file and message HMC0505 is logged to the Halcyon message log each time email retrieval is invoked. If the named file does not exist in the IFS it will be created, otherwise data will be appended to the file. In normal circumstances this should be set to *NONE.

*NONE	No logging is undertaken
file path	Communication, informational, and trace messages will be logged to the named IFS file.

Oauth Communications Resource Name (HMC/OAUTHRESOURCE)

Specifies the Halcyon communications resource name of the OAUTH configuration used when sending email using the OAUTH protocol.

SMS acknowledge alert opcode (HMC/SMSACKOPCODE)

Specifies the default value to use for the opcode that identifies the Acknowledge Alert (**ACKALT**) command being sent in a text message from a cell phone. This default value is only used when the system automatically creates a Close opcode on the [Work with Phones](#) display.

NOTE: Opcodes are not sensitive when used.

SMS close alert opcode (HMC/SMSCLSOPCODE)

Specifies the default value to use for the opcode that identifies the Close Alert (**CLSALT**) command being sent in a text message from a cell phone. This default

value is only used when the system automatically creates a Close opcode on the [Work with Phones](#) display.

NOTE: Opcodes are not sensitive when used.

SMS command opcode (HMC/SMSCMDOPCODE)

Specifies the default value to use for the opcode that identifies an IBMi command being sent in a text message from a cell phone. This default value can be overridden for a particular phone. This opcode should immediately be followed by a period (.) and then by the command being sent. Spaces are permitted before the command.

EXAMPLE:

```
cmd.rlsjobq qgpl/qbatch
```

NOTE: Opcodes are not case sensitive when used.

SMS omit in future opcode (HMC/SMSOMITOPCODE)

Specifies the default value to use for the opcode that identifies an Omit from Rule (**OMITRULE**) command being sent in a text message from a cell phone. This default value is only used when the system automatically creates an Omit opcode on the [Work with Phones](#) display.

NOTE: Opcodes are not sensitive when used.

SMS password opcode (HMC/SMSPWDOPCODE)

Specifies the default value to use for the opcode that identifies an IBMi password being sent in a text message from a cell phone. This default value can be overridden for a particular phone. The password should be the password for the user profile associated with the phone. This opcode should immediately be followed by a period (.) and then by the password. Spaces are permitted before the password.

EXAMPLE:`pwd.mypassword`**NOTE:** Opcodes are not case sensitive when used.

SMS alert reference opcode (HMC/SMSREFOPCODE)

Specifies the default value to use for the opcode that identifies an alert reference being sent in a text message from a cell phone. This default value can be overridden for a particular phone. The value following this opcode is the &REF variable. This variable should be used in a Phone opcode to substitute the value into an IBMi command.

NOTE: Opcodes are not case sensitive when used.

SMS reply opcode (HMC/SMSRPYOPCODE)

Specifies the default value to use for the opcode that identifies a reply being sent in a text message from a cell phone. This default value is only used when the system automatically creates a reply opcode on the [Work with Phones](#) display.

NOTE: Opcodes are not case sensitive when used.

SMTP Server hostname or IP address (HMC/SMTPSERVER)

Specifies the host name or IP address of an external SMTP server used by the Send Email Message (**SNDEMLMSG**) command to send emails. If a host name is typed, the host name must be defined either in the TCP/IP Host Table or via a domain name server. To define the host in the TCP/IP Host Table, use the Add TCP/IP Host Table Entry (**ADDTCPHTE**) command. To define domain name servers, use the Change TCP/IP Domain (**CHGTCPDMN**) command.

If the server requires a logon, the User ID and password should be specified by creating substitution variables named '&SMTPUSER' and '&SMTPPWD'. If the '&SMTPUSER' variable does not exist or has a value of blanks, the logon is not attempted.

*NONE	No SMTP server is defined. The Send Email Message (SNDEMLMSG) command uses MSF to send emails
Host or ip	Specify either a host name or an IP address. The Send Email Message (SNDEMLMSG) command will send emails using this server. This feature uses OpenSSH. IBM Portable Utilities for i licensed program offering (LPO). 5733-SC1, must be installed. This LPO contains the OpenSSH, OpenSSL and zlib open source packages. IBMi option 33 (IBM PASE for i - Portable Solutions Application Environment must also be installed

NOTE: System default [HMC/EMAILMETHOD](#) controls the command used internally by both the **Send Text Message (SNDTXTMSG)** command and the **Send Text** action. If ***DSTSRV** is specified, the **Send Distribution (SNDDST)** command is used.

If ***SMTP** is specified, the **Send Email Message (SNDEMLMSG)** command is used which in turn uses either iSeries MSF or an external SMTP server, as specified by this system default.

SMTP server option (HMC/SMTPSERVEROPT)

Specifies the SMTP Server connection type.

*SECURE	Use this setting to establish a secure connection by connecting to a secure port (typically 465 Or 587) using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1
*STARTTLS	Use this setting to establish a secure connection using Secure Sockets Layer (SSL) v2, SSL v3 or Transport Layer Security (TLS) v1 by connecting to a plain text port and then upgrading the connection to secure using STARTTLS
*PLAIN	Use this setting to establish a plain text connection by connecting to a plain text port (typically 25). Message Communicator continues to send an email and add a warning to the Halcyon Message Log when using a SMTP Server for a *PLAIN connection to port 25 that does not require authentication but login details have been set using substitution variables &SMTPUSER and &SMTPPWD

NOTE: For more information regarding the SMTP server options please see Digital Certificate Manager.

SMTP server port (HMC/SMTPSERVERPORT)

Specifies the port used to send data to the external SMTP server specified by system default [HMC/SMTPSERVER](#). The port is typically 25 for non-secure and 465 for secure.

SMTP server message submission rate (HMC_SMTPSERVERRATE)

Specifies the maximum rate (per minute) at which emails will be submitted to the SMTP server. Some SMTP servers limit the rate at which they will send emails on behalf of each client in an attempt to manage spamming attempts. Exceeding this limit causes a submitted emails to be rejected. This system default can be used to prevent this by ensuring that emails are not submitted to the SMTP server at a higher rate than the server will accept. If you do not set a value here, you may find that emails fail on sending and code 450 Too many emails from this sender is shown in the ICF detail.

It is recommended that this default is initially set to 5. A suitable flow rate can then be requested from the SMTP administration team. It is recommended that this system default value is always set lower than the SMTP server limit.

If necessary, the Send Email Message (**SNDEMLMSG**) command will wait for a short time before submitting the email.

*NOMAX	There is no defined email submissions rate
1-1000	Specify the email submission rate in emails per minute

SMTP Server response time-out (HMC/SMTPSERVERTMOUT)

Specifies the response time-out to use when communicating with the external SMTP server specified by system default [HMC/SMTPSERVER](#). The value for this system default specifies the number of seconds the system waits for a response after sending a command to the SMTP server.

UCS2 mode character conversions (HMC/UCS2CHARCONV)

Message Communicator does not support using all EBCDIC characters with GSM terminal devices. More characters are supported when using the UCS2 character set than when using the GSM 03.38 character set. The character set to use with

each GSM is specified using the [Work with Communications Resources](#) display.

This system default allows EBCDIC characters not-supported in GSM mode to be replaced by other EBCDIC characters or by a character string. Message Communicator handles any non-supported characters that remain after user-specified replacements are performed. Such characters may be replaced with a close match if available, replaced with an inverted question mark or omitted altogether.

*NONE	No specific character conversion is done
conversion	<p>When character conversion is required, the value of this system statements default comprises a list of conversion statements in the form:</p> <p>original = replacement where: original is the character to be replaced = Delimiter replacement is the replacement character or string</p> <p>The replacement character or string may be any of the following: A single character A string of up to 10 characters A single EBCDIC code point enclosed in square brackets</p>

Message Manager System Defaults

The following is a list of system defaults that control specific elements within Message Manager.

Automatic rule add option (HMM/ADDRULOPT)

Specifies whether screen prompting occurs when automatically adding a rule, either from the (**ADDRULE**) command or from the review message activity display.

*SCREEN	Rule Addition screens are prompted
*NOSCREEN	No screen prompts occur and default values are assumed

Blank message ID log text (HMM/BLNKMSGIDTEXT)

Specifies the text to insert in the Alert Log when a blank message ID is generated. This text can be up to 40 characters in length and is prefixed to the alert text. If no additional text is required, enter *NONE.

Maximum consecutive API calls per queue (HMM/DFTMAXCONCALL)

Specifies the default maximum number of times that the monitor consecutively attempts to retrieve messages from the same message queue. This value can be changed for each configured message queue.

1-99	Specify the number of times. This figure represents the maximum number of times that the monitor is called before processing the next message queue.
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NOTE: See also system default: [HMM/DFTMAXPERAPI](#).

Maximum messages to retrieve per API call (HMM/DFTMAXPERAPI)

Specifies the default maximum number of messages to be retrieved from a message queue each time the API is called by the Message monitor. This value can be changed for each configured message queue.

1-999	Specify the number of messages. This figure represents the maximum number of messages to be retrieved in one API call.
*NOMAX	There is no maximum to the number of messages retrieved in one API call

WARNING: Setting a high number or *NOMAX could result in the Message monitor not checking message queues frequently if a message queue is being rapidly populated with messages.

NOTE: If more messages are available, another call to the API is made (up to the value specified in [HMM/DFMAXCONCALL](#)).

First monitor interval In seconds (HMM/DFTMONINTV)

Specifies the default first monitor interval in seconds. Each message queue can be configured to be monitored at specified intervals during different time periods each day. This is the value that appears when configuring a message queue in [Work with Rules](#).

30-3600	Specify the time in seconds
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First monitor start time (HMM/DFTMONTIM)

Specifies the default first monitor start time for a message queue. This is the value which appears when configuring a message queue in [Work with Rules](#).

00:00 - 23:59	The time in HH:MM format
*ALL	No specific time

Default message queue start up option (HMM/DFTMSGQSTROPT)

Specifies the default message queue startup option. This is the value which appears when configuring a message queue in [Work with Rules](#). This defines how the Message monitor treats a message queue upon monitor startup. The following values are supported:

*CURRENT	Start at the current position in the message queue (identified by message ID HMM0066)
*LAST	Start at the message key last processed by the monitor for this message queue
*IPL	Start at the position of the most recent IPL message in the message queue (QSYSOPR only)
Msg ID	Start at the most recent message with this ID in the message queue

Pager override message severity (HMM/DFTPAGOVR)

Specifies the default pager override message severity. This is the message severity which will cause paging schedules to be overridden to immediate. This is the value which appears when configuring a message queue in [Work with Rules](#).

00 to 99	Messages with a severity greater than this value are sent immediately (other than 00 which results in no override)
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Data queue QPI wait time in seconds (HMM/DTAQWAIT)

Specifies the default wait time, in seconds, that the Message monitor waits before beginning a checking cycle.

