# FORTRA



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# Introduction

# Overview

Halcyon HA-MX Monitor monitors the status of MIMIX processes, raising alerts in response to any problems as they occur and reporting when problems have been resolved. Multiple actions can be performed in any pre-defined sequence when a particular alert is raised and escalating actions can be defined for persistent or recurring problems.

The monitor is capable of performing up to 999 different actions per alert; so you can perform one action when a problem occurs and other actions if the problem persists.

Alerts can be passed to a Halcyon Message Console on the local system, or a Halcyon Message Console or an Enterprise Console on another system.

**NOTE**: The Enterprise Console runs on a PC (Windows OS) and displays messages and alerts graphically. Messages can be received from an unlimited number of iSeries machines and displayed on a single screen. iSeries messages requiring a reply can be answered directly from the Enterprise Console. Halcyon Message Communicator is required to send alerts to the Enterprise Console.

The situation is monitored in real-time on the MIMIX Status display which is designed to be left active in a visible location. Colored background text indicates the current status of each monitored MIMIX process. The display also lists outstanding problems and is updated automatically whenever the monitor rechecks the situation. (An alert; *Functioning Normally*, is raised as soon as there are no outstanding problems.)

## Compatibility

Halcyon HA-MX Monitor is compatible with OS/400 version v7.1 upwards. Please check compatibility of later versions of OS/400 in the General Knowledge section of the <u>Halcyon</u> <u>Knowledge Base</u>.

# **External Messaging**

Messages can be sent out to mobile phones, pagers and email using Halcyon Message Communicator (the product must be purchased separately to run this facility).

# **Monitored Events**

Halcyon HA-MX Monitor allows the following events to be monitored. All events are compatible with MIMIX v5 unless indicated (\* compatible with MIMIX v7 and v8.1only):

Functioning normally	IFS entries not journaled on target
Apply session status	Journal inspection status*
Apply session backlog	Journal manager status
Cluster services status	Journal entry processing time*
Container send backlog	Object apply backlog
Container send processes active	Object apply processes active
Collector services status*	Object configuration changed
Database apply processes active	Objects failed distribution
Database reader status	Object retrieve backlog
Database send backlog	Object retrieve processes active
Database send status	Object send backlog
Data group status	Object send status
DLO configuration changed	Object entries held not error
Data area poller status	Object entries held error
Failed object entries exist	Object entries not active
File entries being repaired	Object entries not journaled on source
File entries held not error	Object entries not journaled on target
File entries held error	Parallel access path maintenance status*
File entries not active	Remote journal backlog*
Files not journaled on source	Remote journal link status

Files not journaled on target	Status send status
IFS configuration changed	System manager status
IFS entries held not error	System manager system 1 job status
IFS entries held error	System manager system 2 job status
IFS entries not active	Communications status
IFS entries not journaled on source	

# Work with User Authority

# Overview

Work with User Authority governs user access and permission rights when using the HA-MX Monitor.

The effective authority that a user has to a product function is determined by system default <u>HAL/AUTHMODE</u>. 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.

To view and edit User Authorities, type command **WRKUSRAUT** on the command line and press **Enter**. The Work with User Authority display is opened.

Alternatively, from the HA-MX Monitor menu, select option **42=Configuration** followed by option **2=Work with User Authorities**.

The body area of this screen shows all users and the authority that each has to the given product codes (listed vertically in columns) commonly used with the HA-MX Monitor.

Typically, within an installation of the HA-MX Monitor the following columns are shown:

	*	Halcyon Common Library	
--	---	------------------------	--

**HMC** Halcyon Message Communicator (required for sending messages)

HMX Halcyon HA-MX Monitor

HALS	9000R				Halcyon S	oftware		HAL525P3
HM	<				Work with Use	r Authority	17/04/13	10:09:58
Type	e options, p	res	s E	nter.				
2=0	Change 4=De	let	e	5=Disp	olay			
Y=f	All P=Parti	al	N=	None	X=Exclude			
					P	roduct Codes		
			Н	Н				
	User		М	М				
Opt	Profile	ж	С	х				
	*PUBLIC	X	X	X				
	QMSF	<u>P</u>	N	N				
	QSECOFR	<u>P</u>	<u>P</u>	<u>P</u>				
	QSYSOPR	<u> </u>	<u> </u>	<u>Y</u>				
								воттом
F3=F	Exit F5=Ref	res	h	F6=Add	d F12=Cancel	F22=Print		5011011
			_					

#### Parameters on the Work with User Authority display

The following parameters are available on the Work with User Authority 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 Halcyon product codes of installed 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 at least *CHANGE authority to all functions of this product.
Ρ	User has some authority but does not have *CHANGE authority to all functions of this product.
Х	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 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 the HA-MX Monitor.

**NOTE**: The command **RVKUSRAUT** can be used to revoke ALL authority for a user to use Halcyon 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	Halcy	on Software	00/01/00	HAL525P
Product User pro Descript	Work with F	unction Authority Software	30/01/09	15:44:2
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 (HALRMTC	MD) *EXCL		
RMTLOC	Remote Locations	*EXCL		
				MORE
E3=Exit	F12=Cancel			

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 a 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.

**IMPORTANT:** Within later versions of MIMIX 10, if the MIMIX library authority is set to \*PUBLIC \*EXCLUDE, then authority must be granted to QSYSOPR \*USE (or whichever profile is running the Halcyon HA-MX monitor).

#### 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.

HAL9000R	Halcyon So	oftware	HAL525P
	Work with Funct	ion Authority 30/01/09	15:39:2
Product	Halcyon Sof	tware	
User pro	file		
Descript	10n		
Change a	uthorities, press Enter.		
Func	Description	Auth	
GENERAL	General product use	*EXCL	
ACTLOG	Action Log	<u>*EXCL</u> *ALL, *USE, *EXCL	
ACTSCH	Action Schedules	*EXCL *ALL, *CHG, *USE, *EXCL	
CALENDAR	Calendars	*EXCL *ALL, *CHG, *USE, *EXCL	
CMDTPL	Command templates	<u>*EXCL</u> *ALL, *CHG, *USE, *EXCL	
CONSOLE	Message Console	*EXCL *ALL, *CHG, *USE, *EXCL	
CTLMON	Control Monitors	<u>*EXCL</u> *ALL, *USE, *EXCL	
HALSTAT	Halcyon statistics	<pre>*EXCL *ALL, *USE, *EXCL</pre>	
JRNRCV	Journal Control	*EXCL *ALL, *CHG, *USE, *EXCL	
MSGLOG	Message Log	<pre>*EXCL *ALL, *USE, *EXCL</pre>	
NETLOG	Network Log	<pre>*EXCL *ALL, *USE, *EXCL</pre>	
RMTCMD	Run Remote Command (HALRMTCMD)	<u>*EXCL</u> *ALL, *EXCL	
RMTLOC	Remote Locations	<pre>*EXCL *ALL, *CHG, *USE, *EXCL</pre>	
			MORE
F3=Exit	F5=Refresh F12=Cancel		

#### 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.

The following functions are available when working with user authority.

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.

## **Exporting Halcyon User Authorities**

It is possible to export Halcyon User Authorities to a remote Halcyon Environment via use of the command **EXPUSRAUT**.

TIP: This command supports the use of FTP SSL (FTPS).

Export User	Authorities	(EXPUSRAUT)
TYPE CHOICES, PRESS ENTER.		
To system	_	
Remote User ID		Character value
To environment	<u>PROD</u> <u>*ALL</u> *ALL	Character value Name, *ALL *ALL, HAL, HAM, HDM, HEM
F3=EXIT F4=PROMPT F5=REFRESH F13=HOW TO USE THIS DISPLAY	F10=ADDITIC F24=MORE KE	BOTTOM DNAL PARAMETERS F12=CANCEL SYS

#### To system

Enter the Host Name or IP Address of the remote system to which the user authorities are to be exported.

Remote User ID

Specify the User ID to be used by FTP when connecting to the remote system.

Remote password

Specify the password associated with the Remote User ID to be used.

To environment

Specify the Halcyon Environment code on the remote system to which the User Authorities are 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 code(s) of the authorities to be exported. Use \*ALL to specify all products.

**NOTE**: \*SECADM special authority is required by the user running the **EXPUSRAUT** command. This function does not support FTPS (Secure FTP).

# Working with the Monitored Libraries

# Overview

Prior to setting any monitoring rules, you need to specify which MIMIX libraries that you wish to monitor. From the Halcyon Menu, select option **30=Halcyon HA-MX Monitor**. From within the HA-MX Monitor, select option **30=Work with Monitored Libraries**.



This display shows all of the MIMIX libraries that are currently being monitored.

# Adding and Editing Monitored Libraries

To add an HA-MX library to be monitored, use **F6=Add**. The Add Monitored Library display opens.

HMX0100R HMX	Halcyon HA-MX Monitor Add Monitored Library	20/09/13	HAL525P3 09:41:01
Name	. <u>MIMIXV5</u> . <u>MIMIX Simulator V5</u>		
F3=Exit F4=Prompt F5=	Refresh F12=Cancel		

#### Parameters on the Add Monitored Libraries display

The following parameters are available on the Add Monitored Libraries display.

#### Name

Enter the name of the MIMIX library that you want to monitor. Use **F4=Prompt** to display a list of available libraries from which a selection can be made.

#### Description

Enter a textual description of the MIMIX library that has been selected.

Press Enter. The library is checked for compatibility and added. A warning message is displayed if the entered library is not a MIMIX library. Providing the library is compatible, it is now available for monitoring by the HA-MX Monitor.

#### Compatibility

This field is automatically populated with the MIMIX compatibility for this library and is shown on either the Change Monitored Library or Display Monitored Library displays.

# Changing a Monitored Library

To change a monitored library, use option **2=Change** against the required MIMIX library. The Change Monitored Library display is displayed. This only allows you to change the description of a monitored library. An existing monitored library that is no longer required, must be deleted and the new library added using **F6=Add** in order to be available for monitoring.

# Deleting a Monitored Library

To delete an existing monitored library, use option **4=Delete** against the required MIMIX library. The Confirm Deletion of Monitored Library display is displayed. Press **<Enter>** to confirm deletion of the monitored library or press **F12** to cancel the request and return to the Work with Monitored Libraries display.

The following functions are available when working with monitored libraries:

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 MIMIX library to those being monitored.

F12=Cancel

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

# Work with Rules

# Overview

Rules are a series of instructions, set with specific criteria that are applied to the monitoring of your MIMIX libraries. If the conditions of a rule are broken, then an alert is raised and you are notified accordingly.

Working with Rules allows you to define and maintain rules for Halcyon HA-MX Monitor. The Work with Rules option is accessed from option **5=Work with Rules** from the main HA-MX Monitor menu.

HAL0030R	Halcyon HA-MX Monitor Work with Rules	5/11/14	HAL720P4
QA Type options, press 1=Insert 2=Change 9=Print 10=Reset Opt Item Desc HA-MX	Work with Rules enter 3=Copy 4=Delete 5=Display 6=Release 13=Export 14=Msg count 15=Review msgs ription Days From -	5/11/14 Subse 7=Hold 8 23=Rule h To Sta Act	12:01:14 tted List =Alerts istory tus ive
F3=Exit F5=Refresh F15=Sort descriptio	F6=Add F9=Move to top F11=Expand F12 n F16=Position to F17=Subset F24=More	=Cancel keys	Bottom

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.

# Work with Rules - Levels of Display

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

- 1. Monitor
- At level one view, the monitor to which rules can be applied are displayed. Position the cursor next to the HA-MX Monitor and press F11 to expand the view to show the rule groups defined within this monitor.
- 2. The rule groups defined within each monitor

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

**NOTE:** Use **F23=Expand All** at any point to display all three levels.

HALO	030R	Halcyon HA-MX Monitor	HAL720P4
QA		Work with Rules	5/11/14 12:29:09
Type	options,	press enter	Subsetted List
1=I	nsert 2=0	Change 3=Copy 4=Delete 5=Display 6=Release	7=Hold 8=Alerts
9=P	rint 10=F	Reset 13=Export 14=Msg count 15=Review msgs	23=Rule historu
Opt	Item	Description	Status
ope	HA-MX		Active
	мтмтх	MIMIX Monitor Bules	notive
	11111		
	10	Functioning normally *EQ *YES	
	20	Apply session status *NE *ACTIVE	
	30	Apply session backlog *GT 100000	
	40	Cluster services status *NE *ACTIVE	
	50	Container send backlog *GT 100000	
	60	Collector services status *NE *ACTIVE	
	70	Database reader status *NE *ACTIVE	
	80	Database send backlog *GT 100000	
	00	Database send backtog wolf 100000	
L	90	Database send status *NE *RJ	
	100	Data group status *NE *ENABLED	
	110	Data group status *NE *AVAIL	
	120	DLO configuration changed *NE *NO	
			More
F3=E	xit F5=Re	fresh F6=Add F9=Move to top F11=Expand F12=	Cancel
E15=	Sort descr	ciption E16=Position to E17=Subset E24=More k	
-13-		iption rio-rosition to rir-Subset r24-Nore k	cgs

#### 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.

#### Parameters shown in \*STD setting

The following parameters are displayed when system default <u>HAL/WRKRULESFMT</u> is set to \*STD. This is the shipped default setting.

ltem

Shows up to three levels of rules.

#### 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.

#### Parameters shown in \*TIMES setting

If the system default <u>HAL/WRKRULESFMT</u> 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.

HALO	030R	Halcyon HA-MX Mo Work with Pul	nitor	5/11/	HAL720P4
Type	options,	press enter	63	SU	bsetted List
1=I	nsert 2=C	hange 3=Copy 4=Delete 5=Dis	play I	6=Release 7=Hold	8=Alerts
9=P	rint 10=R	eset 13=Export 14=Msg count	15=Re	view msgs 23=Rul	e history
Opt	Item	Description	Days	From - To	Status
	HA-MX				Active
	MIMIX	MIMIX Monitor R	ules		
	10	Functioning normally *EQ *YE	*ALL	00:00-23:59	
	20	Apply session status *NE *AC	*ALL	00:00-23:59	
	30	Apply session backlog *GT 10	*ALL	00:00-23:59	
	40	Cluster services status *NE	*ALL	00:00-23:59	
	50	Container send backlog *GT 1	*ALL	00:00-23:59	
	60	Collector services status *N	*ALL	00:00-23:59	
	70	Database reader status *NE *	*ALL	00:00-23:59	
	80	Database send backlog *GT 10	*ALL	00:00-23:59	
	90	Database send status *NE *RJ	*ALL	00:00-23:59	
	100	Data group status *NE *ENABL	*ALL	00:00-23:59	
	110	Data group status *NE *AVAIL	*ALL	00:00-23:59	
	120	DLO configuration changed *N	*ALL	00:00-23:59	
					More
F3=E	xit F5=Re	fresh F6=Add F9=Move to top	F11=E:	xpand F12=Cancel	
F15=	Sort descr	iption F16=Position to F17=S	ubset	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.

## **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

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 new 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 the rule group but this 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.

**NOTE**: You can also add a monitored 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.

HMX_MNTRUL QA Rule group	Halcyon HA-MX Monitor Change HA-MX Rule MIMIX	HAL720P2 5/11/14 12:54:13 (1 of 2)
Description	MIMIX Monitor Rules	
Rule number	<u>0020</u> *AUTO	
Monitor on days Time range	Mon Tue Wed Thu Fri Sat Sun <u>Y Y Y Y Y Y Y</u> <u>00:00</u> - <u>23:59</u>	
Alert delay	<u>*DFT</u> *DFT, *NONE, <u>*DFT</u> *DFT, *NONE,	1-1440 mins *OFF, 1-1440 mins
F3=Exit F5=Refresh F12=0	Cancel	More

- Monitor: You are not permitted to change the HA-MX 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.

#### Сору

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 the HA-MX monitor.
- **Rule Group**: Opens the Confirm Copy of Rule Group display. Enter a name for the target rule group and press Enter.

**NOTE**: Copying a rule group also copies all the rules contained in that rule group.

• **Rule**: Opens the Confirm Copy of Rules display. Enter a name for the target rule group and rule number. Press Enter.

#### 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 the HA-MX Monitor.
- **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 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 the HA-MX Monitor details.
- Rule Group: Opens the Display Rule Group display.
- Rule: Opens the Display Rule display.

Release

Use option **6=Release** to release 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 the HA-MX Monitor from this option. To release the HA-MX 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 the HA-MX Monitor from this option. To hold the HA-MX Monitor, use the <u>Work with Monitors</u> option from the main menu.
- Queue/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.

#### **Re-release**

Specifies whether the rules or Rule Groups should be automatically be released after being held.