1 to 600	Number of seconds
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Job Log monitor check interval in seconds (HMM/JBLCHKINTV)

Specifies the interval in seconds between each check of the Job log rules. Type a value in the range 30-900.

NOTE: The value entered here is used by the monitor to control the next check time. If the value has been set and used by the monitor, and you subsequently change this value to a smaller value, the original time value must expire before your new changed value is used.

Job Log monitor run priority (HMM/JBLMONPTY)

Specifies the run priority of the Job Log monitor.

*DFT	The run priority specified by system default HAL/DFTMONPTY
1-99	Enter a specific run priority

Job Log monitor user profile (HMM/JBLMONUSR)

Specifies the user profile used when running the Job Log monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

Log TCP/IP detail messages (HMM/LOGTCPDTL)

Specifies whether TCP/IP detail messages are to be recorded in the [Message Log](#).

*YES	Put TCP/IP detail messages in the Message Log (including successful)
*NO	Do not put TCP/IP detail messages in the Message Log. Only error messages are logged

Number of days to retain messages in review log (HMM/LRMLOGLIFE)

Specifies the number of days to retain information in the message review log. An Action monitor automatically purges data older than this value each day, shortly after midnight. Large values specified in this parameter can result in the message review log taking up a large amount of disk space.

1 to 365	Specify the number of days to retain data
*NOMAX	Do not ever purge
*NOLOG	No review data is written to the file. Use the BLDMSGRVW command to populate the data

NOTE: The shipped setting for this system default is 7 days.

Number of days to retain message monitor processing entries (HMM/LRTLOGLIFE)

Specifies the number of days to retain information in the message queue processing log. The message queue processing log records the dates and times at which a message queue has been processed by the monitor. The monitor automatically purges data older than this value each time it is started.

1 to 365	Specify the number of days to retain data
*NOMAX	Do not ever retain

Message count method (HMM/MSGCNTMETHOD)

Specifies the method by which the monitor determines which messages contribute to the raising of a specific alert.

*JOBNBR	A count is maintained for each job number
*MSGDTA	A count is maintained according to the content of the message data

Message monitor run priority (HMM/MSGMONPTY)

Specifies the run priority of the Message monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the Message monitor

Message monitor user profile (HMM/MSGMONUSER)

Specifies the user profile used when running the Message monitor.

*JOB	The user profile in the STRMON job description is used. this value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Message queue diagnostic for queue name (HMM/MSGDIAGFOR)

Specifies the message queue name for which diagnostic messages are logged.

NAME	A message queue name which must be configured to Halcyon. Diagnostic messages for this message queue are logged to the Message Log
*ALL	All message queues log diagnostic messages are sent to the Message Log

Message queue diagnostic message type (HMM/MSGQDIAGTYPE)

Specifies the message type that is logged.

*MNT	Maintenance type messages only
*OPR	Operational type messages only
*SYS	System type messages only
*ALL	All message types are logged
*NONE	No message types are logged

Message queue error action (HMM/MSGQERRACTION)

Specifies the action to take if the Message monitor is unable to process a message queue.

*HOLD	The message queue is held. Message HMM001 is logged. No attempt is made to process the queue until it is held and released from within Work with Rules or the Message monitor job is ended and restarted
*RETRY	Message HMM001 is logged each cycle the Message monitor attempts to process the queue. this is the default setting

Number of Minutes lag before warning message (HMM/MSGQLAGWRN)

Specifies the default number of minutes that the Message Queue monitor is allowed to lag behind the current time. When this is exceeded, a warning message is logged in the Halcyon Message Log.

5-3600	Specify the number of minutes
*NONE	No message is sent

Lag warning message frequency minutes {HMM/MSGQLAGWRNFRQ}

Specifies the number of minutes to allow between warning messages sent to the Halcyon Message Log due to queue processing lagging behind the current line

5-60	Specify the number of minutes
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Maximum no. of messages repositioning monitor startup (HMM/MSGQMAXPOS)

Specifies the maximum number of messages to be returned when the monitor first starts up for each message queue. This is the maximum number of messages which are scanned when attempting to reposition to a message ID or an IPL message.

25 to 999	Number of messages
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Message queue reset option (HMM/MSGQRESET)

Specifies the position in the message queue at which the monitor attempts to restart processing.

*LAST	The monitor attempts to restart processing from the last message processed
*CURRENT	The monitor attempts to restart processing at the current date and time (identified by message ID HMM0066)

IMPORTANT: When using the *CURRENT option, the monitor clears the message queue and then sets the retrieval date and time to the current date and time. Messages may be missed between the queue being cleared and the reset being activated.

QHST log synchronization option (HMM/QHSTOPTION)

Specifies the mode for preparing QHST messages for processing.

*SYNC	QHST messages are prepared synchronously within the Message monitor job. This setting should be used unless performance issues are encountered
*ASYNC	QHST messages are prepared asynchronously by one of the Halcyon Action monitors. This setting should only be used on systems where large volumes of QHST messages cause delays in the Message monitor processing. The message monitor may not pick up some messages until the next monitor cycle
*NONE	QHST messages are not prepared by Halcyon. the Message monitor does not pick up messages from the QHST until the next monitor cycle after the system has written them to auxiliary storage

Number of auxiliary TCP monitors (HMM/TCPAUXMON)

Specifies the number of Auxiliary monitors to start. The TCP/IP monitor (HMMTCP) delegates tasks to Auxiliary monitors (HMMTX_n) which enables concurrent execution. The number of monitors can be changed while the TCP/IP monitor is active.

1 to 35	The number of Auxiliary monitors available to start
----------------	---

TCP/IP diagnostic for group name (HMM/TCPDIAGFOR)

Specifies the TCP/IP group name for which diagnostic messages are logged.

Name	A TCP/IP group name, which must be configured to Halcyon. Diagnostic messages for TCP/IP group are logged to the Message Log
*ALL	All TCP/IP groups log diagnostic messages to the Message Log

TCP/IP diagnostic message type (HMM/TCPDIAGTYPE)

Specifies the message type to be logged.

*MNT	Maintenance type messages only
*OPR	Operational type messages only
*SYS	System type messages only

*ALL	All message types are logged
*NONE	No message types are logged

TCP/IP monitor run priority (HMM/TCPMONPTY)

Specifies the run priority of the TCP/IP monitor.

*DFT	The run priority specified in system default HAL/DFTMONPTY is used
1-99	Specify the run priority value for the TCP/IP monitor

TCP/IP monitor user profile (HMM/TCPMONUSER)

Specifies the user profile used when running the TCP/IP Monitor.

*JOB	The user profile in the STRMON job description is used. This value is shown in the HAL/MONUSRPRF system default
user	Enter a specific user profile

NOTE: If the user profile is changed, authority checks are run on the new profile to ensure that the required permission levels are held. If the checks fail, then the change request is denied.

Test message severity warning (HMM/TSTMSGSEVWARN)

Specifies the message severity limit for the Send Test Message (SNDTSTMSG) command accessed from option **3=Send Test Message** in the **Message ManagerUtilities** menu. Any message with a severity equal or greater to this value causes a warning message to be displayed and the message can only be sent using the force send option.

0-99	Enter the message severity level
------	----------------------------------

Number of days to retain data in watch log (HMM/WCHLOGLIFE)

Specifies the number of days to retain data in the watch log. This is data used by the Message Watch ID parameters.

1 to 365	Specify the number of days to retain data
*NOMAX	Do not ever purge

NOTE: The shipped setting for this system default is 7 days.

Restricted Tasks Manager System Defaults

The following is a list of system defaults that control specific elements within Restricted Tasks Manager.

Console Manager batch mode time limit in minutes (HRT/BCHTIMLMT)

Specifies the maximum time, in minutes, that Console Manager can run in restricted state in batch. While the system is in this restricted state, system reference code A900 3C70 is displayed. If the specified time limit is reached, Console Manager ends and the controlling subsystem restarts.

5-9999	Specify the maximum time that Console Manager can run in restricted states
*NOMAX	No maximum time is specified

Console Manager command window (HRT/CONSMGRCMD)

Specifies whether F21 may be used to display a command window from the Console Manager display while in idle mode.

*PWD	F21= Command line is enabled. The user must enter the valid password for the user profile being used by the Console Manager
*YES	F21= Command line is enabled. No password is required
*NO	F21= Command line is not enabled

Console Manager command window time-out in minutes (HRT/CONSMGRCMDTIME)

Specifies the initial time-out for operations performed from Console Manager via the F21=**Command line** function. When the time-out expires, a prompt is displayed. If the user responds, the time-out is reset and the user can use the command window for a further period. If there is no response, the command window is cancelled and Console Manager returns to standby mode.

*OFF	There is no timeout for the F21= Command line function
1-60	Specify the timeout period in minutes

Console manager exit (HRT/CONSMGREXIT)

Specifies whether a password is required when **F3=Exit** or **F12=Cancel** are pressed to exit from the Console Manager screen while in idle mode.

*PWD	User must type the password for the user profile being used by Console Manager
*NOPWD	No password is required

Restricted task ending phase message (HRT/DFTENDSYSMSG)

Specifies the default message for restricted task ending phase messages. This message is sent to system users who are signed-on at the start of the restricted task ending phase. The message may contain fixed text and/or substitution variables. Press **F16** to obtain a list of substitution variables.

Restricted task pre-start phase message (HRT/DFTPSTRMSG)

Specifies the default message for restricted task pre-start phase messages. This message is sent to system users who are signed-on at the start of the pre-start phase and then every 10 minutes throughout the pre-start phase. The message may comprise fixed text and/or substitution variables. Press **F16** to obtain a list of substitution variables.

Monitor shutdown time limit in seconds (HRT/ENDMONTIMLMT)

Specifies the maximum time that Restricted Tasks Manager waits for the Action, Network and Communications monitors to complete any outstanding actions before starting the End System phase. This period is intended to allow any actions already invoked by Restricted Tasks Manager alerts to be processed by the monitors before they end. When the system is in restricted state, the Restricted Tasks Manager processes actions as they are raised but not those that were already raised.

The default setting is 120 seconds.

60-3600	Specify the number of seconds for the shutdown period
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Inquiry message reply (HRT/INQMSGRPY)

Specifies how inquiry messages sent during the running of a Restricted Task group are processed.

*DFTRPY	All inquiry messages sent to any message queue during the running of a Restricted Task group are given a default reply
*USRCTL	Inquiry messages sent to message queue QSYSOPR during the running of a Restricted Task group may be replied to using a REPLY action of a Restricted Task rule

Any inquiry messages sent to message queue QSYSOPR that are not handled by a REPLY action are given a default reply. Any inquiry messages sent to any other message queue are not handled and cause the Restricted Task group to hang. If this occurs, change the program that sent the message to send to the QSYSOPR message queue. Otherwise, use the *DFTRPY option.