- **\*NO**: The rules are not released automatically
- **\*AFTER**: The rules are automatically released after the period of time specified in the subsequent 'Duration' parameter has passed
- **\*AT**: The rules are automatically released at the future date and time specified in subsequent parameters

**NOTE**: To release the rule manually before the automatic release time is reached, use option **6=Release**. To keep a rule held but change the automatic release time or cancel the pending automatic release entirely, release the rule using option **6=Release** then use **7=Hold** again with new settings.

Date

When Re-Release \*AT is specified, this parameter specifies the date on which the rule(s) are automatically released.

- **\*TODAY**: The rules are automatically released later today
- date: Enter the date in system date format

#### Time

When Re-Release \*AT or \*AFTER is specified, this parameter specifies the time delay after which the rule(s) are automatically released. Enter the time delay in HHMM format.

**NOTE**: This is the period of time that passes before the rules are release NOT the time at which they are released.

#### Alerts

Use option **8=Alerts** to open the Work with Alert Log display, subsetted 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 HA-MX Monitor.
- **Rule Group**: Displays alerts generated by any of the rules defined within that rule group.
- Rule: Displays alerts generated by that rule.

HAL0020R	Halcyon HA-MX Monitor	HAL525P3
НМХ	Work with Alert Log	20/09/13 10:12:08
Position to date		Subsetted List
Position to time		
Type options, press Enter.		
4=Delete 5=Display 6=Pr:	int 7=Messages 10=Close	11=Omit in future
13=Action history 18=Ack	nowledge 20=Change rule	26=Release rule
Opt Status Date Time	Alert Message	
CLOSED 24/04/13 10:25	:26 43 MIMIXV7: DGRP002	IFS configuration changed
CLOSED 24/04/13 10:25	:26 44 MIMIXV7: DGRP001	object configuration chang
CLOSED 24/04/13 10:25	27 45 MIMIXV7: DGRP002	object configuration chang
CLOSED 15/05/13 09:52	:55 46 MIMIXV7: All ale	rts closed for this MIMIX l
PENDING 15/05/13 15:18	:39 47 MIMIXV7: DGRP001	IFS entries held error is
PENDING 15/05/13 15:23	:43 48 MIMIXV7: Apply ⊆	ession DGRP001/002 status i
PENDING 15/05/13 15:23	:43 49 MIMIXV7: Apply ⊆	ession DGRP002/001 status i
PENDING 15/05/13 15:23	:44 50 MIMIXV7: DGRP002	database send status is *T
PENDING 15/05/13 15:23	:44 51 MIMIXV7: System	manager system 1 job status
CLOSED 20/09/13 09:42	:40 52 MIMIXV7: All ale	rts closed for this MIMIX l
PENDING 20/09/13 09:47	:43 53 MIMIXV7: DGRP001	file entries being repaire
PENDING 20/09/13 09:47	:43 54 MIMIXV7: DGRP002	file entries being repaire
		ВОТТОМ
F3=Exit F5=Refresh F11=SH	how rules F12=Cancel F13	=Repeat F24=More keys

#### Print

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

- Monitor: a report for all rule groups and rules is printed.
- Queue/Rule Group: a report for the selected rule group and all its associated rules is printed.
- Rule: a report for the selected rule is printed.

#### Reset

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

Resetting the 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 HA-MX 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.

#### Export

Use option **13=Export** to export Rule Groups and rules to up to eight other Halcyon 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.

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 <u>Exporting Rule Groups and Rules</u> for more information regarding the Rule Export Options display.

Message count

This option is not available for use in HA-MX Monitor.

#### Review messages

This option is not available for use in HA-MX Monitor.

#### 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 <u>Auto-export options</u> 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 etc.)
- Group with between 2000 and 4999 rules: Rules are resequenced in 2's (Rule 2, Rule 4, Rule 6 etc.)
- Group with >5000 rules: Rules are resequenced in 1's (Rule 1, Rule 2, Rule 3, etc.)

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 or **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.

The following functions are available when working with rules:

#### 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 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 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 the HA-MX Monitor or rule group. Only one 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 HA-MX monitor to show or hide the rule groups defined within.
- **Queue or rule group**: Expands or compresses the rule group to show or hide the rules defined within. When expanding a rule group, any rule group previously in an

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.

**NOTE**: Not valid for use when HA-MX is used in standalone format.

F21=Command line

Use **F21=Command line** to display a command entry window.

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 the HA-MX Monitor and rule groups.

# **Exporting Rule Groups and Rules**

When you take option **13=Export** against a Rule Group or rule from the Work with Rules main display, the Confirm Export of Rules display opens.

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 reused for the next time that you invoke the export option.

#### 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

**NOTE**: 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.

НМХ	Halcyon HA-MX Confirm Export	Monitor of Rules	20/09/13	HAL525P3 09:48:00
Press Enter to confirm you Press F12 to return to cha To system	r choices for 1: nge your choice . <u>HAL270</u>	3=Export.		
To environment	. <u>PROD</u> . <u>*NO</u> . <u>*NO</u> . <u>ANDY</u>	Port		<u>*DFT</u> <u>*DFT</u> <u>*DFT</u>
Opt Queue Library T 13 MIMIX *	ype Rule MMXRULE 0030	Description System manager sy	∍tem 2 job	) status
F4=Prompt F12=Cancel Remote password is require	d.			воттом

#### 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.

#### FOR \*RMTLOC or (Named) Systems

#### Remote Location or Group (To environment)

Enter the name of an i5 Remote Location or Remote Location Group. Use **F4=Prompt** to select from a list of valid alternatives.

When a specific i5 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.

#### 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.

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

#### 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/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.

# 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 <u>Work with</u> <u>Remote Locations</u> for more information, When you update the rule configuration on this system, the product configuration automatically updates the remote locations with the amended information.

The distribution process is controlled by the settings in system default <u>HAL/AUTOEXPORTMODE</u>. If the remote location cannot be contacted immediately, the export is retried according to the settings in system defaults <u>HAL/AUTOEXPORTRETRY</u> and <u>HAL/AUTOEXPORTTMOUT</u>. 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 <u>HAL/AUTOEXPORTMODE</u> 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)
- Halcyon Import (HALIMPORT)
- Hold Rule (HLDRULE)
- Import Environment (IMPENV)
- Release Rule (**RLSRULE**)

**NOTE**: 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:

From the main menu, use option 41=Utilities followed by option 2=Display Action Log

or

Type **DSPACTLOG** on the command line and press **Enter**.

Auto-export actions are listed as Command actions. See <u>Display Action Log</u> 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.
- 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 <u>HAL/AUTOEXPORTMODE</u> to either \*UPDATE or \*UPDADD.
- Set system defaults <u>HAL/AUTOEXPORTRETRY</u> and <u>HAL/AUTOEXPORTTMOUT</u> 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.

**NOTE**: 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.

# Auto-export at monitor level

When taken at monitor level, auto-export allows you to specify the remote locations to which automatic updates are sent whenever a rule group or rule belonging to this monitor is amended. The list of remote locations is set independently for each monitor.

HAL2150R MANL Monitor	Chang MSG	Halcyon Software ge Auto-Export Systems	17/09/18	HAL720P2 10:11:44
Type new/cl	hanged information, p	press Enter.		
Remote				
Location	Description		Status	Export
HAL525P1	HAL525P1/QAHXP	*AUTO	<u>*NOCHG</u>	Y
		<b>F10</b> -0-n-o-1		Bottom
FJ=EXIT F	<sup>4</sup> =Prompt r5=Refresh	F12=Uancel		

# Monitor

Specifies the monitor for which these auto-export remote locations apply.

#### **Remote Location**

Lists the remote locations and/or remote location groups that define the remote systems to which rule groups and rules in this monitor are auto-exported by default (specific rule groups and rules can be omitted). Use **F4=Prompt** when adding remote locations to display a list of valid alternatives from which a selection can be made.

#### Description

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

# 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(s) retain their existing status. Rule groups and rules that are replaced are set to 'Held.'

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.

HAL2150R		Halcyon Software		HAL720P2
MANL	Overri	de Auto-Export System	<b>S</b> 23/11/15	11:03:00
Monitor	JOB			
Rule group	EXAMPLE			
Library	UGPL			
Rule	910	Fut-u		
Type new/chang	ed information, p	ress Enter.	Evport	Eupont
Location Do	conintion		Export	Export
HAL525P1 HA	1525P170AHXP	*AUTO	over 1 ide	
	2323117 011170	**************************************		•
				Pottom
E3-Evit E5-Do	froch Ell=Evpand	droupe E12=Capcel		BUTTOM
IJ-LAIL IJ-RE	riesh i 11-Expand	groups riz-cancer		

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.

# 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 any amendments as necessary and press Enter.

*	No override
Y	Enable auto-export
Ν	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.

Υ	Auto-export enabled
Ν	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.

# **Displaying Rule History**

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 are retrieved.

HALOOSC	DR Halcyon HA-MX Monitor	HAL720P4
QA	Work with Rules 5/11/	14 13:49:01
Type op	otions, press enter Su	osetted List
1=Inse	ert 2=Change 3=Copy 4=Delete 5=Display 6=Release 7=Hold	8=Alerts
9=Prir	at 10=Reset 13=Export 14=Msg coupt 15=Review msgs 23=Rul	e historu
Opt It	iom Description Days From - To	Statue
	1-11X	ACTIVE
	Set Days to Retrieve	
<u>23</u>	Type choices, press Enter.	
	No of Days <u>*MAX</u> *MAX, Number	
	E3=Exit E5=Refresh E12=Cancel	
· - ·		
	90 Database send status *NE *RJ *HLL 00:00-23:59	
	100 Data group status *NE *ENABL *ALL 00:00-23:59	
	110 Data group status *NE *AVAIL *ALL 00:00-23:59	
	120 DLO configuration changed *N *ALL 00:00-23:59	
		More
F3=Exit	F5=Refresh F6=Add F9=Move to top F11=Expand F12=Cancel	
E15=Sor	t description F16=Position to F17=Subset F24=More keys	

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.

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.

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.

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	Softwar	e HAL525P3
	Display Ru	le Hist	ory 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 Da	ita	
Opt Date Time Group/Que	ue 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)< td=""></console)<>
_ 30/01/09 14:00:09 QSYSOPR	QSYS	700	Action added ( <console)< td=""></console)<>
_ 30/01/09 14:00:09 QSYSOPR	QSYS	700	Action added ( <console)< td=""></console)<>
F3=Exit F5=Refresh F11=Sho	w Data F12	eCancel	BOTTOM F17=Subset F18=Bottom
Use F17=Subset to expand sel	ection if r	equired	

Parameters on the Display Rule History display

The following parameters are available on the Display Rule History display.

Position to date

Enter the date to which you wish to position the display, using the format DD/MM/YY.

**NOTE:** Separators may be omitted.

Position to time

Enter the time to which you wish 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 above.

# 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 HMM	TEST Format HMMRULR	
Deleted by QPADEV0007/ANDY/0	49429 Date 30/01/09	14:00:09
Type options, press Enter.		
6=Display Journal Data		
Field Description		
_ RULMQ Message Queu	e	
QSYSOPR		
_ RULLIB Message Queu	e Library	
QSYS		
	e	
700		
RULDSC Rule Descrip	tion	
CPA5305: Cmd = #QA/MBRFULL		
		NODE
E2-Evit E7-Drevieve E8-Nev		MUKE
F3-EXIL F7=Previous F8=Nex	t Fiz-cancet Fir-Subset	L FIS-Lett F20-Right
lise E17=Subset to expand sel	action if required	
use i i ouset to expand set	ection in required.	

# Display journal data

Use option **6=Display journal Data** to display the raw journal data for the selected activity.

The following functions are available when working with rules:

#### 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 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.

# **HA-MX Monitor Rules**

The following section details how to add and change the HA-MX rule group and rules.

# Example Rules

The HA-MX Monitor software comes supplied with 36 pre-defined rules. These rules are held by default. Use option **6=Release** from the Work with Rules display against individual or multiple rules to commence monitoring. All example rules are operational 24/7.

You can use these monitors as shipped or amend them to suit your own operational environment.

All of these rules use the MIMIX Action Schedule to send alerts. This action schedule can be amended to suit your own circumstances. See Action Schedules for more details.

10 Functioning normally \*EQ \*YES

Monitors the MIMIX processes in all MIMIX libraries are functioning normally. This is a special value that causes an alert to be raised whenever any other type of alert is closed and there are no other alerts open for a given MIMIX library.

#### 20 Apply session status \*NE \*ACTIVE

Monitors that all apply sessions in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

30 Apply session backlog \*GT 100000

Monitors to ensure that no apply session in any MIMIX library and data groups has a backlog of transactions greater than 100000. An alert if this threshold is breached.

#### 40 Cluster services status \*NE \*ACTIVE

Monitors that all cluster services in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

#### 50 Container send backlog \*GT 100000

Monitors to ensure that no container in any MIMIX library and data groups has a backlog of send transactions greater than 100000. An alert if this threshold is breached.

### 60 Collector services status \*NE \*ACTIVE

Monitors that all collector services in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

#### 70 Database reader status \*NE \*ACTIVE

Monitors that all database readers in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

#### 80 Database send backlog \*GT 100000

Monitors to ensure that no database in any MIMIX library and data groups has a backlog of send transactions greater than 100000. An alert if this threshold is breached.

#### 90 Database send status \*NE \*ACTIVE

Monitors that the send status of all databases in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

#### 100 Data group status \*NE \*ENABLED

Monitors that all data groups in all MIMIX libraries and data groups are enabled. An alert is raised if any are found to be in any other status.

#### 110 Data group status \*NE \*AVAIL

Monitors that all data groups in all MIMIX libraries and data groups are available. An alert is raised if any are found to be in any other status.

#### 120 DLO configuration changed \*NE \*NO

Monitors for any changes in the configuration of any Document Library Objects (DLO). An alert is raised if configuration changes have been made.

#### 130 Data area poller status \*NE \*ACTIVE

Monitors that all data area poller statuses in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

#### 140 Failed object entries exist \*NE \*YES

Monitors that no failed object entries are present within any MIMIX libraries and data groups. An alert is raised if any are found to exist.

150 File entries being replaced \*GT 5

Monitors for any file entries being replaced. An alert is raised if there is found to be more then 5 entries being replaced at any one time.

160 File entries held error \*GE 5

Monitors for any file entries that have a held error. An alert is raised if there is found to be 5 or more file entries in this status.

170 IFS configuration changed \*NE \*NO

Monitors for any changes in the Integrated File System (IFS) configuration. An alert is raised if configuration changes have been made.

180 IFS entries held error \*GT 5

Monitors for any IFS entries that have a held error. An alert is raised if there is found to be 5 or more IFS entries in this status.

190 Journal inspection status \*NE \*ACTIVE

Monitors that all journal inspection processes in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

200 Journal manager status \*NE \*ACTIVE

Monitors that operational status of all journal managers in all MIMIX libraries and data groups are active. An alert is raised if any are found to be in any other status.

210 Journal entry processing time \*GT 60

Monitors for any journal entry processing times in excess of 60 minutes and raises an alert should any be found.

220 Object apply backlog \*GT 100000

Monitors for any object entries that have been marked to be applied but are still outstanding. An alert is raised if there is found to be greater then 100000 object entries in this condition.

230 Object configuration changed \*NE \*NO

Monitors for any changes in the configuration of any object entries. An alert is raised if configuration changes have been made.

240 Objects failed distribution \*GT 5

Monitors for any object that have a failed distribution process. An alert is raised more than 5 objects are in this condition.

250 Object retrieve backlog \*GT 100000

Monitors for any objects that have been marked for retrieval but have not yet been retrieved. An alert is raised if the backlog exceeds 100000 entries.

260 Object send backlog \*GT 100000

Monitors for any security audit journal processes that have not yet been read by an object send process. An alert is raised if the backlog exceeds 100000 entries.

270 Object send status \*NE \*ACTIVE

Monitors the status of the object send process in all MIMIX libraries and data groups is active. An alert is raised if any are found to be in any other status.

280 Object entries held error \*GT 5

Monitors for any object tracking entries that are currently held due to an error. An alert is raised if the number of object entries in this condition exceeds five.

290 Parallel access path maintenance \*NE \*ACTIVE

Monitors the status of the parallel access path maintenance in all MIMIX libraries and data groups is active. An alert is raised if any are found to be in any other status.

300 Remote journal backlog \*GT 100000

Monitors for the number of entries not sent from a source journal to a remote journal. An alert is raised if the backlog exceeds 100000 entries.

### 310 Remote journal link status \*NE \*ACTIVE

Monitors the status of the remote journal link in all MIMIX libraries and data groups is active. An alert is raised if any are found to be in any other status.

#### 320 Status send status \*NE \*ACTIVE

Monitors that the status of the object send process in all MIMIX libraries and data groups is active. An alert is raised if any are found to be in any other status.