NOTE: For the *USRCTL option, inquiry messages sent to a message queue other than QSYSOPR will cause Restricted Tasks Manager to hang. There is no way for Restricted Tasks Manager to handle this situation.

Restricted task logging level (HRT/LOGLVL)

This system default controls the amount of messages logged when a Restricted Task group is executed. This affects messages logged to the Halcyon [Message Log](#) and also status messages sent to the [Halcyon Message Console](#) or Enterprise Console, if enabled for the particular task group being run.

*NORMAL	Important messages are logged
*HIGH	Additional messages are logged

Restricted mode network send time-out in seconds (HRT/NETSENDDTIMEOUT)

Specifies the maximum time, in seconds, that Network Manager is allowed to send data to a remote system. If the initial send attempt fails, Network Manager retries every 5 seconds until the time-out specified in this default has elapsed. During the retry period, no other Restricted Task activity can occur. If the data cannot be sent within the time-out period, the data is not sent and Restricted Task processing continues normally.

User notification message queues (HRT/NFYMSGQ)

Specifies to which type of message queues Restricted Tasks Manager should send warning messages when attempting to start a Restricted Task Group.

*USRCTL	Warning messages are sent to the message queue of each user who is signed on to an active, interactive job
*WRKSTN	Warning messages are sent to the workstation message queue of each active, interactive job
*BOTH	Warning messages are sent to both types of message queue
*NONE	Warning messages are not sent

NOTE: Warning messages sent to workstation messages queues are always sent as break messages, over-riding the delivery mode actually set. This ensures that messages are displayed immediately.

No. days to retain entries in restricted tasks run log (HRT/RUNLOGLIFE)

Specifies the number of days for which entries are retained in the restricted task run log before being automatically deleted.

1-365	Specify the number of days
*NOMAX	Entries are not automatically deleted. Use the Clear Restricted Task Run Log (CLRRUNLOG) command or option 4=Delete on the Display Restricted Task Run Log display to manually purge the Run Log

TIP: Note: A value of 1 retains only today's information. To guarantee that the information is retained for at least 24 hours, specify a value of 2.

Restricted mode send text message maximum retries (HRT/SNDTXTMAXRTY)

Specifies the maximum number of retries that a local installation of Message Communicator makes for a failed 'send' attempt to a phone or pager, while the system is in a restricted state.

*SVCPRV	The Message Communicator service provider value is used
---------	---

0-5	The Message Communicator service provider value is overridden by this value
-----	---

Restricted mode send text message retry interval in seconds (HRT/SNDTXTRTYINTV)

Specifies the time, in seconds, that a local installation of Message Communicator waits after a 'send' attempt to a phone or a pager has failed before retrying, while the system is in a restricted state.

*SVCPRV	The Message Communicator service provider is used
10-600 secs	The Message Communicator service provider value is overridden by this value

Exporting System Defaults

The Export System Defaults (**EXPSYSDFT**) command exports system defaults from the product environment in which this command is running to another environment on the local or on a remote system.

```

Export System Defaults (EXPSYSDFT)
Type choices, press Enter.
To system . . . . .
-----
System default:
Product . . . . . *ALL      *ALL, HAL, HAM, HDM, HEM...
Name . . . . .
+ for more values _
-----
Bottom
F3=Exit   F4=Prompt  F5=Refresh  F10=Additional parameters  F12=Cancel
F13=How to use this display  F24=More keys

```

Local Authority

You require ***USE** authority to the SYSDFT function on the local system for each product system defaults you want to export. If you try and export a specific product to which you do not have SYSDFT ***USE** authority, an error occurs and no system defaults are exported. If you specify SYSDFT(***ALL**), no error occurs but only those system defaults whose products you have SYSDFT ***USE** authority to are exported.

Remote Authority

You require ***CHG** authority to the SYSDFT function on the remote system for each product system defaults that you are exporting. If you try and export any system defaults for products to which you do not have SYSDFT ***CHG** authority, those system defaults are not changed on the remote system. Other system defaults that you do have SYSDFT ***CHG** authority to are changed, and an error is reported when the export is completed.

NOTE: If all the system defaults you are exporting are for products that do not exist on the remote system, an error is reported when the export is completed. If any of the system defaults you are exporting are for products that do exist on the remote system, an error is not reported.

Parameters on the Export System Defaults display

The following parameters are available on the Export System Defaults display.

To system

Specifies the system to which to export the system defaults. *LOCAL or *RMTLOC must be specified when system default [HAL/NETXFRMODE](#) is set to *NETMGR.

name or address	Specifies the remote system name to which to export the system defaults. Type an IP Address, or a name which has been mapped to an IP address using a TCP/IP Host Table Entry or a remote name server
*LOCAL	Specifies that the data is exported to another environment on this system
*RMTLOC	Specifies that the remote system name and environment is determined by the 'To Remote Location' parameter

System default

Specifies the list of system defaults that you want to export. You can specify up to 32 separate values within this parameter. Press '+' to open the parameter in order to enter additional values.

Product

Specify the product code of the system defaults that you want to export.

*ALL	All system defaults are exported
name	Specify the individual product code of the system defaults to be exported

Name

Specify the name of the system default to be exported.

*ALL	All system defaults for the specified product code are exported
name	Specify the name of a system default within the selected product code

To remote location or group

When the 'To system' parameter is specified as *RMTLOC, specify the name of the remote location or remote location group. If a remote location is specified, it must have system type

of *I5. If a remote location group is specified, the system defaults are exported to all remote locations within the group.

To environment

If the 'To system' parameter is set to *LOCAL, specify the name of the environment to which the system defaults are exported.

Remote user

Specifies the user ID used to log on to the remote system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

Remote password

Enter the password for the user specified in the 'Remote user' parameter. Substitution variables may be used but must be prefixed with & and contained in single quotes.

Port

Specifies the port number of the FTP server to which you are connecting. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	The default setting is the commonly used port 21
*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
1-65535	Specify the port number to be used for the FTP server

Secure connection

Specifies the type of mechanism to be used for protecting information (including the user id and password) during the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *NONE unless 990 is specified in the 'Port' parameter
*NONE	No encryption is used when connecting to the FTP server

*SECURE	Port 990 is used. This port is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data
----------------	---

Data protection

Specifies the type of protection for the data being transmitted on the FTP connection. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Defaults to *PRIVATE if the 'Secure connection' parameter specifies a secure connection. Otherwise, this setting defaults to *CLEAR
*CLEAR	Data is transmitted un-encrypted regardless of what is specified in the 'Secure connection' parameter
*PRIVATE	Data is transmitted encrypted. You cannot specify *PRIVATE if the 'Secure connection' parameter does not specify a secure connection (for example, *IMPLICIT or *SSL)

Remote time-out

Specifies the FTP time-out in seconds. The value specified is the period of inactivity and transfer time out used by the FTP server on the local system. This parameter is not required if 'To system' *LOCAL or 127.0.0.1 is specified, or if 'To system' *RMTLOC is specified and a location on the local system is entered.

*DFT	Default values are used. the default values are 300 seconds for inactivity time-out and 420 seconds for transfer time-out
1-32767	Specify the time-out value in seconds

Press **Enter** to begin the export of the selected system defaults to the specified system.

Appendix - System Commands

The following system commands are available within Halcyon products.

Common Library Commands

The following commands are part of the Halcyon common library.

Command	Description
ACKALT	Acknowledge Alert
ADDAUTCDE	Add Authorization Code
ADDFUNAUT	Add Function Authority
ADDUSRAUT	Add User Authority
CACHEUPRF	Cache User Profiles
CHGCAL	Change Calendar
CHGDFTENV	Change Default Environment
CHGENVDSC	Change Environment Description
CHGITMAUT	Change Item Authority
CHGSUBSVAR	Change Substitution Variable Value
CHGSYSDFT	Change System Default
CHKRTMLOC	Change Remote Location
CLRFSYSLOG	Clear Failed Syslogs
CLRACTLOG	Clear Action Log
CLRALTLOG	Clear Alert Log
CLRHALSTAT	Clear Halcyon Statistics
CLRJRNRV	Clear Journal Receivers (Purge)
CLRMSGCON	Clear Message Console
CLRMSGLOG	Clear Message Log
CLRNETLOG	Clear Network Log
CLRWEBLOG	Clear DMS Web Agent Data Log

Command	Description
CLSALT	Close Alert
CPYACT	Copy Actions
CPYACTSCH	Copy Action Schedule
CPYCAL	Copy Calendar
CPYDATA	Copy Product Data
CPYRULE	Copy Rule
CPYRULGRP	Copy Rule Group
CPYTOPDF	Copy to PDF
CRTACTTPL	Create Action Template
CRTRMTLOC	Create Remote Location
CRTSBSVAR	Create Substitution Variable
CSTENV	Customize Environment
DLTALT	Delete Alert
DLTENV	Delete Environment
DLTRULE	Delete Rule
DLTRULFGRP	Delete Rule Group
DSPACTLOG	Display Action Log
DSPHALSTAT	Display Halcyon Statistics
DSPJRNENT	Display Journal Entry Data
DSPMSGCON	Display Message Console
DSPMSGLOG	Display Message Log
DSPNETLOG	Display Network Log
DSPPRDINF	Display Product Information
DSPSYSINF	Display System Information
DSPUSRAUT	Display User Authority
DSPWEBLOG	Display Web Agent Data Log
DUMP	Dump Product Data
ENDMON	End Monitors

Command	Description
ENDSBSAVL	End Subsystem Availability
EXFACTSCH	Export Action Schedules
EXPADMALT	Export Admin Alert Criteria
EXPCAL	Export Calendars
EXPCALLSCH	Export Call Schedules
EXPCMDLST	Export Command Lists
EXPJOBLST	Export Job Lists
EXPOUTQLST	Export Output Queue List
EXPRMTGRP	Export Remote Location Groups
EXPRMTLOC	Export Remote Locations
EXPRULE	Export Rules
EXPSBSVAR	Export Substitution Variables
EXPSYSDFT	Export System Defaults
EXPUSRLST	Export User List
EXPUSRAUT	Export User Authority
HALAJE	Add/Remove Halcyon Autostart Job Entry
HALIMPORT	Import data from old 400 installation
HALJRN	Start/Stop files from Halcyon journaling
HALRMTCMD	Run Remote Command
HALSETJRN	Set up initial list of files to journal
HLDMON	Hold Monitors
HLDRULE	Hold Rule
IMPENV	Import Environment
OMITRULE	Omit from Rule
OUTRULES	Output Rules
PRTACTLOG	Print Action Log
PRTACTSCH	Print Action Schedule
PRTALTLOG	Print Alert Log

Command	Description
PRTCAL	Print Calendar
PRTCALLSCH	Print Call Schedules
PRTHALSTAT	Print Halcyon Statistics
PRTJRNENT	Print Journal Entry
PRTMSGLOG	Print Message Log
PRTNETLOG	Print Network Log
PRTRMTLOC	Print Remote Locations
PRTRULES	Print Rules
PRTSBSAVL	Print Subsystem Availability
PRTSBSVAR	Print Substitution Variables
PRTSYSDFT	Print System Defaults
PRTSYSSTS	Print System Status
PRTUSRAUT	Print User Authorities
PRTUSRLST	Print User Lists
PRTWEBLOG	Print Web Agent Data Log
RLSMON	Release Monitor
RLSRULE	Release Rule
RPYALT	Reply to Alert
RSTRULE	Reset Rule
RTVCAL	Retrieve Calendar Information
RTVSBSVAR	Retrieve Substitution Variable Value
RTVSYSDFT	Retrieve System Default
RVKUSRAUT	Revoke User Authority
SETCPUDTA	Set CPU Data
SETEXITPNT	Set Exit Points
SETLDA	Set Contents of LDA and Call Program
SETMNTMDE	Set Maintenance Mode
SNDCONMSG	Send Console Message

Command	Description
SNDHALMSG	Send Message
SNDNETRQS	Send Network Request
SNDSNMPMSG	Send SNMP Message
SNDSYSLOG	Send Syslog Message via UDP
SNDSYSLOG2	Send Syslog Message via UDP, plain text TCP or secure TCP
SNDTXTMSG	Send Text Message
STRMON	Start Monitors
STRSBSAVL	Start Subsystem Availability
WRKACTSCH	Work with Action Schedules
WRKACTTPL	Work with Action Templates
WRKADMALT	Work with Admin Alert Criteria
WRKALTLOG	Work with Alert Log
WRKAUTCDE	Work with Authority Code
WRKCAL	Work with Calendars
WRKCHRSET	Work with 8x8 Character Sets
WRKENV	Work with Environments
WRKEXTHDL	Work with Exit Point Handlers
WRKIPAMAP	Work with IP Address Mappings
WRKUITMAUT	Work with Item Authority
WRKJRNL	Work with Journal
WRKMON	Work with Monitors
WRKMSGCON	Work with Message Consoles
WRKRMTGRP	Work with Remote Groups
WRKRMTLOC	Work with Remote Locations
WRKRULES	Work with Rules
WRKSBSVAR	Work with Substitution Variables
WRKSYSDFT	Work with System Defaults

Command	Description
WRKUSRAUT	Work with User Authority
WRKUSRLST	Work with User Lists
WRKUSROPT	Work with User Options
XFRDTA	Transfer Data

Message Manager Commands

The following commands are part of Halcyon Message Manager.

Command	Description
BLDMSGRVW	Build Messages Review From Queue
CLRMSGRVW	Clear Message Review Log
CLRWCHLOG	Clear Message Watch Log
CLSWATCH	Close Message Watch
DIAGMSGQ	Diagnose Messages From Queue
HMMIMPORT	Import Message Manager Data (Filters to Rules)
LSTMSGRUL	Print List of Rules (Basic format)
OUTJOBHST	Output Job History
PRTJOBHST	Print Job History
RMTTSTMSG	Send a Message to a Message Queue on a Remote Location
RSTNETUSR	Enables NetServer Users
RUNRMTMSG	Run a Test Message on a Remote Location
SNDTSTMSG	Send a Message to a Message Queue
STRWATCH	Start Message Watch
TCPIMPORT	Import TCP/IP Data (Filters to Rules)
WRKMSGRVW	Work with Messages Review

Message Communicator Commands

The following commands are part of Halcyon Message Communicator.

Command	Description
ADHOCMSG	Send and Ad-hoc Message
ADHOCMSGNV	Send an Ad-hoc Message (Number not Validated)
CHGEMLADR	Change Email Address
CHGMSGQRCP	Change Message Queue Recipients
CHGPAGER	Change Pager
CHGPHONE	Change Phone
CLRCMNLOG	Clear Communications Log
CRTBRDGRP	Create Broadcast Group
CRTEMLADR	Create Email Address
CRTESCLST	Create Escalation List
CRTMSGQRCP	Create Message Queue Recipients
CRTPAGER	Create Pager
CRTPHONE	Create Phone
CRTROSTER	Create Roster
DLTBRDGRP	Delete Broadcast Group
DLTEMLADR	Delete Email Address
DLTESCLST	Delete Escalation List
DLTMSGQRCP	Delete Message Queue Recipient
DLTPAGER	Delete Pager
DLTPHONE	Delete Phone
DLTROSTER	Delete Roster
DSPCMNLOG	Display Communications Log
DSPCMNSCRH	Display Communications Script Help
ENDESC	Escalation Comms ID
HLDDVICE	Hold Device(s)
HMCIMPORT	Import Message Communicator Data
PRTBRDGRP	Print Broadcast Groups
PRTCMLNLOG	Print Command Log

Command	Description
PRTCMNRSC	Print Communications Resources
PRTEMLADR	Print Email Addresses
PRTESCLST	Print Escalation Lists
PRTMSGQRCP	Print Message Queue Recipients
PRTPAGERS	Print Pagers
PRTPHONES	Print Phones
PRTROSTERS	Print Rosters
PRTSVCPRV	Print Service Providers
RLSDEVICE	Release Device(s)
SNDEMLMSG	Send Email Message
SNDPGRMSG	Send Pager Message
STRCOMTRM	Start Communications Terminal
WRKBRDGRP	Work with Broadcast Groups
WRKCALLSCH	Work with Call Schedule
WRKCMNRSC	Work with Communications Resources
WRKEMLADR	Work with Email Addresses
WRKESCLST	Work with Escalation Lists
WRKMSGQRCP	Work with Message Queue Recipients
WRKPAGERS	Work with Pagers
WRKPHONES	Work with Phones
WRKROSTERS	Work with Rosters
WRKSRVCPRV	Work with Service Providers

System Event Manager Commands

The following commands are part of Halcyon System Event Manager.

Command	Description
ADDFTPPMT	Add FTP Permit

Command	Description
ADDODBCPMT	Add ODBC Permit
ADDSWPPMT	Add Swap Permit
ADDTBLE	Add Table Entries
APYSTKTMP	Apply Sticky Note Templates
ARCOUQ	Archive Output Queue
ARCSPLF	Archive Spooled File
ARCSWPSSN	Archive Swap Session
BLDINDEX	Index Spooled File - Build Indexes
CHGARCTN	Change Archive Retention
CHKFBK	Change Feedback
CHKINDEX	Check Indexes
CLRHSMLOG	Clear GUI Data Log (Spooled File Manager)
CLRJOBHST	Clear HPM Job History (Performance Analyzer Aux)
CLRLIBCOL	Clear PFA/Library Collection
CLRPFMLOG	Clear GUI Data Log (Performance Analyzer)
CLRPWRLOG	Clear Password Reset Log
CLRSWPJNE	Clear ASW Source journal entry data
CLRSWPLOG	Clear ASW Sessions Log
CPRARCF	Compress Archive File
CPRARCMBRS	Compress All Archive members older than x days
CPYARCSPLF	Copy Archived Spooled File
CPYOUTQ	Copy Output Queue
CPYSPLF	Copy Spooled File
CPYTOCSV	Copy to CSV
CPYTOHTML	Copy to HTML
CPYTOTXT	Copy to Text
CRTTBL	Create Table
CVTOPNARC	Convert OpenText Archives

Command	Description
CVTOPNTXT	Convert OpenText data for OutQs/RPTTYPES/Bundles
CVTRBTARC	Convert Robot Archives
CVTRBTREP	Convert Robot/REPORTS
CVTRBTSPC	Convert Robot Archived Spooled File User Space
DCPARCF	De-Compress Archive File
DLTARCSPLF	Delete Archive Spooled File (Purge Archives)
DLTINDEX	Index Spooled File - Delete Indexes
DLTSPLFG	Delete Spooled Files (Generic)
DLTTBL	Delete Table
DSPCMDLOG	Display Command Log
DSPGUILOG	Display HDM GUI Data Log
DSPPFMDTA	Display Performance Data
DSPPWRLG	Display Password Reset Log
DSPSCNCAP	Display Screen Capture
DSPSPLSCRH	Display Spooled File Script Help
DSPRCJNE	Display Source Journal Entries
EXPSPLF	Export Spooled File to GUI
EXTSPLF	Extract SPLF pages to DBF
HEMIMPORT	Import Event Manager Data (Filters to Rules)
HLDSWPPMT	Hold ASW Permits
HLDSWPPRF	Hold ASW Profile
IMPARCHIVE	Import Archived Spooled File Members
INZAUTSWP	Initialize Authority Swapper
LOGARCF	Log Archive Files
MOVEJOBS	Move Job Queue Jobs
MRGDMSENV	Merge DMS Data (CONV to PROD)
OUTPWRLG	Output Password Reset Log
OUTSWPSSN	Output ASW Sessions

Command	Description
PRGINDEX	Index Spooled File - Purge Indexes (Retention)
PRTAFPCDE	Print AFP Codes for Spooled File
PRTBDL	Print Bundles
PRTCMDLST	Print Command Lists
PRTIDXSPLF	Print Indexed Spooled File
PRTJOBST	Print Job Lists
PRTPERFORM	Print Performance Data Parameter Collector
PRTPFMASP	Print ASP Performance Data
PRTPFMDSK	Print Disk Performance Data
PRTPFMEXT	Print External Performance Data
PRTPFMPOOL	Print Pool Performance Data
PRTPFMSYS	Print System Performance Data
PRTPWRLG	Print Password Reset Log
PRTRPTTYP	Print Report Types
PRTSWPPMT	Print ASW Permits
PRTSWPPRF	Print ASW Profiles
PRTSWPSSN	Print ASW Sessions
PRTTBL	Print Tables
RBDINDEX	Index Spooled File - Re-Build Indexes
RESETARC	Reset Archive Date
RLSFTPPRF	Release FTP Profile
RLSODBCPRF	Release ODBC Profile
RLSSWPPMT	Release ASW Permits
RLSSWPPRF	Release Swap Profile
RMVTBLE	Remove Table
RSTARCF	Restore Archive Files
RSTSWPSSN	Restore Swap Session
RTVARCHIVE	Retrieve Spooled File Archive to PDF/HTML/TXT

Command	Description
RTVOUTQ	Retrieve Output Queue
RTVSPLF	Retrieve Spooled File to Output Queue
RUNBDL	Run Bundle
RUNLIBCOL	Run Library/Folder Collector
RUNPKG	Run Packages
RUNSEG	Run Segment
RUNSPLSCR	Run Spooled File Script
RVKSTKTMP	Revoke Sticky Note Templates
R9999F4	Undo RSPLCFG - Convert Archive to ACTSCH
SAVARCF	Save Archive Files
SETARCMBRS	Reset Number of Members in Archive Files
SNDSPLF	Send Spooled File
STRSWPSSN	Start Swap Session
SWPPRF	Swap Profiles
VFYCMDAUD	Verify Command Auditing
VFYFTPAUD	Verify FTP Auditing
VFYSPLSCR	Verify Spooled File Script
WRKANS	Work with Answers
WRKARCF	Work with Archive Files
WRKARCSPLF	Work with Archived Spooled Files
WRKARCSWPS	Work with Archived ASW Sessions
WRKBDL	Work with Bundles
WRKCMDLST	Work with Command Lists
WRKIDXSPLF	Work with Indexed Spooled Files
WRKJOBHST	Work with Job History
WRKJOBLST	Work with Job Lists
WRKLNKIDX	Work with Linked Indexes
WRKOUTQ	Work with Output Queues

Command	Description
WRKPFMCOL	Work with PFM Collection Levels
WRKPKG	Work with Packages
WRKPWRGRP	Work with Password Reset Groups
WRKPWRUSR	Work with Password Reset Users
WRKQST	Work with Questions
WRKRCP	Work with Recipients
WRKRCPL	Work with Recipient Lists
WRKRPTTYP	Work with Report Types
WRKRSTPRF	Work with Reset Profiles
WRKSPLF	Work with Spooled Files
WRKSTKTMP	Work with Sticky Note Templates
WRKSUBTMP	Work with Subset Templates
WRKSWPMT	Work with ASW Permits
WRKSWPPRF	Work with ASW Profiles
WRKSWPSSN	Work with ASW Sessions
WRKTBL	Work with Tables

Restricted Tasks Manager Commands

The following commands are part of Halcyon Restricted Tasks Manager.