#### 330 System Manager status \*NE \*ACTIVE

Monitors that the operational status of the system manager in all MIMIX libraries and data groups is active. An alert is raised if any are found to be in any other status.

#### 340 System manager system 1 job status \*NE \*ACTIVE

Monitors that the operational status of the system manager jobs communicating between the systems that are controlled by system 1 is active. An alert is raised if it is found to be in any other status.

#### 350 System manager system 2 job status \*NE \*ACTIVE

Monitors that the operational status of the system manager jobs communicating between the systems that are controlled by system 2 is active. An alert is raised if it is found to be in any other status.

360 Communication status \*NE \*ACTIVE

Monitors that the operational status of the communication link is active. An alert is raised if it is found to be in any other status.

# Audit Rules

HA-MX Monitor supports the monitoring of the following MIMIX audit attributes:

AUDCMP	Audit objects compared	
AUDDETNE	Audit objects detected not equal	

AUDNOTCMP	Audit entries not compared
AUDNOTRCV	Audit objects not recovered
AUDRCV	Audit objects recovered
AUDTOT	Audit total objects selected
AUDSTS	Audit history status

**NOTE**: These rules are not automatically shipped with the product. They need manually creating. We recommend creating a separate rule group called AUDIT and creating the separate rules within this group.

All audit rules, with the exception of AUDSTS, returns a value in the range 0 to 999999999. O is returned if the information is not available. AUDSTS returns either \*AVAIL (audit information is available) or \*NOTAVAIL (audit information is not available).

The system default <u>HMX/AUDHSTMAXMINS</u> controls whether the values returned by the last audit are considered valid. This system default defines the maximum age, in minutes that the last audit must be within, for the audit values to be considered valid and compared to the defined rules. If the last audit is outside this time range, the values are not checked.

# Adding an HA-MX Rule Group

This option is used to add a new HA-MX rule group to the existing HA-MX rule groups. This action is taken with the cursor positioned against HA-MX on the Work with Rules main display.

Selecting option **1=Insert** or **F6=Add** at this point opens the Add HA-MX Rule Group 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.

Type the details as required and press Enter to add this HA-MX rule group to the HA-MX Monitor.

# Adding an HA-MX Rule

To add a rule to a HA-MX rule group, select either option **1=Insert** or **F6=Add** against an existing HA-MX rule group to open the Add HA-MX Rule display.

HMX_MNTRUL MANL Rule group	Halcyon HA-MX   Add HA-MX   MIMIX	Monitor Rule	21/09/16	HAL720P2 11:19:41 (1 of 2)
Description	MIMIX Monitor R	ules		
Rule number	<u>0045</u> *AUTO			
Monitor by calendar	<u>*NONE</u> Mon Tue Wed Thu I	Name, <mark>F4</mark> =Prompt Fri Sat Sun		
Monitor on days Time range	$\frac{\underline{Y}}{\underline{00};\underline{00}} - \frac{\underline{Y}}{\underline{23};\underline{59}}$	<u>Y</u> <u>Y</u> <u>Y</u>		
Alert delay Close delay Console comment On-close action	*DFT	*DFT, *NONE, 1-144 *DFT, *NONE, *OFF, *YES, *NO Name, <mark>F4</mark> =Prompt	40 mins 2 1-1440	mins
<mark>F3</mark> =Exit <mark>F4</mark> =Prompt F5=Ref	resh <mark>F12</mark> =Cancel		_	More

Parameters on the Add HA-MX Rule display

The following parameters are available on the Add HA-MX Rule 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 as \*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 list of existing calendars from which a selection can be made. Specify **\*NONE** to enable the rule using the 'Monitor on days' and 'Time range' parameters.

#### Calendar mode

If the 'Monitor by calendar' parameter is not set to \*NONE, 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. Overtype '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	
------	--	--

#### Alert delay

Specifies the time delay between an alertable situation arising and an alert actually being raised. This is to avoid raising alerts in situations that only occur for short durations.

*DFT	The default value is used. This value is set by one of the following system defaults:		
	HMX/ALTDLYSTATUS	For rules that return a special value, such as *ACTIVE, *INACTIVE, and so on	
	HMX/ALTDLYVALUES	For rules that return a numeric value	

*NONE	There is no delay. An alert is raised as soon as the selection criteria of the rule is met
1-1440	Specify the number of minutes delay. When the selection criteria of a rule is met, an alert is raised after this amount of minutes provided the selection criteria continued to be met throughout the delay period. If at any time during the delay, the selection criteria was found to be no longer applicable, the delay starts again from the next time the selection criteria applies.

**NOTE**: This value does not apply to rules using the \*NORMAL attribute. The value should be set to \*DFT.

### Close delay

Specifies whether to allow automatic closing of alerts when the situation they are reporting no longer exists. (i.e. the selection criteria of the rule that raised the alert is no longer met), and if so the delay in minutes between an alertable situation no longer existing and the alert actually being closed. The purpose of the delay is to avoid closing an alert in cases where the non-alertable situation is of short duration.

*DFT	The default value is used. This value is set by one of the following system defaults:	
	HMX/CLSDLYSTATUS	For rules that return a special value, such as *ACTIVE, *INACTIVE, and so on
	HMX/CLSDLYVALUES	For rules that return a numeric value
*OFF	Alerts are not automatica	lly closed
1-1440	Specify the number of min longer met, the alert is clo selection criteria is contin any time during the delay applicable, the delay start longer applies.	nutes delay. When the selection criteria of a rule is no used after this amount of minutes provided the ued to be not met throughout the delay period. If at the selection criteria was found to be no longer s again from the next time the selection criteria no

**NOTE**: This value does not apply to rules using the \*NORMAL attribute. The value should be set to \*DFT.

#### Console comment

Specifies whether a comment must be entered when an alert triggered by this rule is closed using the IBM i 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 be using the <u>Display Message Log</u> functionality

\*NO No comment is required

**NOTE**: This parameter only applies within Message Console. It does not apply to <u>Work</u> <u>with Alert Log</u>, 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.

HMX_MNTR QA Rule gro	UL up	Halcyon Add MIMIX	HA-MX Moni HA-MX Rule	itor 2	5/11/14	HAL720P4 14:01:12 (2 of 2)
Descript Type opt 2=Chang	ion ions, press E e 3=Copy 4= bute libra	MIMIX Mo Enter. Delete 9=Move	nitor Rules down	500		
- *NORM	AL *ALL		*EQ *\ Actions	/ES		
HELIO						
F3=Exit	F5=Refresh	F6=Add action	F12=Cance			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 <u>Adding Actions to Rules</u> 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 HA-MX 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.

The following functions are available from this display:

F3=Exit

Use **F3=Exit** to exit this 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 HA-MX 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 HA-MX Rule Criteria**

This option is invoked by taking option **2=Change** against the HA-MX rule criteria displayed on the Add/Change HA-MX Rule display. This opens the Change Selection Criteria display.

HMX0010R	Halcyon HA-MX Monitor	HAL525P3
нмх	Change Selection Criteria 20/09/1	3 09:55:31
Rule group	. MIMIX . 10 *AUTO	
MIMIX attribute MIMIX library Data group	BACKLOG Name, F4=Prompt   . *ALL Name, *ALL, F4=Prompt   . § *ALL _   _ _	
Comparison	. <u>*GT</u> *LT, *LE, *GT, *GE . <u>100000</u> 1-999999999999	
F3=Exit F4=Prompt F5=Re	fresh F12=Cancel	

# Parameters on the Change Selection Criteria display

The following parameters are available on the Change Selection Criteria display.

#### Rule group

Displays the name of the HA-MX rule group that contains this rule.

#### Rule number

Displays the sequence number of the rule to which this criteria is applied.

#### MIMIX attribute

Specifies the name of the MIMIX attribute being tested. Either enter the attribute name or use **F4=Prompt** to display a list of valid alternatives from which a selection can be made. Subsequent parameters on this display, depend on the selection made in this field.

**NOTE**: You can also type a legacy Halcyon HA-MX Monitor v2.0 filter type code. This is then converted into the equivalent Halcyon HA-MX Monitor v15.0 attribute name. For example, ASA may be typed instead of APYPRC.

### For \*NORMAL MIMIX Attributes

#### MIMIX attribute: \*NORMAL

A special value that causes an alert to be raised whenever any other type of alert is closed and there are no other alerts open for a given MIMIX library. This can be used to generate a confirmation message that all problems for a given MIMIX library have been resolved.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### For ACTOBJENT MIMIX Attributes

#### MIMIX attribute: ACTOBJENT

Indicates whether there are active object entries currently in any object subprocess.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For ACTOBJENT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 connet be the same avecant when #ALL is	
NUTE: SYSTEM I AND SYSTEM Z CANNUL DE THE SAME. EXCEDI WHEN "ALL IS	

specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

### For APYPRC MIMIX Attributes

#### MIMIX attribute: APYPRC

Specifies the operational status of an apply session.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### System parameters

For APYPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For AUDCMP MIMIX Attributes

#### MIMIX attribute: AUDCMP

The number of objects compared by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For AUDCMP attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For AUDDETNE MIMIX Attributes

#### MIMIX attribute: AUDDETNE

The number of objects detected not equal by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For AUDDETNE attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is	

specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

### For AUDNOTCMP MIMIX Attributes

#### MIMIX attribute: AUDNOTCMP

The number of objects not compared by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

# Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

### System parameters

For AUDNOTCMP attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

# Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For AUDNOTRCV MIMIX Attributes

#### MIMIX attribute: AUDNOTRCV

The number of objects not recovered by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

# System parameters

For AUDNOTRCV attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For AUDRCV MIMIX Attributes

# MIMIX attribute: AUDRCV

The number of objects recovered by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For AUDRCV attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only

available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups o	ontaining a	any qualifie	ed system nar	me are selected
*1 0 0 1 1	-				

\*LOCAL Data groups containing just the local system name are selected

name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For AUDSTS MIMIX Attributes

#### MIMIX attribute: AUDSTS

Indicates whether audit information is available for the AUDCMP, AUDNOTCMP, AUDRCV, AUDNOTRCV, AUDDETNE and AUDTOT attributes.

Returns \*AVAIL or \*NOTAVAIL. Audit information is considered to be available if the last audit was completed within the time specified by system default <u>HMX/AUDHSTMAXMINS</u>.

MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For AUDSTS attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

\*ALL Data groups containing any qualified system name are selected

\*LOCAL Data groups containing just the local system name are selected

name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

The default value is \*NOTAVAIL. Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For AUDTOT MIMIX Attributes

#### MIMIX attribute: AUDTOT

The total number of objects selected by the last audit, if available. Returns 0 if not available. See <u>AUDSTS</u>.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For AUDTOT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison
Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

## Values

The default value is 10000. Enter a value between 1 and 999999999.

# For BACKLOG MIMIX Attributes

## MIMIX attribute: BACKLOG

Specifies the number of received, but unprocessed, entries in an apply log space.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

\*ALL The rule applies to all data groups

**name** Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### System parameters

For BACKLOG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For CLUSRVSTS Attributes

## MIMIX attribute: CLUSRVSTS

Specifies the status of the cluster services for a system definition.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Remote system

Specifies the name of the MIMIX remote system definition to which this rule applies.

*ALL	This rule applies to all remote system definitions
name	Enter the name of the remote system definition. The remote system definition must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a remote system definition that exists, start Halcyon HA-MX Monitor to allow that remote system definition to be discovered

## Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

## For CNRSNDBKLG Attributes

## MIMIX attribute: CNRSNDBKLG

Specifies the number of entries that the container send process has marked for sending to the target system but have yet to be sent.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For CNRSNDBKLG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For CNRSNDPRC Attributes

#### MIMIX attribute: CNRSNDPRC

Specifies the number of active container send processes.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For CNRSNDPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
<b>NOTE</b> : System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

## Comparison

#### For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For COLSRVSTS Attributes

#### MIMIX attribute: COLSRVSTS

Specifies the operational status of collector services for a system definition.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

NOTE: Please note that this attribute is not compatible with all MIMIX libraries.

#### Remote system

Specifies the name of the MIMIX remote system definition to which this rule applies.

*ALL	This rule applies to all remote system definitions
name	Enter the name of the remote system definition. The remote system definition must have been previously discovered by Halcyon HA-MX Monitor

If you are unable to enter the name of a remote system definition that exists, start Halcyon HA-MX Monitor to allow that remote system definition to be discovered.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

## For DBAPYPRC Attributes

#### MIMIX attribute: DBAPYPRC

Specifies the number of active database apply processes.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For DBAPYPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For DBRDRPRC Attributes

## MIMIX attribute: DBRDRPRC

Specifies the status of the database reader process.

# MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

## Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For DBRDRPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For DBSNDBKLG Attributes

## MIMIX attribute: DBSNDBKLG

Specifies the number of journal entries that have not been read.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For DBSNDBKLG rules there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For DBSNDPRC Attributes

## MIMIX attribute: DBSNDPRC

Specifies the status of the database send process.

# MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

## Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For DBSNDPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For DGSTATE Attributes

## MIMIX attribute: DGSTATE

Specifies the state of the data group.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For DGSTATE attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

## Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For DGSTS Attributes

# MIMIX attribute: DGSTS

Indicates whether data group status is actually available.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For DGSTS attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitorto add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

## For DLOCFGCHG Attributes

## MIMIX attribute: DLOCFGCHG

Indicates whether the configuration of DLO entries for a data group has changed since the data group was last started.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For DLOCFGCHG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
1	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

## Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For DTAPOLLPRC Attributes

## MIMIX attribute: DTAPOLLPRC

Specifies the status of the data area poller process.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For DTAPOLLPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

## Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For FAILOBJENT Attributes

## MIMIX attribute: FAILOBJENT

Indicates whether there are any failed object entries currently in any object subprocess.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

## Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For FAILONJENT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only

available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL Data groups containing any qualified system name are selec	ted
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\*LOCAL Data groups containing just the local system name are selected

name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

## For FECMPRPR Attributes

## MIMIX attribute: FECMPRPR

Specifies the number of file entries for members that are currently being repaired.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For FECMPRPR attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
_	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For FEHLD Attributes

#### MIMIX attribute: FEHLD

Specifies the number of file entries that are currently held for reasons other than an error, or are in a state of \*CMPACT, \*CMPRLS, or \*RLSWAIT.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For FEHLD attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

## Value

Enter the comparison value. The value must be within the indicated range.

# For FEHLDERR Attributes

## MIMIX attribute: FEHLDERR

Specifies the number of file entries that are currently held due to an error.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For FEHLDERR attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

Value

Enter the comparison value. The value must be within the indicated range.

# For FENOTACT Attributes

# MIMIX attribute: FENOTACT

Specifies the number of file entries that are currently not active for any reason.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

## Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For FENOTACT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

## Value

Enter the comparison value. The value must be within the indicated range.

# For FENOTJRNS Attributes

## MIMIX attribute: FENOTJRNS

Specifies the number of files entries on a data source system that are not journaled.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

\*ALL The rule applies to all MIMIX libraries

# **name** Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For FENOTJRNS attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

name	Specify a system name	
*LOCAL	Data groups containing just the local system name are selected	
*ALL	Data groups containing any qualified system name are selected	
* ^ L L		

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value:

\*LT An alert is raised if the MIMIX value is less than the specified value

*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For FENOTJRNT Attributes

#### MIMIX attribute: FENOTJRNT

Specifies the number of files entries on a current target replication system that are not journaled.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For FENOTJRNT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

#### For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

## For FERCYFAIL MIMIX Attributes

#### MIMIX attribute: FERCYFAIL

The number of file entries on a current replication target system that are in recovery failed status.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For FERCYFAIL attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

\*ALL Data groups containing any qualified system name are selected

\*LOCAL Data groups containing just the local system name are selected

**name** Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

The default value is 3. Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For IFSCFGCHG Attributes

## MIMIX attribute: IFSCFGCHG

Indicates whether the configuration of IFS entries for a data group has changed since the data group was last started.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For IFSCFGCHG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

## For ITEHLD Attributes

## MIMIX attribute: ITEHLD

Specifies the number of IFS tracking entries that are currently held for reasons other than an error, or are in a state of \*RLSWAIT.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For ITEHLD attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

## Value

Enter the comparison value. The value must be within the indicated range.

# For ITEHLDERR Attributes

## MIMIX attribute: ITEHLDERR

Specifies the number of IFS tracking entries that are currently held due to an error.

## MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

## System parameters

For ITEHLDERR attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
_	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

## Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value
# Value

Enter the comparison value. The value must be within the indicated range.

# For ITENOTACT Attributes

# MIMIX attribute: ITENOTACT

Specifies the number of IFS tracking entries that are currently inactive for any reason.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For ITENOTACT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if theHA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For ITENOTJRNS Attributes

#### MIMIX attribute: ITENOTJRNS

Specifies the number of IFS tracking entries on a data source system that are not journaled.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

\*ALL The rule applies to all MIMIX libraries

# **name** Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For ITENOTJRNS attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

name Specify a system name	
*LOCAL Data groups containing just the local system name are sele	ected
*ALL Data groups containing any qualified system name are sel	ected

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

\*LT An alert is raised if the MIMIX value is less than the specified value

*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For ITENOTJRNT Attributes

#### MIMIX attribute: ITENOTJRNT

Specifies the number of IFS tracking entries on a replication target system that are not journaled.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For ITENOTJRNT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For ITERCYFAIL MIMIX Attributes

#### MIMIX attribute: ITERCYFAIL

The number of IFS tracking entries on a current replication target system that are in recovery failed status.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For ITERCYFAIL attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

\*ALL Data groups containing any qualified system name are selected

\*LOCAL Data groups containing just the local system name are selected

name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

The default value is 3. Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For JRNINSPSTS Attributes

#### MIMIX attribute: JRNINSPSTS

Specifies the summarized status of all journal inspection processes on a system.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

**NOTE:** Please note that this attribute is not compatible with all MIMIX libraries.

#### Remote system

Specifies the name of the MIMIX remote system definition to which this rule applies.

*ALL	The rule applies to all remote system definitions
name	Enter the name of the remote system definition. The remote system definition must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a remote system definition that exists, start Halcyon HA- MX Monitor to allow that remote system definition to be discovered.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For JRNMGRPRC Attributes

#### MIMIX attribute: JRNMGRPRC

Specifies the operational status of the journal manager.

#### **MIMIX** library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command

#### Remote system

# Specifies the name of the MIMIX remote system definition to which this rule applies.

*ALL	The rule applies to all remote system definitions
name	Enter the name of the remote system definition. The remote system definition must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a remote system definition that exists, start Halcyon HA-MX Monitor to allow that remote system definition to be discovered.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For LSTAPYTIME Attributes

#### MIMIX attribute: LSTAPYTIME

If the operation status of the apply session is \*ACTIVE and there are received, but unprocessed, entries in the apply log space, returns the difference in time in minutes between the current time and the journal entry time of the last entry received from the source system that exists in the apply log space. If the operation status of the apply session is not \*ACTIVE or there are no received, but unprocessed, entries in the apply log space, returns zero.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

<b>name</b> Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries ( <b>WRKMONLIB</b> ) command	*ALL	The rule applies to all MIMIX libraries
	name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

NOTE: Please note that this attribute is not compatible with all MIMIX libraries.

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For LSTAPYTIME attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range of 1-9999.

# For OBJAPYBKLG Attributes

#### MIMIX attribute: OBJAPYBKLG

Specifies the number of entries that an object apply process has marked to be applied, but has not yet started to apply.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJAPYBKLG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For OBJAPYPRC Attributes

#### MIMIX attribute: OBJAPYPRC

Specifies the number active object apply processes.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJAPYPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected

#### name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For OBJCFGCHG Attributes

#### MIMIX attribute: OBJCFGCHG

Indicates whether the configuration of object entries for a data group has changed since the data group was last started.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJCFGCHG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

NOTE System 1 and System 2 connet hathe come except when tall is	
name	Specify a system name
*LOCAL	Data groups containing just the local system name are selected
*ALL	Data groups containing any qualified system name are selected

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

# Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For OBJERR Attributes

#### MIMIX attribute: OBJERR

Specifies the number of objects that have a failed distribution status.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJERR attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if theHA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected

#### name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For OBJRTVBKLG Attributes

#### MIMIX attribute: OBJRTVBKLG

Specifies the number of entries that an object retrieve process has marked for retrieval, but has not yet retrieved.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJRTVBKLG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
1	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For OBJRTVPRC Attributes

#### MIMIX attribute: OBJRTVPRC

Specifies the number of active object retrieve processes.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJRTVPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected

#### name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For OBJSNDBKLG Attributes

#### MIMIX attribute: OBJSNDBKLG

The number of security audit journal entries that have not yet been read by an object send process.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one

Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJSNDBKLG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For OBJSNDPRC Attributes

#### MIMIX attribute: OBJSNDPRC

Specifies the number of entries that an object retrieve process has marked for retrieval, but has not yet retrieved.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OBJSNDPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

\*ALL Data groups containing any qualified system name are selected

\*LOCAL Data groups containing just the local system name are selected

name Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

#### For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For OTEHLD Attributes

#### MIMIX attribute: OTEHLD

Specifies the number of object tracking entries that are currently held for reasons other than an error, or are in a state of \*RLSWAIT.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OTEHLD attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

Value

Enter the comparison value. The value must be within the indicated range.

# For OTEHLDERR Attributes

#### MIMIX attribute: OTEHLDERR

Specifies the number of object tracking entries that are currently held due to an error.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OTEHLDERR attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For OTENOTACT Attributes

# MIMIX attribute: OTENOTACT

Specifies the number of object tracking entries that are currently not active for any reason.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OTENOTACT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

Value

Enter the comparison value. The value must be within the indicated range.

# For OTENOTJRNS Attributes

#### MIMIX attribute: OTENOTJRNS

Specifies the number of IFS tracking entries on the a data source system that are not journaled.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For FENOTJRNT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

# Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

# For OTENOTJRNT Attributes

#### MIMIX attribute: OTENOTJRNT

Specifies the number of IFS tracking entries on a replication target system that are not journaled.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For OTENOTJRNT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
<b>NOTE</b> : System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

Value

Enter the comparison value. The value must be within the indicated range.

# For OTERCYFAIL MIMIX Attributes

#### MIMIX attribute: OTERCYFAIL

The number of object tracking entries on a current replication target system taht are in recovery failed status

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

#### Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

#### System parameters

For OTERCYFAIL attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Values

The default value is 3. Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For PRLAPMNT Attributes

MIMIX attribute: PRLAPMNT

Specifies the parallel access path maintenance status.

MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

NOTE: Please note that this attribute is not compatible with all MIMIX libraries.

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For PRLAPMNT attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems.Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For REPJOBIND MIMIX Attributes

#### MIMIX attribute: REPJOBIND

Replicated job indicator. If a switch occurred, indicated if a replicated job remains on the current source system.

#### MIMIX Library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	The rule applies to all data groups
name	Enter the name of a specific data group. been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered

# Data group state

Specifies the data group state which should be checked for each selection.

*ALL	All Data groups are selected regardless of state
*ENABLED	Only enabled data groups are selected
*DISABLED	Only disabled data groups are selected

# System parameters

For REPJOBIND attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specify the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

# Values

The default value is \*NO. Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# For RJBKLG Attributes

#### MIMIX attribute: RJBKLG

Specifies the number of entries not sent from a source journal to a remote journal.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command
NOTE: Ple	ase note that this attribute is not compatible with all MIMIX libraries.

# Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For RJBKLG attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

\*ALL Data groups containing any qualified system name are selected
\*LOCAL Data groups containing just the local system name are selected

**name** Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

#### For attributes that return a numeric value:

*LT	An alert is raised if the MIMIX value is less than the specified value
*LE	An alert is raised if the MIMIX value is less than or equal to the specified value
*GT	An alert is raised if the MIMIX value is greater than the specified value
*GE	An alert is raised if the MIMIX value is greater than or equal to the specified value

#### Value

Enter the comparison value. The value must be within the indicated range.

#### For RJLNK Attributes

#### MIMIX attribute: RJLNK

Specifies the status of the RJ link process.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For RJLNK attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For STSSNDPRC Attributes

#### MIMIX attribute: STSSNDPRC

Specifies the status of the object status send process.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For STSSNDPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For SYSMGRPRC Attributes

#### MIMIX attribute: SYSMGRPRC

Specifies the operational status of the system manager.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For SYSMGRPRC attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of **F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
NOTE: System 1 and System 2 cannot be the same, except when *ALL is specified for both.	

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For SYSMGRPRC1 Attributes

#### MIMIX attribute: SYSMGRPRC1

Specifies the operational status of the system manager jobs communicating between the systems that are controlled by System 1.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For SYSMGRPRC1 attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
-	

**NOTE:** System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For SYSMGRPRC2 Attributes

#### MIMIX attribute: SYSMGRPRC2

Specifies the operational status of the system manager jobs communicating between the systems that are controlled by System 2.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For SYSMGRPRC2 attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, for these named systems only, will then raise an alert. Leave the parameters set to \*ALL to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of F4=Prompt, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
_	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

#### For TFRSTS Attributes

#### MIMIX attribute: TFRSTS

Specifies the status of the communication link defined by a transfer definition.

#### MIMIX library

Specifies the name of the MIMIX library to which this rule applies.

*ALL	The rule applies to all MIMIX libraries
name	Enter the name of a specific MIMIX library. The library must have been previously registered using the Work with Monitored Libraries (WRKMONLIB) command

#### Data Group

Specifies the name of the data groups to which this rule applies. You can specify up to 16 names preceded by (S) Select or (O) Omit. You must specify at least one Select entry. Omit entries are optional. This rule applies to data groups that are selected by any select entry and that are not omitted by any omit entry.

*ALL	This rule applies to all data groups
name	Enter the name of a specific data group. The data group must have been previously discovered by Halcyon HA-MX Monitor. If you are unable to enter the name of a data group that exists, start Halcyon HA-MX Monitor to allow that data group to be discovered.

#### System parameters

For TFRSTS attributes there are two system parameters (System 1 and System 2). These parameters can be used to specify two systems within the data group(s) for which these rule criteria apply. Any value that does not meet the comparison criteria, **for these named systems only**, will then raise an alert. Leave the parameters set to **\*ALL** to apply the rule across all systems. Systems are only available for selection in these two parameters, either by direct entry or use of

**F4=Prompt**, if the HA-MX Monitor has already discovered them. If systems are not available, start the HA-MX Monitor to add them to the selection criteria.

*ALL	Data groups containing any qualified system name are selected
*LOCAL	Data groups containing just the local system name are selected
name	Specify a system name
1	

**NOTE**: System 1 and System 2 cannot be the same, except when \*ALL is specified for both.

#### Comparison

Specifies the comparison to be made between the value retrieved from MIMIX and the test value specified in this rule.

*EQ	An alert is raised if the MIMIX value matches one of the specified values
*NE	An alert is raised if the MIMIX value does not match any of the specified values

#### Values

Enter one or more comparison values or use **F4=Prompt** to select from a list of valid alternatives.

# Adding Actions to Rules

From the Add/Change HA-MX Rule display, use **F6=Add action** to open the Add Action display and assign a new action to the rule.

HMX_MNTRUL MANL Rule group Description Type options, press Enter.	Halcyon HA-MX Monitor Change HA-MX Rule MIMIX MIMIX Monitor Rules	HAL720P2 21/09/16 15:31:13 (2 of 2) Rule Held
2=Change 3=Copy 4=Delet Opt Attribute Library APYPRC *ALL	e 9=Move down Data group Comparison *ALL *NE *ACTIVE Actions	
Action	netrons	Delay
		Bottom
<mark>F3</mark> =Exit <mark>F5</mark> =Refresh <mark>F6</mark> =Ad	d action <mark>F12</mark> =Cancel	Bottom

The Add HA-MX Action display is opened.

HAL_MNTACT QA	Halcyon HA-MX Monitor Add HA-MX Action	5/11/14	HAL720P4 14:07:09
Rule group	MIMIX 5 *AUTO		
Action type	Type, F4=Prompt		
F3=Exit F4=Prompt F5=Refree Action Type is required.	esh F12=Cancel		

#### Rule group

Displays the name of the MIMIX rule group.

#### Rule number

Displays the number and description of the rule to which the action is applied.

Action type

Selects the action that is performed if the rule criteria are met. See Rule Actions below.

## **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 Schedule action

Selecting the Action Schedule action selects a user-defined schedule that then performs the actions listed within the Action Schedule.

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.

**NOTE:** See <u>Work with Action Schedules</u> for more information.

## Close action

Selecting the Close action closes the alert, without further action.

**NOTE**: See system default <u>HMX/ALWDUPALERT</u> for settings that determine whether a closed alert is eligible for re-alerting.

#### 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

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 or more actions fail, the alert is never closed by this action. In this case, the alert must be manually closed by some other action

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 (available from within the Message Log), the close method for the alert is shown as reason code 'B'.

Delay

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

**NOTE:** See <u>Closing Alerts</u> for further information regarding the close action.

## Command action

Select the Command action to perform a command on the alert.

#### 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.

#### 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 <u>Work with Remote Locations</u> 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

### Console action

Selecting the Console action results in any triggered alert being sent to the Message Console.

#### Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTXT 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 &PRBTXT is treated as &ALERT.

#### System

Specifies the name of the system, as listed on the <u>Work with Remote Locations</u> 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 Halcyon Enterprise Console.

Use **F4=Prompt** to display a list of alternative systems. The entries in this list must have been previously identified using Configuration - <u>Work with Remote Locations</u>.

*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)

#### 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.

#### Severity

Specifies the console severity of the alert.

*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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## Delete 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.

#### 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

Specifies the alert condition required for the Delete action to be performed.

*NONE	When the Delete action is performed, the alert is closed and any
	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 do not have to complete successfully
*COMPNOERR	When the Delete action is performed, the alert is not closed until all the 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 manually closed by some other action

#### Delay

Specifies the delay before the action is invoked. If the alert is closed before the specified time elapses, the action is not performed. Specify a value in the range 0-9999 seconds.

## Email Active Jobs action

The Email Active Jobs action can be used to email a list of all the currently active jobs on your system. This is useful if, for example, you have a rule that breaks a CPU usage threshold as it provides you with information that may determine the cause of the overload.

#### Command

When EMLACTJOB has either been entered as the Action type or selected using F4=Prompt, press Enter to display a command line with the SNDEMLMSG command and substitution variables ready for completion. Use F16=List substitution variables to view a list of alternative entries for this command.

#### 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 <u>Work with Remote Locations</u> display, on which to perform the action. 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

#### 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## Email Job Information action

The Email Job Information action can be used to email a list of job information (as available using the **DSPJOB** command).

#### Command

When EMLJOBINF has either been entered as the Action type or selected using F4=Prompt, press Enter to display a command line with the SNDEMLMSG command and substitution variables ready for completion. Use F16=List substitution variables to view a list of alternative entries for this command.

#### 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 <u>Work with Remote Locations</u> display, on which to perform the action. 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

#### 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## Email Job Log action

The Email Job Log action can be used to email the job log (as available using the **WRKJOBLOG** command).

#### Command

When EMLJOBLOG has either been entered as the Action type or selected using **F4=Prompt**, press **Enter** to display a command line with the **SNDEMLMSG** command and substitution variables ready for completion. Use **F16=List substitution variables** to view a list of alternative entries for this command.

#### 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 <u>Work with Remote Locations</u> display, on which to perform the action. 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

#### 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## Email System Status action

The Email System Status action can be used to email the current system status information (as available using the **DSPSYSSTS** command).

#### Command

When EMLSYSSTS has either been entered as the Action type or selected using F4=Prompt, press Enter to display a command line with the SNDEMLMSG command and substitution variables ready for completion. Use F16=List substitution variables to view a list of alternative entries for this command.

#### 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 <u>Work with Remote Locations</u> display, on which to perform the action. 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

#### 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## 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 (\*FMT1)
- Detailed (\*FMT2)

#### 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.

#### Log format

Specifies the level of detail to be used for the external log.

*FMT1	This format is the same as that used by Halcyon Message Manager v5.3 and earlier. To check the details for this format, use the command; <b>DSPFFD FILE</b> (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; <b>DSPFFD FILE (HALxxx/HALEL2</b> ) where xxx is the name of your environment

#### Delay

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## 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 this rule.

#### 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**

Specifies whether the rule being held should be automatically released.

*NO	The rule is not automatically released
*AFTER	The rule is automatically released after the specified period of time has elapsed
*AT	The rule is automatically released when the specified date and time are reached. A future date and time must be specified

#### Delay

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## 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.

#### 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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## 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.

#### 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
TIP: Substitution variables can be submitted in this parameter.	

#### Message file/Library

When the 'Message ID' parameter is entered as a specific message ID, 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.

TIP: Substitution variables can be submitted in these parameters.

#### Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTXT 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 &PRBTXT is treated as &ALERT.

#### System

Specifies the name of the system, as listed on the <u>Work with Remote Locations</u> 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

Specifies the name of the message queue to which the message is sent.

#### Library

Specify the library (or select using **F4=Prompt**) in which library the chosen message queue resides.

#### Delay

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## 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. 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.

If you route the email via another environment or IBM i, the default sender is not used and the user running the Primary Communications Monitor on the other environment or IBM i 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.