Command	Description
ANZSAVOBJ	Analyze Saved Objects
CLRRUNLOG	Clear Run Log
CPYTSKGRP	Copy Task Groups
DSPRUNLOG	Display Restricted Tasks Run Log
DSPSAVOBJ	Display Saved Objects
HRTIMPORT	Import Restricted Tasks Manager
PRTTSKGRP	Print Task Groups

Command	Description
RUNTSKGRP	Run Task Group
SETTCPSTS	Set TCP/IP Status
STRCONMGR	Start Console Manager
WRKCMDTPL	Work with Command Templates
WRKTSKGRP	Work with Task Groups

Audit Journal Manager Commands

The following commands are part of Halcyon Audit Journal Manager.

Command	Description
HAMIMPORT	Import Audit Journal (Filters to Rules)
PRTAUDJRNE	Print Audit Journal Entries

Appendix - Substitution Variables

Available Substitution Variables

The following substitution variables are available within the Halcyon products.

Name	Class	Type	Attribute	Description
&ACCESSTYPE	SYS	*CHAR	1	Access type
&ACGCDE	SYS	*CHAR	15	Accounting code
&ACNMSGID	SYS	*CHAR	7	Action message ID
&ACTION	SYS	*CHAR	4	Action
&ACTIONID	SYS	*DEC	3,0	Action ID
&AFFUSER	SYS	*CHAR	10	Affected user
&ALERT	SYS	*CHAR	256	Alert text
&ALERTID	SYS	*DEC	9,0	Alert ID
&ALERTSTS	SYS	*CHAR	7	Alert status
&ALERTSYS	SYS	*CHAR	8	Alert source system
&ALRCLSDEV	SYS	*CHAR	15	Alert close device
&ALRCLSJOB	SYS	*CHAR	10	Alert close job
&ALRCLSMETH	SYS	*CHAR	1	Alert close method
&ALRCLSSYS	SYS	*CHAR	8	Alert close system
&ALRCLSUSR	SYS	*CHAR	10	Alert close user
&ALTDIR	SYS	*CHAR	63	Alternative directory name
&ALTOBJ	SYS	*CHAR	12	Alternative object name
&ARCASP	SYS	*CHAR	10	Archive group ASP
&ARCFILE	SYS	*CHAR	10	Archive file
&ARCGROUP	SYS	*CHAR	10	Archive group
&ARCLIB	SYS	*CHAR	10	Archive library

Name	Class	Type	Attribute	Description
&ARCMBR	SYS	*CHAR	10	Archive member
&ARCSPLF	SYS	*CHAR	10	Archived spooled file name
&ARCSPLFDAT	SYS	*DEC	8,0	Archived spooled file date
&ARCSPLFNBR	SYS	*CHAR	6	Archived spooled file number
&ASPGRP	SYS	*CHAR	10	ASP group
&ASPNUM	SYS	*DEC	3,0	ASP number
&ATTRIBUTE	SYS	*CHAR	100	Attribute
&AUTL	SYS	*CHAR	10	Authorization list
&AUTLRMV	SYS	*CHAR	10	Authorization list removed
&BACKLOG	SYS	*DEC	9,0	Backlog
&BASEDON	SYS	*CHAR	139	Qualified name of model file
&BDLDOC	SYS	*CHAR	8	Bundle document name
&BDLSTMF	SYS	*CHAR	15	Bundle stream file name
&BOUNDIP	SYS	*CHAR	46	Bound IP address
&BOUNDPORT	SYS	*DEC	5, 0	Bound port
&BUNDLE	SYS	*CHAR	10	Bundle name
&CERTOP	SYS	*CHAR	4	Certificate operation
&CFGSTS	SYS	*CHAR	20	Configuration status
&CFGTYPE	SYS	*CHAR	7	Configuration name
&CHGALW	SYS	*CHAR	1	Change allowed
&CHGJOB	SYS	*CHAR	10	Changed job
&CHGJOBNBR	SYS	*CHAR	6	Changed job number
&CHGUSER	SYS	*CHAR	10	Changed user
&CLIENT	SYS	*CHAR	10	Unique client name
&CLUSTER	SYS	*CHAR	10	Cluster
&CMD	SYS	*CHAR	21	Qualified command name
&CMDLIBR	SYS	*CHAR	10	Command library
&CMDNAME	SYS	*CHAR	10	Command name
&CMDSTR	SYS	*CHAR	256	Command string

Name	Class	Type	Attribute	Description
&CMDTYPE	SYS	*CHAR	3	Command type
&COMMIT	SYS	*CHAR	7	Commitment control level
&COMMUNITY	SYS	*CHAR	255	Community
&COMPUTER	SYS	*CHAR	8	Computer
&CONNSEQ	SYS	*CHAR	40	Connection name
&CONSOLE	SYS	*CHAR	10	Console name
&CR	SYS	*CHAR	1	Carriage return
&CURLIB	SYS	*CHAR	10	Current library
&CURRRCD	SYS	*CHAR	10	Number of current records
&CURSOR	SYS	*CHAR	18	Cursor ID
&CURUSER	SYS	*CHAR	10	Current user
&DATE	SYS	*DATE	8,0	System date
&DATE_30	USR	*DATE	8.0	Today - 30 days
&DATEMDY_30	USR	*CHAR	6	Date in MDY Format 30 days ago
&DEVNAME	SYS	*CHAR	10	Device name
&DEVTYPE	SYS	*CHAR	5	Device type
&DFTALRSUB	SYS	*CHAR	256	Default email subject
&DFTALRTXT	SYS	*CHAR	256	Default alert text
&DFTSQLCOL	SYS	*CHAR	10	Default SQL collection
&DLO	SYS	*CHAR	12	Document library object
&DOMAIN	SYS	*CHAR	255	Domain name
&DOW	SYS	*DEC	1,0	Weekday number
&DOWCODE	SYS	*CHAR	3	Weekday code
&DOWNAME	SYS	*CHAR	10	Weekday name
&DRDA	SYS	*CHAR	8	DRDA indicator
&DRDADEF	SYS	*CHAR	9	DRDA definition name
&DRDAPROD	SYS	*CHAR	3	DRDA product code
&DRDAVRM	SYS	*CHAR	5	DRDA version (VVRM)
&DSKSRNBR	SYS	*CHAR	10	Disk serial number

Name	Class	Type	Attribute	Description
&DSTQDEPTH	SYS	*CHAR	3	Distribution queue depth
&DSTQNAME	SYS	*CHAR	16	Distribution queue name
&DSTQPTY	SYS	*CHAR	7	Distribution queue priority
&DSTQSTS	SYS	*CHAR	10	Distribution queue status
*DTAARA	SYS	*CHAR	21	Qualified data area name
&DTAAUTS	SYS	*CHAR	50	List of data authorities
&DTAQ	SYS	*CHAR	10	Data queue
&ENDCODE	SYS	*CHAR	2	End code
&ENDSYSDATE	SYS	*DATE	8,0	End system start date
&ENDSYSMINS	SYS	*DEC	5,0	End system start date
&ENDSYSTEMTIME	SYS	*TIME	6,0	End system start time
&ENTDATA	SYS	*CHAR	1024	Entry specific data
&ENVID	SYS	*CHAR	5	Halcyon Environment code
&ENVNAME	SYS	*CHAR	50	Halcyon Environment name
&ERRMSGID	SYS	*CHAR	7	Job scheduler error message ID
&ERRMSGTXT	SYS	*CHAR	256	Job scheduler error message text
&EXEPRF	SYS	*CHAR	10	Executing user profile
&EXITFMT	SYS	*CHAR	8	Exit point format
&EXITOPCODE	SYS	*CHAR	10	Exit point operation
&EXITPOINT	SYS	*CHAR	20	Exit point name
&FAILCODE	SYS	*CHAR	1	Failure code
&FEATURE	SYS	*CHAR	10	Feature
&FGNKEYFILE	SYS	*CHAR	139	Qualified name of foreign key file
&FILE	SYS	*CHAR	10	File name
&FILETYPE	SYS	*CHAR	2	File type
&FMT	SYS	*CHAR	8	Record format name
&FRCVRYOFF	SYS	*CHAR	4	Forced vary off
&FUNCTION	SYS	*CHAR	10	Function
&FUNNAME	SYS	*CHAR	10	Function name

Name	Class	Type	Attribute	Description
&FUNTYPE	SYS	*CHAR	3	Function type
&F1	SYS	*CHAR	1024	Log File Monitor field variable
&GROUP	SYS	*CHAR	10	Job scheduler group name
&GROUPPRF	SYS	*CHAR	10	Group profile
&GROUPTXT	SYS	*CHAR	40	Job scheduler group text
&HINDER10	USR	*DEC	2,0	Increase run priority by 10
&HINDER5	USR	*DEC	2,0	Increase run priority by 5
&HOSTNAME	SYS	*CHAR	63	Hostname
&IFCLEVEL	SYS	*CHAR	63	Interface level
&IFCNAME	SYS	*CHAR	127	Interface name
&IFCTYPE	SYS	*CHAR	63	Interface type
&INFO	SYS	*CHAR	7	Information type
&INLMNU	SYS	*CHAR	10	Initial menu
&INLPGM	SYS	*CHAR	10	Initial program
&IPADDR	SYS	*CHAR	46	IP address
&IPDESC	SYS	*CHAR	30	IP description
&IPERR	SYS	*CHAR	7	IP error
&JOB	SYS	*CHAR	28	Qualified job reference
&JOBID	SYS	*CHAR	26	Job name, user and number concatenated
&JOBNAME	SYS	*CHAR	10	Job name
&JOBNBR	SYS	*CHAR	6	Job number
&JOBQ	SYS	*CHAR	10	Job queue
&JOBQASP	SYS	*CHAR	10	Job queue library ASP
&JOBQLIB	SYS	*CHAR	10	Job queue library
&JOBQSTS	SYS	*CHAR	10	Job queue status
&JOBSEQ	SYS	*CHAR	3	Job scheduler number
&JOBSTS	SYS	*CHAR	10	Job status
&JOBSUBTYPE	SYS	*CHAR	1	Job subtype
&JOBTEXT	SYS	*CHAR	40	Job scheduler job text