#### 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.

*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 <u>Using Substitution Variables</u> for more information)

#### Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. If &PRBTXT 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 &PRBTXT is treated as &ALERT.

#### System

Specifies the name of the system, as listed on the <u>Work with Remote Locations</u> 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 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@halcyonsofware.com.

- Call schedule
- Call rota
- Broadcast group
- Escalation list

#### 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 as follows:	
	*HIGH	Assigned to message alerts for inquiry messages or for messages with severity 30 or greater
	*NORMAL	Assigned to message alerts for messages with severity 1 to 29
	*LOW	Assigned to message alerts for messages with severity 0 and for all non- message alerts
*HIGH	The message	e is sent with High priority
*NORMAL	The message	e is sent with Normal priority
*LOW	The message	e 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, call rota 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 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.

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

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

**NOTE**: See <u>Closing Alerts</u> for further information regarding using the Close action in conjunction with the Send Message Text action.

## Send SNMP Trap action

The Send SNMP Trap action is used to send the alert as an SNMP Trap via an SNMP manager.

#### Alert text

Specifies the message used when reporting the alert. This message may include substitution variables. See <u>Using Substitution Variables</u> for more information. If &PRBTXT 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 &PRBTXT 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 tap is sent using the manger specified in the system default <u>HAL/SNMPMANAGER</u>
*LOCAL	The message is sent to an SNMP manager on the local IBM i 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, the Alert type depends on the message severity as follows:	
	0	*INFO
	1-29	*WARN
	30-49	*ERROR
	50-99	*CRITICAL
INFO	Informatio	on
COMP	Completic	n
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 severity level is zero
COMP	Enter the console severity to use

#### Delay

Specifies the time delay in seconds before the action is invoked. If the alert is manually closed before the specified time elapses, the action is not performed.

## Syslog Action

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=Substitution Variables** to amend these variables if required.

#### 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 defined on the <u>Work with Remote Locations</u> 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, the entry in this field 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

Specifies the delay before the action is invoked. If the alert is closed before the specified time elapses, the action is not performed. Specify a value in the range 0-9999 seconds.

# **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 cancelled when the alert is manually closed.

#### 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 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 SNDTXT actions would be cancelled if the alert was closed before they could be sent.

#### 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 SNDTXT actions are not forced as there is no Close action with the same delay.

The SNDTXT actions are attempted and the alert is then closed nine minutes later. If the two SNDTXT actions had not completed by then, they are cancelled.

#### 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 cancelled. However, if the delay expires and the alert is still open, the two SNDTXT actions are set to forced and all three actions are completed. As the SNDTXT 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 IBM i 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 Halcyon 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 the system on which the Enterprise Console was running

**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.

# Work with Monitors

# Overview

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

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 IBM i environment.

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

The HA-MX Monitor checks the status of the MIMIX processes and decides whether or not to raise an alert. 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 ((HMX MMX)) Starts the HA-MX Monitor
- HALPROD/STRMON MONITOR ((HAL ACT)) Starts the Action Monitor
- HALPROD/ENDMON MONITOR ((HMX MMX)) Ends the HA-MX 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 IBM i is IPL'd by adding the following Autostart Job Entry to any subsystem that is automatically started during the IPL process:

- ADDAJE SBSD(QCTL) JOB(ZHALPROD)
- JOBD (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 are available to end the Halcyon subsystem:

- ENDSBS ZHALPROD
- ENDSBS \*ALL
- PWRDWNSYS

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 **8=Start** and **9=End** on the Work with Monitors display.

# Work with Monitors Display

The Work with Monitors display allows you to manage the monitors. This display is available from option **3 = Work with Monitors** on the main menu or by entering the **WRKMON** command.

HAL0110R		Halcu	jon HA-MX	Moni	tor	20	2 /00 /1 2	HAL525P3
			'R WITH MO	SNITO		20	Subset	ted List
1=Start	ns, press 3=Hold 4= pervising	Enter. End 5=Displa	ay 6=Rele	ease	7=Messages	5 8=Si	upervise	
Opt Monitor	Descripti	on		Su	up Status	Fur	nction	
- HMXMMX	HH-MX Mon	litor			Y Active	DEC	ĺΜ	
								воттом
F3=Exit F	5=Refresh	F12=Cancel	F15=Work	with	subsystem	jobs	F17=Subs	set

The main display has three columns:

## Opt

Enter the option you want to run for the selected monitor.

## Description

The description of the monitor.

## Status

The status of the monitor.

Active	The monitor is active
Held	The monitor is held to prevent it starting
Stopped	The monitor is stopped
Submitted	The monitor has been submitted and becomes active shortly

# 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 start the HA-MX 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 HA-MX 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 end the HA-MX Monitor.

Display

Not applicable to the HA-MX Monitor.

Release

Use option 7=Release to release theHA-MX Monitor that was previously Held.

## Messages

Use option **8=Messages** to open the Display Message Log Display which shows all messages that have been raised by the HA-MX Monitor.

#### Supervise

Not applicable to the HA-MX Monitor.

Stop supervising

Not applicable to the HA-MX Monitor.

The following functions are available on the Work with Monitors display.

F3=Exit

Exits this display and returns to the menu.

F5=Refresh

Refreshes the display with current information.

F12=Cancel

Exits this display and returns to the previous display.

F15=WRKSBSJOB

Runs the Work with Subsystem Jobs (**WRKSBSJOB**) command for the Halcyon HA-MX Monitor's subsystem.

F17=Subset

Not applicable to the HA-MX Monitor.

# Work with MIMIX Status

# Overview

The Work with MIMIX Status option displays the current values of all MIMIX attributes, supported by Halcyon HA-MX Monitor and shows the status of any associated alerts or pending alerts. This display is available by taking menu option **10=Work with MIMIX Status** from the HA-MX Monitor main menu.

**NOTE**: This option is only available when theHA-MX Monitor is running and is not is a status of Stopped or Held. See <u>Work with Monitors</u> for more information.

HMX	(0200R		Halcyon HA-	-MX Monitor	- 20	HAL525P3
	ALC: NO		WOLK WITH P	AIMIN Status	20	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>
Тур	pe options,	press Enter				
8=	Work with	alert 20=Wo	ork with rule			
Opt	Library	Attribute	Parameters	Value	Status	Rule
	MIMIXV7	CNRSNDBKLG	DGRP001	1		
	MIMIXV7	CNRSNDPRC	DGRP001	5		
	MIMIXV7	DBAPYPRC	DGRP001	5		
	MIMIXV7	DBRDRPRC	DGRP001	*ACTIVE		
	MIMIXV7	DBSNDBKLG	DGRP001	175		
	MIMIXV7	DBSNDPRC	DGRP001	*ACTIVE		
	MIMIXV7	DGSTATE	DGRP001	*ENABLED		
	MIMIXV7	DGSTS	DGRP001	*AVAIL		
	MIMIXV7	DLOCFGCHG	DGRP001	*YES		
	MIMIXV7	DTAPOLLPRC	DGRP001	*ACTIVE		
	MIMIXV7	FAILOBJENT	DGRP001	*YES		
	MIMIXV7	FECMPRPR	DGRP001	10	ALERT-OPEN	MIMIX/150
	MIMIXV7	FEHLD	DGRP001	10		
	MIMIXV7	FEHLDERR	DGRP001			
						MORE
F3=	Exit F5=R	efresh F11:	Show Descripti	ion F12=Cance	el F16=User	options

## Parameters on the Work with MIMIX Status display

The following parameters are shown on the Work with MIMIX Status display.

Library

Displays the name of the MIMIX library.

## Attribute

Displays the name of the MIMIX attribute. A description of each attribute can be displayed below by using **F11=Show Description**.

## Parameters

The parameters identify a specific instance of an attribute. One of the following options is displayed in the Parameters column depending on the attribute:

- A data group name
- A data group name and apply session number
- A remote system name

## Value

Displays the last known value of the attribute. Depending on the attribute, this may be a special value representing a status or a numeric value.

## Status

Displays the alert status of each value. This is one of the following:

**NOTE**: Alert Intelligence is a separate, licensed, plug-in module which interacts with other Halcyon rule-based products to provide intelligence between products.

Blank	If no status is shown, there are either no released rules monitoring this attribute or the value does not meet the criteria of a rule in order to raise an alert
AIPEND	Alert Intelligence (AI) Pending status (blue). Similar to ALERTPND status (see below), except that this rule has an Alert Intelligence action with ALERT(*NO) specified, meaning a MIMIX alert is not raised when the alert delay expires
AIFLAG	Alert Intelligence (AI) Flag status (blue). Similar to ALERTOPN status (see below), except that this rule has an Alert Intelligence action with ALERT (*NO) specified, meaning a MIMIX alert has not been raised. However an Alert Intelligence rule to which this rule contributes may have been raised
ALERTPND	Alert-Pending (yellow background) indicates that the attribute value meets the selection criteria of a rule but the rule has an alert delay period specified . If this attribute still meets the selection criteria at the end of the alert delay period, an alert is raised and the status changes to Alert- Open
ALERTOPN	Alert-Open status (red background) indicates that an alert has been raised for this attribute and is still open

CLOSEPND	Close-Pending status (green background) indicates that an alert has been raised for this attribute value and the alert is still open, however the attribute value no longer meets the selection criteria of a rule and it has a close delay period specified. If this attribute still does not meet the selection criteria at the end of the close delay period, the alert is closed automatically and the status changes to blank
CLOSED	Close status (red background) indicates that an alert has been raised for this attribute and the value still meets the selection criteria of the rule, however the alert has been closed. When the attribute value no longer meets the selection criteria, the status changes to blank

**NOTE**: If the attribute value meets more than one selection criteria then multiple instances of the attribute are shown, once for each value.

## Rule

When a status value is displayed this column displays the associated rule group and rule number.

## Using the Work with MIMIX Status display

The following options are available when using the Work with MIMIX Status display. Type the option number in the Opt column against the required selection.

## Work with Alert Log

When the attribute status is one of ALERT-PEND, CLOSE-PEND or CLOSED, use option **8=Work with ALert Log** against the selection to open the <u>Work with Alert Log</u> display, subsetted to show the alert associated with the selected attribute.

## Work with Rule

When the attribute status is one of ALERT-PEND, CLOSE-PEND or CLOSED, use option **20=Work with Rule** against the selection to open the Change HA-MX Monitor Rule display, allowing you to change or display the rule associated with the selected attribute. See <u>Changing HA-MX Rule Criteria</u> for more information.

The following functions are available on the Work with MIMIX Status 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 description

Use **F11=Show description** to expand the current display so that each attribute has the full description listed beneath the abbreviated entry.

F12=Cancel

Use F12=Cancel to close the current display and return to the previous display.

F16=User options

Use **F16=User options** to open a popup window from within which you can set the autorefresh options for the Work with MIMIX Status display.

# Display Message Log

# Overview

The Display Message Log option displays all messages generated by any Halcyon software products currently installed on your IBM i.

HAL0010R	Halcyon HA-MX Monitor	HAL525P3
HMX	Display Message Log 20/09/13	10:10:53
Position to date	Subse	tted 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	
SYS 00 19/04/13 09:11:31	MIMIX Monitor ended.	
MNT 00 19/04/13 11:37:16	HA-MX Monitor Rule Group TEST added.	
MNT 00 19/04/13 11:37:29	HA-MX Monitor Rule Group TEST held.	
MNT 00 19/04/13 11:37:29	HA-MX Monitor Rule Group TEST deleted.	
MNT 00 23/04/13 12:31:22	Rule 30 changed in HA-MX Monitor Rule Grou	p MIMIX
SYS 00 23/04/13 15:55:00	MIMIX Monitor started.	
	MIMIX Monitor ended.	
	MIMIX Monitor started.	
	MIMIX Monitor started.	
	MIMIX Monitor ended.	
	MIMIX Monitor started.	
SYS 00 17/05/13 14:04:23	MIMIX Monitor ended.	
		MORE
F3=Exit F5=Refresh F12=Ca	ncel F17=Subset F18=Bottom F22=Print	

## Access and Navigation

To view the current Message Log take option **1=Display Message Log** from the HA-MX Monitor main 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 message (s) 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 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 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 available on the Display Message Log display.

## Туре

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 in 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.

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

HAI	_0010	R			Halcy	on HA-MX	Moni	tor		20	2/00/12	HAL525P3
HI	4 A.				Disp	lay mess	age Li	og		20	9/09/13	10:11:22
P09	51110	on τ	o date								Subse	tted List
Pos	51 t 1 C	on t	o time									
Typ	pe ob	otio	ns, pre	ss Enter.								
1:	=Sele	ect	job 5=	Display 6	=Print	7=Aler	t Log	8=Ne	twork	Log	9=Comms	Log
	11=Se	et a	s admin	alert								
Opt	Typ	Sev	Date	Time	Messa	ge						
	MNT	00	19/04/1	3 11:37:16	НА-МХ	Monitor	Rule	Group	TEST	addeo	d.	
	MNT	00	19/04/1	3 11:37:29	НА-МХ	Monitor	Rule	Group	TEST	held		
	MNT	00	19/04/1	3 11:37:29	НА-МХ	Monitor	Rule	Group	TEST	dele	ted.	
												BOTTOM
F3:	=Exi	t F	5=Refre	sh F12=Ca	ncel	F17=Subs	et F	18=Bot	tom I	=22=Pi	rint	

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 display or a subsetted list.

## 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 message(s) associated with the message (if any network messages exist).

**NOTE:** See <u>Display Network Log</u> for more information.

## Communications log

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

**NOTE**: Options 7, 8 and 9 are not displayed when the Display Message Log has been accessed from one 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 <u>Add Administrator Alert Criteria</u> 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.

The following functions are available when working with the Display Message Log:

## 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 the current 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.

**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 for more information on the parameters available on this 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 the HA-MX Monitor.

Note: See <u>Work with Rules</u> 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.

## Access and Navigation

Work with Alert Log is accessed from option **2=Work with Alert Log** from the HA-MX Monitor main 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 alert(s) 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 the Work with Alert Log 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 one of six 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 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 as a rule action.

CLOSED Open alert for which an action has failed

## 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.

**IMPORTANT:** About Alert Numbering

- When an alert is raised and the next available number is 10000, 100000, 1000000, 1000000 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.

# 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 alerts.

## 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**>.

**NOTE**: 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.

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

Print

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

## Messages

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

**NOTE:** See <u>Display Message Log</u> for more information.

## 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

Not available in this release of HA-MX Monitor.

## Display action history

Use option **13=Action history** to open the Display Action Log, subsetted 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 the caused an action to fail.

**NOTE:** See <u>Working with the Action History display</u> for further options on this display.

## 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**.

## 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.

The following functions are available when using 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.

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 the current 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 subsetted (see **F17=Subset**):

F16=User options

Use **F16=User options** to display a popup 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 <u>Working with the Subset Alert Log display</u> for more information.

F18=Bottom

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

F21=Command line

Use **F21=Command line** to display a command entry window.

F22=Print

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

**NOTE**: See <u>Print Alert Log</u> for more information on the parameters available on this display.

F24=More keys

Use **F24=More keys** to display further function key options available for use with this display.

# Working with the Action History display

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

## Parameters on the Display Action Log display

The following parameters are available on the Display Action Log 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 possible:

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	The 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 action 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**.

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.

## 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.

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

**NOTE**: See <u>Display Network Log</u> for more information regarding parameters on this display.

8=Communications log

Use option **8=Communications log** to open the Communications Log display showing any communications data relating to the action.

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

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).

**NOTE:** For more functions see <u>Display Action Log</u>.

## 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 the current 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.

HAL0020	IR	Halcyon HA-	MX Monitor		HAL525P3
НМХ		Work with	Alert Log	20/09/13	10:14:58
Positio	on to date			Subse	tted List
Posit					<b></b> _
Type		Subset A	lert Log		
4=De	Type choices, pres	s Enter.			
13=A					
Opt S	Alert ID	<u>*ALL</u>	*ALL, Alert refere	nce	
C	Product code	<u>HMX</u>	*ALL, HMM, HEM	F4=Prompt	anged
C	Monitor	<u>*ALL</u>	*ALL, MSG, TCP	F4=Prompt	chang
C	Rule group	<u>*ALL</u>	*ALL, name, F4=Pro	mpt	chang
C	Library	<u>*ALL</u>	Name		ΙΜΙΧ Ι
P	Rule	<u>*ALL</u>	*ALL, 1-9999		or is
P	Alert status	<u>*ALL</u>	*ALL, OPEN, CLOSED	, F4=Prompt	atus i
P	Job name	<u>*ALL</u>	*ALL, job name		atus i
P	Affected user .	<u>*ALL</u>	*ALL, name, F4=Pro	mpt	is *T
P	Action	<u>*ALL</u>	*ALL, name, F4=Pro	mpt	status
C	Message ID	<u>*ALL</u>	*ALL, Msg ID		IMIX 1
P					epaire
P	F3=Exit F4=Prompt	F5=Refresh	F12=Cancel		epaire
ļ					📕 оттом 📗
F3=Exit	: F5=Refresh F11=S	how rules F1	2=Cancel F13=Repea	t F24=More	keys

## Parameters on the Subset Alert Log display

The following parameters are available on the Subset Alert Log 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

Only applicable with the HMX Product code.

## Monitor

Only applicable with the HMX Monitor code.

## Rule group

Enter the HA-MX rule group for which you want to display alerts.

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

## Library

When a rule group name is specified in the 'Queue' or 'Group' parameter, this parameter automatically defaults to \*ALL.

All libraries	
---------------	--

## 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 Logs display as OPEN, ACTIVE, CONSOLE, SNDTXT, PENDING or ERROR
ACKNOWL	Only select 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

## 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 ID's are selected
action	Enter a specific message ID

# Work with User Defined Options

A user defined option allows users to create their own commands and options, identified by a unique option code, which can then be used in addition to the standard options against an alert.

Each user defined option comprises an option code and 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 <u>Work with Alert Log</u> display or the <u>Message Console - Alerts view</u> display.

The Work with User Defined Options display lists the user defined options defined for the current user and provides functions and options for maintaining them.

## Parameters on the Work with User Defined Options display

The following parameters are shown on the Work with User Defined Options display.

Туре

Displays the type of user option that has been defined.

ALT	User defined option for Alert Log
CON	User defined option for Message Console

Code

Displays the alphanumeric option code.

Commands and options

Displays the commands and built-in options run by this user defined option.

# Using the Work with User Defined Options display

The following options are available on the Work with User Defined Options display:

Change

Use option **2=Change** to open the Change User Defined Option display. Parameters on this display allow you change the attributes of an existing user defined option.

**NOTE**: The parameters on this display are the same as those used when adding a user defined option. See <u>Adding a User Defined Option</u> for more information.

## Сору

Use option **3=Copy** to open the Confirm Copy of User Defined Options display. Enter an option code for the new user defined option, then press **Enter** to perform the copy, or press **F12** to cancel.

## Delete

Use option **4=Delete** to open the Confirm Delete of User Defined Options display. Press **Enter** on this display to delete the selected User Defined Options or press **F12** to cancel.

The following functions are available on the Work with User Defined Options display:

## F3=Exit

Use **F3=Exit** to exit this display and return to the main menu.

## F5=Refresh

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

## F6=Add

Use **F6=Add** to open the Add User Defined Option display. This allows you to define a new User Defined Option. See <u>Adding a User Defined Option</u> for more information.

## F12=Cancel

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

## Adding a User Defined Option

Use **F6=Add** on the Work with User Defined Options display to open the Add User Defined Option display.

## Parameters on the Add User Defined Option display

The following options are available on the Add User Defined Option display.

## Option type

When adding a user defined option by taking **F20=WRKUSROPT** from the Work with Alert Log display, this parameter is hard-coded as ALT. When adding a user defined option by taking **F20=Work with User Defined Options** from the Message Console - Alerts view display, this parameter is hard-coded as CON.

## Option code

Allows you to define the two character option code. Option codes must begin with a character in the range A-Z. The optional second character can be alphanumeric in the range A-Z or 0-9. If renaming an existing option code, simply overtype the existing characters.

To assign a command to this new option code use **F6=Add** to display the Add Option Command display.

## 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 overtype 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.

# Message Console

# Overview

The Message Console is used as a central point for monitoring alerts raised by Halcyon HA-MX Monitor 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 <u>HAL/CONDFTCOLORCTRL</u>. For Alerts view color schemes see <u>F22=Alert attributes</u> and for System color schemes see <u>System attributes</u>.

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 <u>Rule Actions</u> or <u>Console action</u> for more information.

**NOTE**: 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 <u>Work with Remote</u> <u>Locations</u> display.

Select option **10=Message Console** from the HA-MX Monitor main menu to view current alerts that have been sent to this Console.

HA-MX Monitor Message Console comprises three main views:

- Message Console Alerts view
- Message Console Systems view
- Message Console Consoles view

# Message Console - Alerts view

The Alerts view of the Message Console lists the alerts that have been sent to this Console. 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.

HAL	004	40R		ŀ	Halcyon	Softwar	re	HAL720P4
QP	1			Message	Console	- Aler	rts View	29/01/15 10:25:51
Pos	it	ion to da	ate					
Pos	it	ion to t	ime					Subsetted List
Тур	e d	options,	press Ent	ter.				
4=	Del	lete 5=D	)isplay 7	/=Messages	s 9=Rep	ly 10=	=Close	13=Action history
Opt	!	Status	Date	Time	System	Src	Alert	
		OPEN	29/01/15	10:17:06	*LOCAL	CST	162455	Custom Monitor: Rule @QA/1
		OPEN	29/01/15	10:17:06	*LOCAL	CST	162458	@QA/QAOUTQ: MAX NUMBER OF
		OPEN	29/01/15	10:17:07	*LOCAL	PFM	162457	Job 161938/TDIPPER/QPADEV0
		OPEN	29/01/15	10:17:07	*LOCAL	OBJ	162459	Directory /Halcyon found w
		OPEN	29/01/15	10:17:08	*LOCAL	PFM	162460	System statistic DBIOCOUNT
		OPEN	29/01/15	10:17:08	*LOCAL	OBJ	162461	File EXTLOG in @QA member
		OPEN	29/01/15	10:17:09	*LOCAL	PFM	162462	ASP 1 statistic USEDPCTCHG
		OPEN	29/01/15	10:17:10	*LOCAL	PFM	162464	Job QTOQRAGENT is not acti
		OPEN	29/01/15	10:17:10	*LOCAL	OBJ	162463	File HALALR in HALQA membe
		OPEN	29/01/15	10:17:11	*LOCAL	PFM	162465	Job QTOQSRVR is not active
		OPEN	29/01/15	10:17:17	*LOCAL	JBL	162466	Job Log - Member HJSSJ fil
		OPEN	29/01/15	10:18:23	*LOCAL	XPM	162472	Job Started: 161987/TDIPPE
		OPEN	29/01/15	10:18:24	*LOCAL	AUD	162473	SD - System distribution d
		OPEN	29/01/15	10:18:35	*LOCAL	XPM	162474	Job Started: 161990/ANDY/Q
								More
F3=	Exi	it F5=Re	efresh F1	LO=Systems	5 F12=C	ancel	F16=Use	er options 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:

Α	Any alert that has been acknowledged
!	Critical alert
Х	Error alert
W	Warning alert
?	Low severity inquiry alert
*	Completion alert

#### i Informational alert

The 'A', '!', '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 <u>Work with Remote Locations</u>, 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 ( <b>SNDCONMSG</b> ) 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.

**NOTE**: 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.

**NOTE**: 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.

## 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.

Messages (Local Alerts only)

Use option **7=Messages** to open the Display Message Log display. This is subsetted 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 <u>Display Message</u> Log functionality. Use <u>Work with Administrator Alert Criteria</u> to audit replies to remote inquiry alerts that have been sent from the local system. The response message is HAL1134.

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 HA-MX Monitor.

#### Action History (Local Alerts only)

Use option **13=Action History** to open the Display Action Log display. This is subsetted 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 <u>HAL/ACKNSUSPTIME</u>. 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 following functions are available when working with the Message Console - Alerts view:

#### F3=Exit

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

#### F5=Refresh

Use **F5=Refresh** to refresh the display with current information.
## F10=Systems

Use **F10=Systems** to switch the Console view from Alerts to Systems.

F12=Cancel

Use F12=Cancel to close and current 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.



## Auto-refresh

Specifies the automatic refresh interval of the Message Console display.

*OFF	Automatic screen refresh is disabled					
15-600	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 system. The color scheme can be modified by using option <b>2=System Attributes</b> on Message Console - Systems View
*SEV	Color is controlled by message severity. The color scheme can be modified by using option <b>F22=Alert Attributes</b> on Message Console - Alerts view

**NOTE**: See also system default <u>HAL/CONDFTCOLORCTRL</u>.

## 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.

HAL0040 QA	R Halcyon Software Message Console - Alerts View 3/02/15	HAL720P4 08:48:13
Positio Positio Type op 4=Dele	n to date n to time Subset tions, press Enter. te 5=Display 7=Messages 9=Reply 10=Close 13=Action history.	ted List
Opt     i   i   i   i   i   i   i   i   i	Subset Message Console   Type choices, press Enter.   System *ALL *ALL, *LOCAL, Name, F4=Prompt   Console *ALL *ALL, name, F4=Prompt   Source *ALL *ALL, ADH, CON, Name, F4=Prompt   Status OPEN OPEN, CLOSED, *ALL   F3=Exit F4=Prompt F5=Refresh F12=Cancel	EV0002 EV0002 er statu PCTCHG t acti active _HALIN LIB/IN TOTEST
i (0 i (0 i (0 F3=Exit	PEN   03/02/15   08:38:02   *LOCAL   PFM   165323   Job   236217/ANDY/QF     IPEN   03/02/15   08:41:02   *LOCAL   PFM   165324   System statistic   D     IPEN   03/02/15   08:41:02   *LOCAL   PFM   165325   IASP1   type   *DEVD   i     IPEN   03/02/15   08:45:01   *LOCAL   DEV   165325   IASP1   type   *DEVD   i     F5=Refresh   F10=Systems   F12=Cancel   F16=User   options   F24=Mor	ADEV0002 BIOCOUNT s in VAR More e keys

## 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 named 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				
system	Only alerts from this named console 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 ( <b>SNDCONMSG</b> ) 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.

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: <u>HAL/CONLOGLIFE</u> 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 <u>Work with User Defined Options</u> 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.

HAL0040R		HAL720P4
HS	Alert Attributes	15 14:22:11
Position to		
Position to	Position cursor, press Enter.	bsetted List
Type option	Info Inq	
4=Delete	Severity 90-99 : XXX XXX	
Opt ! Statu	Severity 80-89 : XXX XXX	
U OPEN	Severity 70-79 : XXX XXX	(WINDOWS) -
W OPEN	Severity 60-69 : XXX XXX	t active.
W OPEN	Severity 50-59 : XXX XXX	lable: RedHa
W OPEN	Severity 40-49 : XXX XXX	t active.
W OPEN	Severity 30-39 : XXX XXX	lable: TEST7
W OPEN	Severity 20-29 : XXX XXX	t active.
W OPEN	Severity 10-19 : XXX XXX	lable: TEST7
W OPEN	Severity 00-09 : XXX XXX	@QA member *
W OPEN		t active.
W OPEN	Acknowledged/closed . : *CHG *SAME, *CHG	QAAUTOTEST;
W OPEN		t active.
W OPEN	Acknowledged : XXX XXX	t active.
W OPEN	Closed XXX XXX	t active.
	F3=Exit F4=Prompt F5=Refresh F7=Reset	Bottom
F3=Exit F5		

## 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
*CHG	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 more function key options.

## Message Console - Systems view

The Message Console - Systems view lists the systems that are defined in <u>Work with</u> <u>Remote Locations</u> and indicates the status of each system. This shows at-a-glance whether any alerts are pending for each system.

To switch to the Consoles view, use **F10=Consoles** to display all virtual 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.

**NOTE**: You can omit systems from this display using the System Attributes window. Use **2=System Attributes** on the required system.

HAL0040R		Н	lalcyor	n Softw	are			HAL720P4
QA Message (			Consol	.e - Sy	stems Vi	ew	3/02/15	16:24:43
Type option	ns, press E	nter.		F 0				
1=Display	alerts 2=	System attr	ibutes	s b=sy	stem inf	ormatio	n	
Upt System	Status	HU	erts	Descri	ption			
LOCAL *LOCAL	Alert		31	Local	System			
<u> </u>	0k			HAL525	P3/ASH		*AUTO	
PROD_OP2	2 Alert		3	HAL520	P2/PROD			
QA_0P2	Alert		32	HAL520	P2/QA			
QA_270	Network	error		HAL270	/QA			
QA_5P3	Alert		35	HAL525	P3/QA			
QAHRT	0k			HAL525	P1/QAHRT			
ZGEN_5P:	1 Off-Lin	e		Automa	ted Test	ing on	HAL525P1	
F3=Exit F5	5=Refresh	F10=Alerts	F12=0	Cancel	F16=Use	r optio	ns F17=Show	Bottom 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.

ОК	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 <b>F17=Show All</b> 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 system. 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, subsetted 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.

HALOO QA Type 1=D:	040R options, isplay al	Messa press Enter. .erts 2=System a	Halcyor ge Conso ttributes	n Software Le - Systems View 5 5=System inform	3/02/15 nation	HAL720P4 16:24:43
Opt Sy	ystem	Status	Alerts	Description		
*L	LOCAL	Alert	31	Local System		
HS QF QF QF QF ZC	R Syste Type Displ Color Criti Inqui F3=Ex	em QA choices, press E ay <u>Y</u> <u>3</u> ical <u>2</u> iry msgs . <u>1</u> kit F4=Prompt F	System f _270 nter. 5=Refresl	Attributes Y=Yes, N=No O=Green, 1=Blue. O=None, 1=Underl O=None, 1=Underl n F12=Cancel	, F4=Prompt ine, 2=Reversed ine, 2=Reversed	
F3=E>	kit F5=F	Refresh F10=Aler	ts F12=(	Cancel F16=User o	options F17=Sho	Bottom w all

## Display

Specifies whether the selected system is shown on the Message Console - Systems View display.

Υ	This system is shown on the Message Console - Systems View display
Ν	This system is not shown on the Message Console - Systems View display unless <b>F17=Show All</b> 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.

**NOTE**: This information can also be displayed using the Display System Information (**DSPSYSINF**) command.

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 refresh 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 close and current 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 - <u>F16=User options</u> 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 **CLRMSGCON** command just deletes the messages from the Message Console. It does NOT close the corresponding Alerts.

## Message Console - 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 <u>Work with Message Sub-Consoles</u> option.

**NOTE:** <u>Work with User Authority</u>, 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 - Consoles view lists the sub-consoles that have been defined in the Work with Message Consoles display and indicates the status of each console. If no subconsoles 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 <u>HAL/CONDFTCOLORCTRL</u> for more information.

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 sub-console.

HAL0040R HS Message			Help: Consolo	Systems e - Consoles	; View	24/02/15	HAL720P4 14:03:05		
1:	De opt Displ	au al	erts	Enter.					
Opt	Conso	le	Status		Alerts	Description			
	*SYST	EM	Alert		137	Halcyon Mes	sage Conso	le	
	CLS15	MINS	0k			Closed afte	er 15mins		
	CLS30	MINS	Alert		1	Closed afte	er 30mins		
	CLS60	MINS	Alert		2	Closed afte	er 60mins 👘		
	LEFTO	PEN	0k			Left open,	Close manu	ally	
F3:	=Exit	F5=R	efresh	F10=Aler	ts View	F12=Cancel	F16=User	options	Bottom

## Parameters on the Message Console - Consoles View display

The following parameters are shown on the Message Console - Consoles View display.

## Console

Displays the name of the console as defined in <u>Work with Message Sub-Consoles</u>. \*SYSTEM indicates the local system.

## Status

Displays the current system status.

ОК	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 <u>Work with Message Sub-</u> <u>Consoles</u>.

## Using the Message Console - Consoles view

The following options are available when working with the Message Console - Console 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, subsetted on the selected console.

The following functions are available when working with the Message Console - Consoles view:

#### F3=Exit

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

## F5=Refresh

Use **F5=Refresh** to refresh 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 close and current 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 - <u>F16=User options</u> for more information.

# Work with System Defaults

## Overview

Working with System Defaults allows you to display and maintain values that control how HA-MX Monitor operates. Take option **6=Work with System Defaults** from the HA-MX Monitor main menu.

To use this display you need \*USE authority to the HAL/WRKSYSDFT function. Additionally, you need \*ALL or \*USE authority to the SYSDFT function in each of the products that you need to maintain or view the defaults.