Name	Class	Type	Attribute	Description
&JOBUSER	SYS	*CHAR	10	Job user
&KEY	SYS	*CHAR	262	Key comparator and value
&KEYRINGOP	SYS	*CHAR	4	Key ring operation
&LIB	SYS	*CHAR	10	List of libraries or library name
&LMTCPB	SYS	*CHAR	10	Limited capability
&LOCALIP	SYS	*CHAR	46	Local IP address
&LOCALPORT	SYS	*DEC	5,0	Local port
&LOCATION	SYS	*CHAR	8	Location
&LSTAUTS	SYS	*CHAR	20	List of *AUTL authorities
&MAXFILES	SYS	*DEC	7,0	Files on output queue alert threshold
&MAXJOBS	SYS	*DEC	7,0	Jobs on queue alert threshold
&MAXWAIT	SYS	*DEC	3,0	Job queue wait alert threshold
&MBRNAME	SYS	*CHAR	10	Member name
&MON	SYS	*CHAR	3	Monitor code
&MQ	SYS	*CHAR	48	MQ queue name
&MQCHNL	SYS	*CHAR	48	MQ channel name
&MQDEPTH	SYS	*CHAR	10	MQ depth
&MQLSTR	SYS	*CHAR	48	MQ listener name
&MQMGR	SYS	*CHAR	48	MQ manager name
&MQMSGAGE	SYS	*CHAR	20	MQ message age
&MQSERV	SYS	*CHAR	48	MQ service name
&MQUSER	SYS	*CHAR	12	MQ user ID
&MSGDATE	SYS	*DEC	8,0	Date message sent
&MSGDTA	SYS	*CHAR	1024	Message data
&MSGDTA512	USR	*CHAR	512	Message data truncated to 512 characters
&MSGFASP	SYS	*CHAR	10	Message File ASP
&MSGFILE	SYS	*CHAR	10	Message file
&MSGFLIB	SYS	*CHAR	10	Message file library
&MSGHLP	SYS	*CHAR	1024	Message second level

Name	Class	Type	Attribute	Description
&MSGID	SYS	*CHAR	7	Message ID
&MSGKEY	SYS	*BYTE	4	Message key
&MSGQ	SYS	*CHAR	10	Message queue
&MSGQLIB	SYS	*CHAR	10	Message queue library
&MSGRPY	SYS	*CHAR	32	Message reply
&MSGSEV	SYS	*DEC	2,0	Message severity
&MSGTIME	SYS	*DEC	6,0	Time message sent
&MSGTXT	SYS	*CHAR	1024	Message text
&MSGTYPE	SYS	*CHAR	2	Message type
&N	SYS	*CHAR	1	Required value placeholder
&NEWGRP	SYS	*CHAR	10	Primary group
&NEWUSER	SYS	*CHAR	10	New user
&NEWVALUE	SYS	*CHAR	250	New value
&NODE	SYS	*CHAR	255	Node
&OBJATTR	SYS	*CHAR	10	Object attribute
&OBJAUTS	SYS	*CHAR	50	List of object authorities
&OBJCOUNT	SYS	*CHAR	10	Object count
&OBJECT	SYS	*CHAR	256	Object name
&OBJEXISTS	SYS	*CHAR	4	Object exists
&OBJLIB	SYS	*CHAR	10	Object library
&OBJPATH	SYS	*CHAR	1024	Object path
&OBJTYPE	SYS	*CHAR	10	Object type
&OLDAUTL	SYS	*CHAR	10	Old authorization list
&OLDOBJECT	SYS	*CHAR	10	Old object
&OLDOBJLIB	SYS	*CHAR	10	Old object library
&OLDOWNER	SYS	*CHAR	10	Old owner
&OLDPGRP	SYS	*CHAR	10	Old primary group
&OLDUSER	SYS	*CHAR	10	Old user
&OLDVALUE	SYS	*CHAR	250	Old value

Name	Class	Type	Attribute	Description
&OLDVOLNAME	SYS	*CHAR	32	Old volume name
&OPNOPT	SYS	*CHAR	15	Open options
&OPTTYPE	SYS	*CHAR	1	Optical volume type
&OPTVOLNAME	SYS	*CHAR	32	Optical volume name
&OPTYPE	SYS	*CHAR	1	Operation type
&OSLEVEL	SYS	*DEC	6,0	OS Level
&OUTQ	SYS	*CHAR	10	Output queue
&OUTQLIB	SYS	*CHAR	10	Output queue library
&OUTQSTS	SYS	*CHAR	10	Output queue status
&OWNER	SYS	*CHAR	10	Owner
&OWNERAUTH	SYS	*CHAR	3	Owner authority
&PATH	SYS	*CHAR	256	Path
&PBJOBNAME	SYS	*CHAR	10	Playback job name
&PBJOBNBR	SYS	*CHAR	6	Playback job number
&PBJOBUSER	SYS	*CHAR	10	Playback job user
&PBSSNBR	SYS	*DEC	9,0	Playback session number
&PFMVAL	SYS	*CHAR	10	Performance value
&PGM	SYS	*CHAR	10	Program
&PGMLIB	SYS	*CHAR	10	Program library
&PRGP	SYS	*CHAR	10	Primary group
&POOLID	SYS	*DEC	3,0	Pool ID
&POOLNAME	SYS	*CHAR	10	Pool name
&PORT	SYS	*DEC	5,0	Port
&PRBID	SYS	*CHAR	10	Problem ID
&PRBREF	SYS	*CHAR	31	Problem reference
&PRBTXT	SYS	*CHAR	1024	Problem text
&PRIKEYFILE	SYS	*CHAR	139	Qualified name of primary key file
&PRIVILEGE	SYS	*CHAR	1	Privilege
&PRMSTR	SYS	*CHAR	1024	Parameter string

Name	Class	Type	Attribute	Description
&PROBE	SYS	*CHAR	6	Probe
&PRODUCT	SYS	*CHAR	10	Product
&PROMPT	SYS	*CHAR	1	Command prompted
&PROTOCOL	SYS	*CHAR	10	Protocol
&PRVAUTHRMV	SYS	*CHAR	1	Private authority removed
&PUBAUTHHEXEC	SYS	*CHAR	1	Public authority *EXCLUDE
&PWDCHG	SYS	*CHAR	1	Password changed
&PWDTYPE	SYS	*CHAR	8	Password type
&PWDUPG	USR	*PROT	10	PWDUPG
&PWDVLD	SYS	*CHAR	4	Password valid
&QUERY	SYS	*CHAR	4	Open query
&QUEUE	SYS	*CHAR	10	Queue or rule group name
&QUEUEASP	SYS	*CHAR	10	Rule Group ASP
&QUEUELIBR	SYS	*CHAR	10	Queue library
&RC	SYS	*CHAR	1	Return code
&RCdtype	SYS	*CHAR	4	Record type
&RC2	SYS	*CHAR	5	Return code 2
&RC3	SYS	*CHAR	1	Return code 3
&RDB	SYS	*CHAR	36	Database name
&RELEASE	SYS	*CHAR	10	Release
&REMOTEIP	SYS	*CHAR	46	Remote IP address
&REMOTEPort	SYS	*DEC	5,0	Remote port
&RMTSYS	SYS	*CHAR	10	Remote system name
&RNDCHAR	SYS	*CHAR	128	Random characters
&RNDDEC	SYS	*DEC	9,0	Random number
&RPTTYPE	SYS	*CHAR	10	Archived spooled file report type
&RMTMGRP	SYS	*CHAR	10	Restricted task group
&RMTSK	SYS	*DEC	3,0	Restricted task number
&RULE	SYS	*DEC	4,0	Rule number

Name	Class	Type	Attribute	Description
&RULEDESC	SYS	*CHAR	50	Rule description
&RULGRPDESC	SYS	*CHAR	50	Rule group description
&RUNPTY	SYS	*DEC	2,0	Run priority
&SAME	SYS	*CHAR	1024	Same parameter value
&SCHDATE	SYS	*DATE	8,0	Schedule date
&SCHTIME	SYS	*DEC	6,0	Schedule time
&SEGMENT	SYS	*DEC	4,0	Segment number
&SENDUSR	SYS	*CHAR	10	Sending user profile
&SEQNO	SYS	*CHAR	4	Sequence number
&SERVER	SYS	*CHAR	200	Server
&SERVERIP	SYS	*CHAR	512	Server Interface IP address
&SIGNAL	SYS	*CHAR	4	Signal
&SIGNALSRC	SYS	*CHAR	1	Signal source
&SPCAUT	SYS	*CHAR	40	Special authority
&SPLFDAT	USR	*CHAR	10	Spooled file date in yyyy-mm-dd format
&SPLFDATE	SYS	*DATE	8,0	Spooled file creation date
&SPLFNBR	SYS	*CHAR	6	Spooled file number
&SPLFTIM	USR	*CHAR	8	Spooled file time in hh.mm.ss format
&SPLFTIME	SYS	*TIME	6,0	Spooled file creation time
&SPMMYY	USR	*CHAR	32	Spooled file date in MMMYY format
&SQL	SYS	*CHAR	256	SQL statement
&SQLNAME	SYS	*CHAR	18	SQL statement name
&SQLPKG	SYS	*CHAR	21	Qualified package name
&SRCDEVICE	SYS	*CHAR	10	Source device
&SRCJOB	SYS	*CHAR	10	Source job
&SRCOPTVOL	SYS	*CHAR	32	Source optical volume
&SRCUSER	SYS	*CHAR	10	Source user
&STATUS	SYS	*CHAR	20	Status
&STGUSED	SYS	*CHAR	15	Auxiliary storage used