HAL Mi Typ 2:	_9010 ANL De op =Char	DR otions, press H nge 5=Display	Halcyon HA-MX Monitor Work with System Defaults 21/09/16 Inter. Subse	HAL720P2 12:09:52 tted List
0pt 	Prd HMX HMX HMX HMX HMX HMX HMX HMX	Name ALTDLYSTATUS ALTDLYVALUES ALWDUPALERT AUDHSTMAXMINS CLSDLYSTATUS CLSDLYVALUES MMXMONPTY MMXMONUSER RULECHKINTV	Description Alert delay minutes, status alerts. Alert delay minutes, numeric value alerts. Allow duplicate alerts. Audit History age limit. Close delay minutes, status alerts. Close delay minutes, numeric value alerts. HA-MX Monitor run priority. HA-MX Monitor user profile. Rule check interval in seconds.	
F3	=Exit	<mark>F5</mark> =Refresh	<mark>F12</mark> =Cancel <mark>F17</mark> =Subset <mark>F22</mark> =Print	Bottom

**NOTE**: A full list of the Common Library System Defaults can be found in the <u>Appendix -</u> <u>Common Library System Defaults</u>

## HA-MX System Defaults

## Alert delay minutes, status alerts (HMX/ALTDLYSTATUS)

Specifies the default delay in minutes between an alertable situation occurring and an alert actually being raised. The purpose of this is to avoid raising an alert in cases where the alertable situation is of short duration. The value specified here may be over-ridden by specific settings in the rules. This system default covers rules that return a special value such as \*ACTIVE, \*INACTIVE, and so on.

*NONE	There is no delay. An alert is raised as soon as the selection criteria of the rule is met
1-1440	Specify the number of minutes of delay. When the selection criteria of a rule is met, an alert is raised after this amount of minutes provided the selection criteria continued to be met throughout the delay period. If at any time during the delay the selection criteria was found to no longer be met, the delay starts again from the next time the selection criteria is again met

## Alert delay minutes, numeric value alerts (HMX/ALTDLYVALUES)

This system default works under the same guidelines as the system default HMX/ALTDLYSTATUS but covers rules that return a numeric value.

*NONE	There is no delay. An alert is raised as soon as the selection criteria of the rule is met
1-1440	Specify the number of minutes of delay. When the selection criteria of a rule is met, an alert is raised after this amount of minutes provided the selection criteria continued to be met throughout the delay period. If at any time during the delay the selection criteria was found to no longer be met, the delay starts again from the next time the selection criteria is again met

## Allow duplicate alerts(HMX/ALWDUPALERT)

Specifies whether a duplicate alert may be raised if an alert is closed when the selection criteria that raised the alert are still met.

\*NO The default action. Duplicate alerts are not raised. Another alert is only raised if the issue that raised the original alert is cleared and then occurs again. While waiting for the situation to clear, the Work with MIMIX Status display shows an alert status of closed

# **1-1440** If an alert is closed before the issue that raised the original alert is cleared, another alert is raised, subject to any delay setting in the 'Alert delay' parameter

## Audit history age day limit(HMX/AUDHSTMAXMINS)

Specifies the maximum age, in minutes, of completed audits that can be used by HA-MX Monitor. A value of up to 1440 minutes (1 day) can be specified.

If the most recently completed audit finished within the time specified, HA-MX Monitor will use information from that audit to populate the statistics listed below, and the Audit History Status (AUDSTS) statistic will be set to \*AVAIL. If no audit has been completed within the time specified, the statistics listed below will be set to zero and the Audit History Status statistic will be set to \*NOTAVAIL.

The statistics populated are:

AUDCMP	Audit objects compared
AUDNOTCMP	Audit objects not compared
AUDRCV	Audit objects recovered
AUDNOTRCV	Audit objects not recovered
AUDDETNE	Audit objects detected not equal
AUDTOT	Audit total objects selected
ADDSTS	Audit history status

Close delay minutes, status alerts (HMX/CLSDLYSTATUS)

Specifies whether to allow automatic closing of alerts when the situation they are reporting no longer exists (i.e. the selection criteria of the rule that raised the alert is no longer met), and if so the default delay in minutes between an alertable situation no longer existing and the alert actually being closed. This system default covers rules that return a special value such as \*ACTIVE, \*INACTIVE and so on.

*OFF	Alerts are not automatically closed
AUDTOT	There is no delay and alerts are automatically closed as soon as the rule selection criteria is no longer met
1-1440	Specify the number of minutes of delay. When the rule selection criteria is no longer met, the alert is closed after this amount of minutes, provided the selection criteria continued to be no longer met throughout the delay

## Close delay minutes, numeric value alerts (HMX/CLSDLYVALUES)

This system default works under the same guidelines as the system default HMX/CLSDLYSTATUS but covers rules that return a numeric value.

*OFF	Alerts are not automatically closed
AUDTOT	There is no delay and alerts are automatically closed as soon as the rule selection criteria is no longer met
1-1440	Specify the number of minutes of delay. When the rule selection criteria is no longer met, the alert is closed after this amount of minutes, provided the selection criteria continued to be no longer met throughout the delay

**HA-MX Monitor run priority (HMX/MMXMONPTY)** 

Specifies the run priority of the HA-MX Monitor.

*DFT	The run priority specified by system default ${\tt HAL/DFTMONPTY}$ is used
1-99	Enter a specific run priority

## HA-MX Monitor user profile (HMX/MMXMONUSR)

Specifies the user profile used when running the HA-MX Monitor.

*JOBD	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

**Rule check interval in seconds (HMX/RULECHKINTV)** 

Specifies the interval, in seconds, between each check of the MIMIX rules. Enter a value in the range 30-900.

**NOTE**: The value entered for this system default is used to specify 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 the new value comes into force.

## Using the Work with System Defaults display

The following options are available when working with the System Defaults. Type the option number in the Opt column against the required message.

## Change

Use option **2=Change** to open the Change System Default display. This allows you to change the current value for the selected system default.

## Display

Use option **5=Display** to open the Display System Default display which allows you to display but not amend the current value for the selected system default.

The following functions are available when working with the System Defaults:

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 the current display and return to the previous display.

## F17=Subset

Not used in this version of HA-MX Monitor.

F22=Print

Use **F22=Print** to open the Print System Defaults display.

**NOTE**: See <u>Print System Defaults</u> for more information on the parameters available on this display.

# Work with Substitution Variables

## Overview

Substitution variables can be used in command and message strings that are defined within the HA-MX Monitor. The variable is replaced with the effective value when the command runs or when the message is sent.

Select option **7=Work with Substitution Variables** from the HA-MX Monitor menu.

HAI	_9020R			Halcu	jon HA-MX Monitor		HAL525P3
H	MX		Work	with	Substitution Variables	20/09/13	10:17:31
Po	sition to .					Subse	tted List
Ty	pe options,	press B	Enter.				
2:	=Change 4=D	elete	5=Disp	lay			
Opt	Name	Class	Type	Attr	Description		
	&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		
	&CR	SYS	*CHAR	1	Carriage Return		
	&CURUSER	SYS	*CHAR	10	Current User		
	&DATE	SYS	*DATE	8,0	System Date		
	&DFTALRTXT	SYS	*CHAR	256	Default Alert Text		
	&DOW	SYS	*DEC	1,0	Weekday number		
	&DOWCODE	SYS	*CHAR	3	Weekday code		
							MORE
F3	=Exit F5=Re	fresh	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. Use '&&' to include '&' as part of the text. i.e 'Hello && Goodbye' = Hello & Goodbye
name	Name of the substitution variable
• •	Optional semi-colon denotes the end of a substitution variable
<b>NOTE</b> : 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."

## Using Substitution Variables in Character Strings

Care must be taken when using substitution variables in character strings as the naming convention permits the use of underscores(\_) and periods(.). If a substitution variable ends in a character other than a letter or number then the extra characters are 'stripped-back' until the last character is an alphanumeric. Therefore entering a substitution variable that ends in any character other than an alphanumeric into a character string can return unexpected results. In order to prevent this, it is recommended that you use a semi-colon (;) to manually mark the end of the substitution variable within the string.

## Examples

#### Specifying an output \*STMF path of:

/Halcyon/HALPROD/&FILE &USRDTA ABCTEST.PDF

#### results in:

/Halcyon/HALPROD/PRTCMNRSC &USRDTA ABCTEST.PDF

This is because the underscore after &USRDTA is treated as a continuation of the variable, therefore resulting in the variable being named &USRDTA\_ABC (10 characters from '&'). Because this variable does not exist, it is then treated as a literal resulting in the string being incorrectly formed. To counteract this, specify:

/Halcyon/HALPROD/&FILE;\_&USRDTA;\_ABCTEST.PDF

## Parameters on the Work with Substitution Variables display

The following parameters are available on the Work with Substitution Variables display.

## Name

Displays the name of the substitution variable.

**NOTE**: The convention '&V1' to '&V99' relates to specific data within the message (for example £1 to £99). When you work with, or list substitution variables, only '&V' is displayed, which returns all message data.

## Class

Displays the class of the substitution variable. There are two different classes:

SYS	System variable. System variables are pre-defined and cannot be created, changed or deleted by the user
USR	User variable. User variables are created and maintained by the user

## Туре

Displays the type of value returned by the substitution variable. There are five different types:

*CHAR	Character variable. Returns a character string with a maximum length of 1024. Character variables can be a blank value
*DEC	Numeric variable. Returns a packed decimal value with a maximum of 15 digits of which up to 5 may be decimal digits
*DATE	Date variable. Returns a packed decimal value with 8 digits containing a date in yyyymmdd format

\***PROT** Protected character variable. Defines a protected character string with a maximum length of 128. This type is used for storing passwords. Once created, the value can be changed but the current value cannot be displayed. The value is encrypted when stored. Only the commands listed within the 'Password' parameter support this function.

\*PROT Substitution Variables can only be resolved by the specific Halcyon commands that allow their use. Use of a \*PROT Substitution Variable in any other area of Halcyon causes an unresolvable error.

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.

**\*TIME** Time variable. Returns a packed decimal value with 6 digits containing a time in hhmmss format

## Attribute (Attr)

Displays 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

Displays the description of the substitution variable.

## Using the Substitution Variables display

The following options are available when working with the 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 fields available when changing a substitution variable, please refer to <u>Creating a Substitution Variable</u>.

## 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.

The following functions are available when working with substitution variables:

## 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 <u>Creating a Substitution Variable</u> 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.

## Variable

Enter a name for the new substitution variable.

**NOTE**: 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.

#### Туре

Specify the type of value returned by the substitution variable.

*CHAR	Character variable. Returns a character string with a maximum length of 1024. Character variables can be a blank value
*DEC	Numeric variable. Returns a packed decimal value with a maximum of 15 digits of which up to 5 may be decimal digits
*DATE	Date variable. Returns a packed decimal value with 8 digits containing a date in yyyymmdd format

**\*PROT** Protected character variable. Defines a protected character string with a maximum length of 128. This type is used for storing passwords. Once created, the value can be changed but the current value cannot be displayed. The value is encrypted when stored. Only the commands listed within the 'Password' parameter support this function.

\*PROT Substitution Variables can only be resolved by the specific Halcyon commands that allow their use. Use of a \*PROT Substitution Variable in any other area of Halcyon causes an unresolvable error.

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.

**\*TIME** Time variable. Returns 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. Such 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')

## Length

**NOTE**: 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.

*CHAR	Valid lengths are 1-1024
*DEC	Valid lengths are 1-15
*DATE	Length must be 8
*PROT	Valid lengths are 1-128
*TIME	Length must be 6

## **Decimal positions**

**NOTE**: 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 one of the following:

#### A fixed value

The fixed value must match the substitution variable type.

*CHAR	Any value is acceptable	
*DEC	Type a number comprising: - A minus sign if required - Integer digits - Decimal point and decimal digits (if required) <b>Do not use thousand separators</b>	
*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	The value must be a constant. Any value is acceptable. When changing a *PROT variable, the Operand parameters are non- display. To change the value type the same value in Operand #1 and Operand #2	
*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 <u>Creating *DATE and *TIME Substitution Variables</u> 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.

## \*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, i.e. 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.

*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 trailing spaces removed followed by Operand #2 including any leading spaces *TCAT - The result is Operand #1 with trailing spaces *TCAT - The result is Operand #1 with trailing spaces removed followed by Operand #2 with leading spaces removed
*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	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) *SUBMONTHS - The result is Operand #1(date) - Operand #2 (months)
*PROT	Not used
*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 wraps. 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) *SUBMINS - The result is Operand #1(time) - Operand #2 (minutes) *SUBMINS - The result is Operand #1(time) - Operand #2 (minutes)
	Creating *DATE and *TIME Substitution Variables for more information on

NOTE: See <u>Creating \*DATE and \*TIME Substitution Variables</u> for more information creating different format substitution variables.

## Operand #2 (optional)

The Function and Operand #2 fields are used together when an expression is required. Type one of the following:

## A Fixed Value

The fixed value must match the substitution variable type.

*CHAR	With a *CHAR variable, Operand #2 is the text string that is to be concatenated to the string in Operand #1
*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	Not used when creating a variable. When changing a *PROT variable, the Operand fields are non-display. To change the value type the same value in Operand #1 and Operand #2
*TIME	With a *TIME variable, Operand #2 is a number representing the number of hours, minutes or seconds to be added to or subtracted from the time in Operand #1

## 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 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**: The 'Operand' and 'Value' parameters allow mixed case characters, i.e. un-quoted 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.

User program fields

**NOTE**: 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 entry parameters.

PARM1 Input	This is a *CHAR 10 parameter that receives the name of the substitution variable whose value is required
PARM2 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'

## 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.

Character formats are:

- \*CHR1
- \*CHR2
- \*CHR4
- \*CHR8
- \*CHR16
- \*CHR32
- \*CHR64
- \*CHR128
- \*CHR256
- \*CHR512
- \*CHR1024

Packed decimal formats are:

- \*DEC2
- \*DEC4
- \*DEC6

- \*DEC8
- \*DEC15.5

## Creating \*DATE and \*TIME Substitution Variables

There may be occasions where you need to use a different type of date and/or time format than those normally used. In these cases, you can create a unique substitution variable.

From the main Work with Substitution Variables display, select **F6=Add** to open the Add Substitution Variable display.

- 1. Enter a name for the new date or time substitution variable.
- 2. Enter a description by which this variable is identified.
- 3. Keep the Type as \*CHAR.
- 4. In Operand #1, select either &DATE or &TIME, depending on the type of substitution variable format you are creating.
- 5. In the 'Function' parameter, select either \*DATEFMT or \*TIMEFMT, again depending on the type of substitution variable format you are creating.
- In Operand #2, enter the actual format specification that you want to use to determine how the date or time is to be displayed. Example date formats are shown below.
- 7. Press Enter to create the substitution variable.

## Example Date Format substitution variables

To specify a date, you can use the following formats (using 1st February 2010 as an example):

Format	Result
d/m/yy	1/2/10
dd-mm-yyyy	01-02-2010
ddd dd mmm yyyy	Mon 01 Feb 2010
DDD dd MMM yyyy	MON 01 FEB 2010
MMMYYY	FEB10
YYMMDD	100201
dd mmmm yyyyy (dddd)	01 February 2010 (Monday)

**NOTE**: Time formats take a similar approach to those displayed above.

## 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 ( $\pounds$ ). 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.

# HA-MX Monitor Reports

## Overview

The reports facility of HA-MX Monitor allows you to print the details of log files, rules, system defaults and MIMIX status.

The Reports menu is displayed by selecting option **40=Reports Menu** from the HA-MX Monitor menu.



## Print Message Log

The Print Message Log (**PRTMSGLOG**) command prints a Message Log report which shows the messages that have been logged by Halcyon monitors. The parameters on this command allow a subset of the messages or a single specific message to be printed.

To print a specific message, type the message date in the From Date (FROMDATE) parameter (do not use a special value), type \*NONE in the To Date (TODATE) parameter, and type the message time and sequence number in the Message Log Entry (MSG) parameter. When printing a specific message, all other selection parameters are ignored and OUTPUT (\*SECLVL) is assumed.

## Parameters on the Print Message Log display

The following parameters are available on the Print Message Log 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 yyyymmdd format

## To date

Specifies the ending date of the messages 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 yyyymmdd format

## Product

Leave this parameter set to HMX.

## Message type

Specifies the message type of the messages that you want to print.

*ALL	All message types
MNT	Maintenance messages
OPR	Operational 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

## Start position

Specifies the start position of the text within the message substitution data to be compared to the text specified in the message data (**MSGDTA**) parameter.

*ALL	The message data parameter is compared to the whole of the message substitution data of the messages
1-128	Specify the start position

## Length

Specifies the length of the text within the message substitution data which should be compared to the text specified in the message data parameter.
**LEN** The length of the text in the message data parameter is the length to use

**1-40** Specify the length to use

Press Enter to generate the Message Log report with the current parameter settings or use F10=Additional parameters to specify further criteria.

#### Severity

Specify the severity of the messages that you want to include on the report.

*ALL	All messages are included
0-99	Messages with the specified severity or higher are included

#### Job name

Specifies the name of the sending job generating the messages that you want to print.

*ALL	All job names	
0-99	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 ID / Network ID / Communications ID

Specifies a unique identifier by which a message can be traced.