Name	Class	Type	Attribute	Description
&STMF	SYS	*CHAR	256	Stream file created
&SUBSYS	SYS	*CHAR	10	Subsystem
&SUBTYPE	SYS	*CHAR	512	Job subtype
&SVCCODE	SYS	*CHAR	8	Service code
&SVCTOOL	SYS	*CHAR	4	Service tool
&SYSMMYY	USR	*CHAR	32	System date in MMMYY format
&SYSNAME	SYS	*CHAR	8	System name
&SYSVAL	SYS	*CHAR	10	System value
&SYSYMD	USR	*CHAR	32	System date in YYMMDD format
&TGTDEVICE	SYS	*CHAR	10	Target device
&TGTOPTVOL	SYS	*CHAR	32	Target optical volume
&TIME	SYS	*TIME	6,0	System time
&TOFILE	SYS	*CHAR	512	Simple or qualified overriding file
&TOMBR	SYS	*CHAR	512	Name of overriding member
&TOPGM	SYS	*CHAR	10	To program
&TRUSTROOT	SYS	*CHAR	4	Trusted root operation
&USERADDR	SYS	*CHAR	8	User address
&USERCLASS	SYS	*CHAR	7	User class
&USERID	SYS	*CHAR	8	User ID
&USERNETID	SYS	*CHAR	47	Network user ID
&USERPRF	SYS	*CHAR	10	User Profile
&USRSTS	SYS	*CHAR	10	User profile status
&USRDTA	SYS	*CHAR	10	Spooled file user data
&V	SYS	*CHAR	1024	Message data fields
&VLDL	SYS	*CHAR	10	Validation list
&VLDLLIB	SYS	*CHAR	10	Validation list library
&VOLNAME	SYS	*CHAR	32	Volume name
&WAITTIME	SYS	*DEC	10,0	Job waiting time on job queue
&WSTYPE	SYS	*CHAR	12	Virtual device type

Name	Class	Type	Attribute	Description
&WTRMSG	SYS	*CHAR	128	Writer message
&XREF	SYS	*CHAR	36	Cross Reference

Appendix - IMPENV Configuration Options

Overview

The Import Environment (**IMPENV**) command allows you to import all the customized settings from one environment directly into another environment. This can be used for:

- Creating a Disaster Recovery Environment (usually on a different LPAR)
- Installing a new PTF of the software without affecting the live environment
- Installing a pre-configured set of rules and templates into a remote location ready for customization

Customizations for all, multiple or single products can be specified at the time of import. IMPENV supports the use of FTP SSL (FTPS).

*ALL	All product data is imported except data defined as *EXCLUDE
*CONFIG	Selected configuration data is imported. This includes user-defined data such as rules, calendars, phones and so on but excludes run time data such as alert log, message log, performance data and such like. This is the default value. Use this setting for a normal import from a working environment to another environment
*NONSYS	User data is imported except of Exit Point Manager audit data and Document Management System indexes. Use this setting for backup and recovery
*SYS	Imports system data only. For example, menu definitions, authority functions and such like

NOTE: See [Using the Import Environment \(IMPENV\) command](#)

Full Listings of IBM i IMPENV files imported by option

*CONFIG

Product	File	Description
HAL	HALASC	Action/Call Schedule - Header

	HALASD	Action/Call Schedule - Details
	HALAUT	Halcyon Authority Codes
	HALCAD	Calendar - Header
	HALCAL	Calendar - Details
	HALCHR	Character Font
	HALCHS	Character Set Header
	HALJNX	Authmode Key
	HALMSA	Message Log Alerts
	HALSYV	Halcyon System Defaults
	HALTPL	Action Templates
	HALVAR	Substitution Variables
HAM	HAMGRP	Audit Journal - Group
	HAMINX	Unique Indexes (HAM)
	HAMPRT	Print Selections Work File
	HAMRUA	Audit Journal - Action
	HAMRUC	Audit Journal - Criteria
	HAMRUL	Audit Journal - Rule
HDM	HDMAD	Application Details
	HDMAN	Application Names
	HDMFD	Format Details
	HDMFF	Field Specifications
	HDMFL	User Defined Fields
	HDMAD	Application Details
	HDMFX	Format Descriptions
	HDMINX	Unique Indexes (HDM)
	HDMNX	Library Name Exceptions
	HDMOD	Object Set Details
	HDMOS	Object Sets
	HDMQS	Quick Setup

	HDMRP	Reports
	HDMST	Source Type Descriptions
	HDMTY	Object Views
	HDMVW	Views
	QUSRSRC	
HEM	HEMBDL	Spooled File Bundles
	HEMCSD	Report Type CSV Definition
	HEMEVQ	Event Manager Queue Definitions
	HEMEXC	Object Rule - IFS Object Exclusions
	HEMIDH	Spooled File Index
	HEMIDO	Spooled File Index Report Type Overlays
	HEMIDR	Spooled File Index Report Types (Seqn. Type)
	HEMIDS	Spooled File Index Report Types - Overrides
	HEMINX	Unique Indexes (HEM)
	HEMLIG	Linked Index Groups
	HEMLIX	Linked Index Groups - Contents
	HEMPRT	Print Selections Work File
	HEMRCE	Spooled File Manager - Recipient List Entries
	HEMRCL	Spooled File Manager - Recipient List Header
	HEMRCP	Spooled File Manager - Recipients
	HEMRUA	Event Rule - Actions
	HEMRUL	Event Rule - Headers
	HEMSEG	Spooled File Segments
	HEMSNT	Spooled File Sticky Note Templates
	HEMTBD	Table Data
	HEMTBL	Table Header
	QSCRIPTS	Spooled File Scripts
HJS	HJSAPP	Applications
	HJSCL	CL Command Lists
	HJSEN	EN Extended Environment Settings

	HJSEX	EX Exclusivity Groups
	HJSFX	FX FTP Message Exceptions
	HJSGR	GR Group Master
	HJSINX	Unique Indexes (HJS)
	HJSJB	JB Job Master
	HJSNE	NE Named Environments
	HJSPA	PA Partitions
	QUSRSRC	
HMC	HMCDEV	Message Devices Header File
	HMCEML	Email File
	HMCESC	Escalation Lists
	HMCESD	Escalation List Details
	HMCGRP	Broadcast Groups
	HMCPGR	Pagers
	HMCPHC	Mobile Phone Opcodes
	HMCPHN	Mobile Phones
	HMCRTA	Rosters
	HMCRTD	Roster Devices
	HMCSVC	Service Providers
	QSCRIPTS	Communication Scripts
HMM	HMMDBG	Message Monitor Debug Data
	HMMINX	Unique Indexes (HMM)
	HMMJLA	Joblog Rules - Actions
	HMMJLG	Joblog Rules - Group Headers
	HMMJLJ	Joblog Rules - Job Select Criteria
	HMMNOT	Message Rule - Notes
	HMMRUA	Message Rule - Actions
	HMMRUC	Message Rule - Select Criteria
	HMMRUL	Message Rule - Headers

	HMMTCA	TCP/IP Rule - Actions
	HMMTCP	TCP/IP Rule - Definitions
	HMMTCQ	TCP/IP Rule - Group Definitions
HMX	HMXINX	Unique Indexes (HMX)
	HMXMML	MIMIX Libraries
	HMXRUA	MIMIX Rule - Actions
	HMXRUG	MIMIX Rule - Rule Group Headers
	HMXRUL	MIMIX Rule - Rule Headers
HRP	HRPINX	Unique Indexes (HRP)
	QSCRIPTS	
HRT	HRTGRP	Restricted Task Groups
	HRTINX	Unique Indexes (HRT)
	HRTRUA	RTM Message Rule - Actions
	HRTRUG	RTM Message Rule - Rule Group Headers
	HRTRUL	RTM Message Rule - Rule Headers
	HRTSV1	Output File for SAVOBJ
	HRTSV2	Output File for SAVDLO
	HRTTPL	Command Templates
	HRTTSK	Restricted Tasks

***NONSYS**

Product	File	Description
HAL	HALACN	Actions Log
	HALALR	Halcyon Alert Log
	HALALRU	Alert Log User Options
	HALASC	Action/Call Schedule - Header
	HALASD	Action/Call Schedule- Details
	HALCAD	Calendar - Header

HALCAL	Calendar - Details
HALCHR	Character Font
HALCHS	Character Set Header
HALCON	Console Log
HALCONK	Console Log Key
HALCONS	Console System Options
HALCONU	Console User Options
HALGUP	Cached Group Profiles
HALINX	Unique Indexes
HALIPM	IP Address Mapping
HALJCT	Journal Files Categories
HALJNX	Authmode Key
HALJPF	Objects To Journal
HALMON	Monitor Status
HALMSA	Message Log Alerts
HALMSG	Halcyon Message Log
HALMSGK	Halcyon Message Key Log
HALNET	Network Buffer - Header
HALNNL	Network Notification Log
HALPTH	Halcyon Unique Paths Log
HALRLE	Remote Location Group Entries
HALRLG	Remote Location Groups
HALSLA	SLA Statistics
HSLSSA	Halcyon Subsystems Actioned
HALSSE	Halcyon Subsystem Events Times
HALSSM	Halcyon Subsystem Monitor Events
HALSSN	Generic Web Agent GUI Sessions
HALSSS	Halcyon Subsystem Status File
HALSTA	Halcyon Performance Statistics Summary
HALSTAU	Halcyon Statistics View User Options File
HALSUI	Halcyon Product Suite Information

	HALSYS	Halcyon System Definitions
	HALSYV	Halcyon System Defaults
	HALTPL	Action Templates
	HALUSI	Halcyon User Authorities
	HALUSR	Halcyon User Authorities
	HALVAR	Substitution Variables
	HALWEBLG	DataLog (GUI)
	HALWEBLGK	Data Log Key (GUI)
	QUSRSRC	User Source Examples
HAM	HAMGRP	Audit Journal - Group
	HAMINX	Unique Indexes (HAM)
	HAMLOC	Entry Type 'Occurrence' File
	HAMPRT	Print Selections Work File
	HAMRUA	Audit Journal - Action
	HAMRUC	Audit Journal - Criteria
	HAMRUL	Audit Journal Rule
	HAMRUS	Audit Rule - Suspends
HDM	HDMAD	Application Details
	HDMAN	Application Names
	HDMAS	ASP Analysis Settings
	HDMCM	Trigger Commands
	HDMDC	Data Collection Levels
	HDMFD	Format Details
	HDMFF	Field Specifications
	HDMFL	User Defined Fields
	HDMFQ	File System IDs
	HDMFX	Format Descriptions
	HDMINX	Unique Indexes (HDM)
	HDMLG	Data Log

	HDMLGK	Data Log Key
	HDMNX	Library Name Exceptions
	HDMOD	Object Set Details
	HDMOQ	Object Unique ID
	HDMOS	Object Sets
	HDMQS	Quick Setup
	HDMRD	RGZPF Details
	HDMRG	RGZPF Header
	HDMRP	Reports
	HDMST	Source Type Descriptions
	HDMTY	Object Types
	HDMVW	Views
	QUSRSRC	
HEM	HEMARC	Spooled File Archive GROUP/LIB/SEQUENCE
	HEMARM	Spooled File Archive Reusable Members
	HEMBDL	Spooled File Bundles
	HEMCAU	Calendar Usage
	HEMCSD	Report Type CSV Definition
	HEMCVL	OpenText Archive Conversion List
	HEMCVO	OpenText Archive Conversion Log
	HEMCVR	Robot Archive Conversion Log
	HEMCVX	OpenText Archive Library Name Store
	HEMCV26W	Work File For RQOVER
	HEMDLT	Spooled Files Archives Being Deleted
	HEMDPT	Subset Templates
	HEMDPU	Subset Templates Users
	HEMDPV	Subset Templates Archive List
	HEMEVQ	Event Manager Queue Definitions
	HEMEXC	Object Rule - IFS Object Exclusions
	HEMGRD	Spooled File Archive Group Descriptions

HEMGRP	Spooled File Archive Group
HEMHST	Spooled File History
HEMIDH	Spooled File Index
HEMIDN	Archived Spooled File Notes
HEMIDO	Spooled File Index Report Types Overlays
HEMIDR	Spooled File Index Report Types (Seqn, Type)
HEMIDS	Spooled File Index Report Types - Overrides
HEMINX	Unique Indexes (HEM)
HEMLG	Data Log (GUI)
HEMLGK	Data Log Key (GUI)
HEMLIG	Linked Index Groups
HEMLIX	Linked Index Groups Contents
HEPFMLG	Data Log (GUI)
HEPFMLGK	Data Log Key (GUI)
HEMPFMU	Performance Viewer User Options
HEMPKD	Spooled File Package Data
HEMPKG	Spooled File Packages
HEMPKS	Spooled File Package Segments
HEMPKX	Spooled File Package Groups
HEMPMA	Performance Monitor Job Activity Information
HEMPMC	PM Accumulation Control Parameters
HEMPMD	Performance Monitor Disk ASP's
HEMPMH	Performance Monitor Job History
HEMPMJ	Performance Monitor Job Information
HEMPMK	Performance Monitor Disk Units
HEMPMO	Performance Alerting Occurrence Tracking File
HEMPMP	Performance Monitor Pools
HEMPMS	Performance Monitor System
HEMPMX	Performance Monitor External
HEMPRT	Print Selections Work File
HEMRCE	Spooled File Manager -Recipient List Entries

	HEMRCL	Spoiled File Manager - Recipient List Header
	HEMRCP	Spoiled File Manager - Recipients
	HEMRUA	Event Rule - Actions
	HEMRUL	Event Rule - Headers
	HEMRUS	Event Rule - Suspends
	HEMSEG	Spoiled File Segments
	HEMSNT	Spoiled File Sticky Note Templates
	HEMSPU	Spoiled File User Options
	HEMSWC	Authority Swapper Command Log
	HEMSWI	Authority Swapper - Command Log Entry IDs
	HEMSWL	Authority Swapper - Command Lists
	HEMSWM	Authority Swapper Command List Entries
	HEMSWP	Authority Swapper - Swap Sessions
	HEMSWS	Authority Swapper - Screen Captures
	HEMSWW	Authority Swapper - Swap Permits
	HEMSWX	Authority Swapper - Swap Profiles
	HEMTBD	Table Data
	HEMTBL	Table Header
	HEMTBU	Table Usage
	QSCRIPTS	Spoiled File Scripts
HJS	HJSAPP	Applications
	HJSCFGP	Menu Template **DO NOT COMPILE in HALNEW**
	HJSCL	CL Command Lists
	HJSCQ	CQ Condition Queries
	HJSCU	Calendar Usage
	HJSDC	DC Data Capture
	HJSEN	EN Extended Environment Settings
	HJSEV	EV Event Condition Programs in Progress
	HJSEX	EX Exclusivity Groups
	HJSFX	FX FTP Message Exceptions

	HJSGR	GR Group Master
	HJSINX	Unique Indexes (HJS)
	HJSJB	JB Job Master
	HJSJX	JX Job Exceptions
	HJSMK	MK Message Keys Cross Reference
	HJSMZ	MZ Maintenance Records and Condition Data
	HJSMZK	MZ Message Log Key
	HJSNE	NE Named Environments
	HJSPA	PA Partitions
	HJSSB	SB *SBMJOB Submitted Jobs
	HJSSC	SC Schedule
	HJSSJ	SJ Scheduled Jobs
	HJSSX	SX Schedule Exceptions
	HJSTL	TL Monitor Instruction Log
	HJSUO	UO User Options
	QUSRSRC	
HMC	HMCCMN	Communications Log
	HMCCMX	Communications Log Index
	HMCDEV	Message Devices Header File
	HMCEML	Email File
	HMCESC	Escalation Lists
	HMCESD	Escalation Lists Details
	HMCGRP	Broadcast Groups
	HMCICF	ICF Communications Log
	HMCINX	Unique Indexes
	HMCPGR	Pagers
	HMCPHC	Mobile Phone Opcodes
	HMCPHN	Mobile Phones
	HMCRSC	Communications Resources
	HMCRTA	Rosters

	HMCRTD	Roster Devices
	HMCSVC	Service Providers
	QSCRIPTS	Communications Scripts
HMM	HMMDBG	Message Monitor Debug Data
	HMMDIA	Diagnostic Tool Data
	HMMINX	Unique Indexes (HMM)
	HMMJCT	Action Counts - by JobNo
	HMMJLA	Joblog Rules - Actions
	HMMJLG	Joblog Rules - Group Headers
	HMMJLJ	Joblog Rules - Job Select Criteria
	HMMJLR	Joblog Rules - Rule Headers
	HMMLOC	Message 'Occurrence' File
	HMMLRM	Message 'Reviewed' by Monitor
	HMMLRT	Message Queue Review Times
	HMMMSQ	Message Rule - Queue Definitions
	HMMNOT	Message Rule Notes
	HMMQHST	Message Queue History
	HMMRUA	Message Rule - Actions
	HMMRUC	Message Rule - Select Criteria
	HMMDBG	Message Monitor Debug Data
	HMMRUL	Message Rule - Headers
	HMMRUS	Message Rule - Suspends
	HMMRVWDUM	Dummy Message Review Output File
	HMMTCA	TCP/IP Rule - Actions
	HMMTCP	TCP/IP Rule - Rule Definitions
	HMMTCQ	TCP/IP Rule - Group Definitions
	HMMTLC	TCP/IP 'Occurrence' File
	HMMTLS	TCP/IP Status File
	HMMTMSG	Work File (Submitted Text Messages)
	HMMWCH	Message Watch

HMX	HMXINX	Unique Indexes (HMX)
	HMXMML	MIMIX Libraries
	HMXRUA	MIMIX Rule - Actions
	HMXRUG	MIMIX Rule - Rule Group Headers
	HMXRUL	MIMIX Rule - Rule Headers
	HMXSIM	MIMIX Simulator
	HMXSTSU	MIMIX Status User Options
HRP	HRPCAU	Calendar Usage
	HRPINX	Unique Indexes (HRP)
	HRPP	Menu Template **DO NOT COMPILE IN HALNEW**
	HRPSCN	Playback Screens
	HRPSSN	Playback Sessions
	HRPTRC	Playback Trace Data
	QSCRIPTS	
HRT	HRTGRP	Restricted Task Groups
	HRTINX	Unique Indexes (HRT)
	HRTRUA	RTM Message Rule - Actions
	HRTRUG	RTM Message Rule - Rule Group Headers
	HRTRUL	RTM Message Rule - Rule Headers
	HRTRUN	Run Log
	HRTSAV	Saved Objects
	HRTSDI	Saved Directory Index
	HRTSVH	Save History Log
	HRTSV1	Output File for SAVOBJ
	HRTSV2	Output File for SAVDLO
	HRTTPL	Command Templates

*SYS

Product	File	Description
HAL	HALACT	Action Types
	HALCFGP	Menu template **DO NOT COMPILE IN HALNEW**
	HALCVV	Conversion Values Substitution Variables
	HALFAD	Halcyon Function Authority Definitions
	HALINFP	Menu Template **DO NOT COMPILE IN HALNEW**
	HALMAP	Version Mapping File
	HALMSC	Miscellaneous Things File
	HALPSZ	Paper Sizes
	HALRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HALSPM	Halcyon Suite Product Mappings
	HALUTILP	Menu Template **DO NOT COMPILE IN HALNEW**
HAM	HAMCLS	Audit Journal Monitor Class Definitions
	HAMMSC	Miscellaneous Things File
	HAMP	Menu Template **DO NOT COMPILE IN HALNEW**
	HAMRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
HDM	HDMCFGP	Menu Template **DO NOT COMPILE IN HALNEW**
	HDMP	Menu Template **DO NOT COMPILE IN HALNEW**
	HDMRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HDMUTILP	Menu Template **DO NOT COMPILE IN HALNEW**
HEM	HEMASWP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMASWRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMASWUTLP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMSMCFGP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMHSMP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMHSMRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMHSMUTLP	Menu Template **DO NOT COMPILE IN HALNEW**

	HEMSC	Miscellaneous Things File
	HEMP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMPFAP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMPFARPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HEMSTS	Configuration Status
HJS	HJMSC	Miscellaneous Things File
	HJSP	Menu Template **DO NOT COMPILE IN HALNEW**
	HJSRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HJSUTILP	Menu Template **DO NOT COMPILE IN HALNEW**
HMM	HMMCNV	Conversion Message ID's
	HMMMSC	Miscellaneous Things File
	HMMP	Menu Template **DO NOT COMPILE IN HALNEW**
	HMMRPTP	Menu Template **DO NOT COMPILE IN HALNEW**
	HMMUTILP	Menu Template **DO NOT COMPILE IN HALNEW**
HMX	HMXMMA	MIMIX Attributes
	HMXMSC	Miscellaneous Things File
	HMXP	Menu Template **DO NOT COMPILE IN HALNEW**
	HMXRPTP	Menu Template **DO NOT COMPILE IN HALNEW**

Appendix - GSM Character Translations

Supported Characters

The following is a list of characters supported by the GSM Terminal. Ascii (CCSID 819) codes are shown in brackets.

- A-Z
- a-z
- 0-9
- space
- !"#\$%&()*+,-./:;<=>?
- A-umlaut (C4)
- A-ring (C5)
- a-grave (E0)
- a-umlaut (E4)
- a-ring (E5)
- ae-grapheme (C6)
- AE-grapheme (E6)
- c-cedilla (E7)
- E-acute (C9)
- e-grave (E8)
- e-acute (E9)
- i-grave (EC)
- N-virgulilla (D1)
- n-virgulilla (F1)
- O-miniscule (D8)
- o-miniscule (F8)
- O-umlaut (D6)
- o-umlaut (F6)
- S-sharp (DF)
- U-umlaut (DC)

- u-umlaut (FC)
- u-grave (F9)
- dollar (24)
- pound (A3)
- yen (A5)
- underscore (5F)
- section sign (A7)
- generic currency (A4)
- inverted exclamation (A1)

NOTE: Notable characters that are not supported:

- @ This is because the GSM code point is 00 which is ascii null.
- Any characters that are not supported are replaced by a period (.).