*ALL	All ID numbers
1-9999999999	Specify a unique ID number

#### 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

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for 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

Press Enter to generate the Message Log report.

# Print Alert Log

The Print Alert Log (**PRTALTLOG**) command prints an Alert Log report which shows the alerts logged by the HA-MX Monitor. The parameters on this command allow a subset of the alerts to be printed.

Select option **2=Print Alert Log** from the HA-MX Monitor reports menu.

Print Al	ert Log (PRTr	ALTLOG)
TYPE CHOICES, PRESS ENTER.		
Alert ID	*ALL *TODAY *AVAIL *ALL	1-999999999, *ALL Date, *AVAIL, *TODAY Date, *AVAIL, *FROMDATE *ALL, HAM, HEM, HJS, HMM *ALL, DEV, JOB, MMX, MSG Name, *ALL Name, *ALL 1-9999, *ALL OPEN, ACKNOWL, CLOSED, *ALL Name, *ALL Name, *ALL *ALL, ARCHIVE, CLOSE *BASIC, *SECLVL *YES, *NO
F3=EXIT F4=PROMPT F5=REFRESH F24=MORE KEYS	F12=CANCEL	BOTTOM F13=HOW TO USE THIS DISPLAY

## Parameters on the Print Alert Log display

The following parameters are available on the Print Alert Log 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
1-99999999	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 yyyymmdd format

#### To date

Specifies the ending date of the alerts that you want to print.

*AVAIL	The Report ends with the last available alert (latest date)
*FROMDATE	The Report ends with the last available alert for the beginning date specified in the 'From date' parameter
date	Specify the end date in yyyymmdd format

#### Product

Leave this parameter set to HMX.

#### Monitor

Set this parameter to HMX or \*ALL.

#### 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
name	Specify a rule group

Library

Specify \*ALL for this parameter.

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

#### 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	All job names	
0-99	Specify a 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 ID's
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 and contains the Date, Time, Product, Monitor, Queue/Group, Library, Rule number, status and alert text. In other words, a Summary report
*SECLVL	The *SECLVL report displays the full alert information using as many lines as needed for the full first and second level message text

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u>. 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

Press Enter to generate the Alert Log report.

# **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.

Select option **5=Print Rules** from the HA-MX Monitor reports menu.

#### Parameters on the Print Rules display

The following parameters are available on the Print Rules 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 HMX as the Product.

#### 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.

**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 parameter 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 in the monitors selected by the 'Rules' parameter are printed
group	Specify the name of the rule group to print. If a queue is specified, the queue library must be specified using the Library parameter

Library

This parameter can be left blank.

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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

Press Enter to generate the HA-MX Monitor Rules report.

# Print System Defaults

The Print System Defaults (**PRTSYSDFT**) command prints a report which shows system defaults as defined within the HA-MX Monitor. Select option **6=Print System Defaults** from the HA-MX Monitor reports menu.

#### Parameters on the Print System Defaults display

The following parameters are available on the Print System Defaults display.

#### Product

Specifies the product code of the messages that you want to print.

*ALL	All products
HAL	Halcyon common library system defaults
HEM	System Event Manager product system defaults
HMC	Message Communicator product system defaults
HMM	Message Manager product system defaults

#### Detail

Specifies whether the original shipped system defaults are also printed on the report.

*NODFT	The shipped system defaults are not printed
*SHWDFT	If the current value for the system default is different to the original shipped value, the original shipped value is also 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

Press Enter to generate the System Defaults report.

# Print MIMIX Status

The Print MIMIX Status (**PRTMMXSTS**) command prints a MIMIX Status Report which shows the current values of the MIMIX attributes supported by Halcyon HA-MX Monitor and shows the status of any associated alerts or pending alerts.

Select option **10=Print MIMIX Status** from the Reports main menu.

#### Parameters on the Print MIMIX Status display

The following parameters are available on the Print MIMIX Status display.

#### Library

Specify the MIMIX library name to include on the report.

*ALL	All MIMIX libraries are included on the report	
name	Enter a specific library name	

#### Attribute

Specify the MIMIX attribute to include on the report.

*ALL	All MIMIX attributes are included on the report
name	Enter a specific attribute name

#### Data group

Specify the MIMIX data group to include on the report.

*ALL	All MIMIX data groups are included on the report
name	Enter a specific data group name

#### Remote system

Specify the remote systems to be included on the report.

*ALL	All remote systems are included on the report
name	Enter a specific remote system name

#### Status

Specify the status of the MIMIX attribute.

*ALL	All status entries are included on the report
*ALERTS	All open, pending and closed alerts are included
*ALERTOPEN	All open alerts are included
*ALERTPEND	All pending alerts are included
*CLOSED	All manually closed alerts where the attribute value still meets the selection criteria of the rule that raised the alert are included
*CLOSEPEND	All open alerts with close pending are 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

Press Enter to generate the MIMIX Status report.

# Additional Configuration Options

# Overview

In addition to the configuration options within HA-MX Monitor, there are additional configuration options that allow you to set system parameters that are then used throughout the HA-MX Monitor.

Select option **42=Configuration Menu** from the Halcyon Software main menu, the following screen is displayed:

HALCFG QA	QA Environment Halcyon Software Configuration Menu	18/08/14	HAL720P4 14:38:38
Select	one of the following:		
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Work with Authorization Codes Work with User Authority Work with Environments Work with Remote Locations Work with Remote Location Groups Work with IP Address Mappings Work with System Defaults Work with Calendars Work with Substitution Variables Work with Action Schedules		
12.	Work with Admin Alert Criteria		
13.	Work with Exit Point Handlers		
Selection ===>	on or command		Bottom
F3=Exit	F4=Prompt F5=Refresh F9=Retrieve F12=Cancel		

# 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 <u>HAL/CODEAUTODELETE</u>.

#### Getting there

Select option **1=Work with Authorization Codes** from the Halcyon Configuration menu.

HAL0004R		Halcyon Softwa	ire			HAL720P2
MANL		Work with Authorizati	on Cod	es	8/07/19	11:14:27
Type option	is, press Ent	er.				
4=Delete	5=visplay					
Ont added	Authorizatio	n code	Tune	Expiru C	PII Status	Sustem
21/12/18	RSW170X8JIWZ	JSFC5IT03KPZD0	*TEMP	31/12/20	99 *VALID	*LCL
12/02/18	W6QRQYT9BMQ0	B6JU4M3D2FV0Z	*TEMP	31/12/20	*VALID	*LCL
_						
						Dottom
						BOLLOM
Contact	Halcuon (A	division of HelpSustem	s)			
	USA:	800-328-1000				
	EMEA:	+44 (0) 870 120 3148				
	APAC:	+61 (0) 3 9558 6366				
	Composite a					
	Support:	info balcuon@bolnsust	ystems	.com		
	Sales.	into ina regularie (psyst	ems.co	111		
F3=Exit F	5=Refresh <mark>F6</mark>	=Add <mark>F12</mark> =Cancel				

## Parameters on the Work with Authorization Codes display

The following parameters are available on the Work with Authorization Codes 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.

#### Туре

Displays the authorization code type. See <u>Temporary</u> or <u>Permanent</u> 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	
*NOMAINT	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 <u>HAL/ADMINMSGQ</u>, 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.

The following functions are available on the Work with Authorization Codes 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.

The following functions are available when working with authorization codes.

#### 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.

**NOTE**: 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 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.

HAL000	7R Halcyon Software			HAL525P3
	Work with Environm	ients	18/02/11	09:43:10
Type o	ptions, press Enter.			
2=Cha	nge 4=Delete 5=Display product informa	ation		
Opt Env	Description	Dft	IP Address	Port
_ AAS	Halcyon Software Ltd		192.168.0.20	15002
ASH	Demonstration Environment		192.168.0.20	15081
_ ASW	*AuthSwap Only*		192.168.0.20	15009
_ CPA	Halcyon Production Environment		10.200.60.11	15000
_ IBM	Ibm test		192.168.0.20	15008
_ JON	J LAKEY TEST		192.168.0.20	15004
MC	MC TEST		192.168.0.20	15006
_ MMS	Halcyon Software Ltd		192.168.0.20	15000
_ NIK	Nikki Customer Demo Environment		192.168.0.20	15007
_ 0CS	Halcyon Software Ltd		192.168.0.20	15003
_ PRO	D Halcyon Software Ltd		192.168.0.20	15005
_ QA	QA Environment		192.168.0.20	15051
_ SOS	Halcyon Software Ltd		192.168.0.20	15001
				воттом
F3=Exi	t F5=Refresh F12=Cancel			

### Parameters on the Work with Environments display

The following parameters are available on the Work with Environments 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 <u>Work with Remote</u> <u>Locations</u> 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.

The following functions are available when working with environments:

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).

To use the Import Environment (IMPENV) command:

1. Run the HA-MX Monitor 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.

*ALL	Everything is imported. This is the equivalent of running with option *SYS plus *NONSYS
*CONFIG	Imports user defined data, not run time data. For example, Rules, Phones, Action Schedules and such like. This option does NOT import the Alert Log, Message Log and such like. This is the default value. Use this for a normal import from a working environment to another environment
*NONSYS	Imports all user data including run time data. For example, Rules, Phones, Action Schedules, Alert Log, Message Log and such like. Product authorization codes are not imported. Use this setting for backup and recovery
*SYS	Imports Halcyon data only. For example, menu definitions, authority functions and such like

7. Use the 'Data to import' parameter to define which data is imported.

**NOTE**: Both environments MUST be at the same PTF Level for this to work otherwise the results are unpredictable.

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. 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.

# Work with Remote Locations

The Work with Remote Locations display shows all remote locations that have been created and provides options for their maintenance. Select option **4=Work with Remote Locations** from the Configuration menu.

HAL2100R	Halcyon Software	HAL720P4
QA Wor	∽k with Remote Locations	6/01/15 12:25:12
Type options, press Enter.		
2=Change 4=Delete 5=Displa	ay 7=Rename 8=System informatio	n 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.HAL	CY> 15081 HAL525P3/ASH	*AUTO Off-Line
DEV100 *PC 192.168.0.113	3 15000 DEV100	*AUTO Active-SVR
DEV101 *PC 192.168.0.132	2 15000 DEV101	*AUTO Active
PROD_OP2 *I5 HAL520P2.HAL	CY> 15000 HAL520P2/PROD	Active
QA_0P2 *I5 HAL520P2.HAL	CY> 15051 HAL520P2/QA	Active
QA_270 *I5 HAL270.HALCY(	DN> 15051 HAL270/QA	Off-Line
QA_5P3 *I5 192.168.0.20	15051 HAL525P3/QA	Active
QAWN2K8A *PC 192.168.0.160	0 15000 QAWN2K8A	*AUTO Failed-GUI
QAWN2K8B *PC 192.168.0.15	9 15000 QAWN2K8B	*AUTO Active-GUI
TECH105 *PC TECH105.HALC	/0> 15000 TECH105	*AUTO Idle
TESTWIN8 *PC TESTWIN8.HAL(	CY> 15000 TESTWIN8	*AUTO Active-GUI
WINDOWS2 *PC WINDOWS2003.	HA> 15000 WINDOWS2003	*AUTO Active
ZGEN_5P1 *I5 HAL525P1.HAL	CY> 45454 Automated Testing on Hf	L525P1 Off-Line
		Bottom
F3=Exit F5=Refresh F6=Add	F11=Alternate view F12=Cancel	F22=Print

A remote location represents a specific environment on a specific system with which you want to be able to communicate. <u>Manually adding a Remote Location</u> 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.

# Automatic Configuration

Automatic Configuration is controlled by system default <u>HAL/NETAUTOCFG</u>. 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 <u>Automatic addition of a Remote Location</u> 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 new system default has been added; HAL/NETAUTOCFGUPD. 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.

#### Parameters on the Work with Remote Locations display

The following parameters are available on the Work with Remote Locations display.

#### Remote location

This is a unique symbolic name that represents a remote location. It is recommended but not mandatory, to use the remote systems network name as the remote location name.

#### Туре

#### Identifies the type of system being defined.

*15	IBM i or i5 system	
*PC	PC system installed with Halcyon Ente	

#### 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 <u>Remote Port Settings</u>.

#### Description

Displays a textual description of the remote location.

#### Status

Specifies the connection status of the remote location.

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
Con-nnn	The remote system is active. The value indicates the average connection time in seconds for the last 10 successful connections
Off-Line	The remote systems network support ended normally. This status is only shown if the remote system broadcast that it was going off-line before ending network support
Failed	The remote system cannot be contacted

# 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.

#### Allow automatic update

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 <u>HAL/NETAUTOCFGUPD</u>. 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 <u>HAL/NETAUTOCFG</u> 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.

See <u>Manually adding a Remote Location</u> for more information relating to other parameters on this display.

#### 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 Applications detected on the remote location, such as Enterprise Console, Performance Analyzer GUI and Document Management System GUI are displayed.

#### 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

Option **25=Change system logo** is not currently used in this version of HA-MX Monitor.

The following functions are available on the Work with Remote Locations 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 <u>Automatic addition of a Remote Location</u> 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.

# Automatic addition of a Remote Location

**NOTE**: In order to be able to automatically add a remote location, the system default HAL/NETAUTOCFG must be set to \*YES.

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**.

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:

- \*15 systems: System Name/Environment Code of the Remote \*15.
- \*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** to manually amend the name or parameter defaults.

NOTE: See <u>Automatic Configuration with Dynamic IP Addresses</u> for more information.

## 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:

- <u>HAL/NETAUTODLTI5</u>: This specifies the number of days an \*15 remote location has to be inactive to be automatically purged/deleted. The default setting is \*OFF.
- <u>HAL/NETAUTODLTPC</u>: 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 PROD	Halcyon Software Add Remote Location	HAL525P3 8/06/10 09:04:00
Remote location Description System type Host name or IP address .	<u>*15</u> *15, *PC	
Remote port	15000 1-65535   *NONE 1-65535, *NONE, F2=Allo   5000 1-99999 mSec   60 1-90 mins   10 1-30 secs    1-60 mins   *UTF8 A-Z	cate
F2=Allocate F3=Exit F5=R	efresh F12=Cancel	

## **Remote location**

Enter a unique symbolic name of the remote location.

**NOTE**: When the remote location is an IBM i, 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	IBM i or i5 system. Use this value when defining a system installed with compatible Halcyon IBM i products
PC	PC system. Use this value when defining a system installed with Halcyon Enterprise

## IP Address

Console

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 Halcyon 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.

**NOTE**: 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 below for an explanation of data forwarding and how to configure the relevant components for your organization's specific requirements.

# Configuring Data Forwarding

Data forwarding is required when you have one or more IBM i devices that can connect to each other but not directly to the Halcyon Enterprise Console. Therefore, in order to pass information to the Console, the data must pass through one or more of the IBM i systems to the device with the connection.

## **Basic Connection**

Under typical circumstances, a direct connection between two systems; an IBM i and PCbased Enterprise Console that can talk directly to each other, would look something like this:



The previous diagram shows a simple configuration where the IBM i (i1) communicates directly with the Enterprise Console (DEV001).

The respective configurations on both the IBM i 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 IBM i device and the Enterprise Console. In such instances it is possible to route the data via another IBM i device that does have a direct connection. This is done using the 'Forwarding port' parameter within the remote location.



In this next example, IBM i device 'i1' cannot communicate directly with Enterprise Console. However it can talk to another IBM i 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			Dev Manager
Name	i2	i1	i2
IP Address	192.168.0.35	192.168.0.18	192.168.0.35
Remote Port	15005	15001	15005
Forwarding Port	*NONE	60001	N/A
Remote Location 2			Dev 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 IBM i 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 '<u>Work with IP Address Mappings</u>' for more information.

## **Device Naming Conventions**

When data is forwarded to the Enterprise Console from an intermediate device, it 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.

#### Receive wait time-out

Specifies the maximum time to wait when receiving data from a remote system after accepting a connection.

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.

#### 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 canceled.

#### 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

#### 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.

The following functions are available when adding a remote location:

#### 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.

# 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 HALRTMCMD.

## Parameters on the Run Remote Command display

The following parameters are available on the Run Remote Command 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 ends 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.

# Work with Remote Location Groups

A remote location group is a named group of \*15 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 Location Groups that have been created and provides functions and options for maintaining them. Select option **5=Work** with Remote Location Groups from the main Configuration menu display.

HAL2140R QA	Halcyon Software Work with Remote Location Groups 29/11/12	HAL525P3 11:53:20
Type options, press 2=Change 4=Delete	Enter. 5=Display	
Opt Name Descrip MS DMS Enve *QAIMP QAIMP	otion ∋	
F3=Exit F5=Refresh	F6=Add F12=Cancel	воттом

## Parameters on the Work with Remote Location Groups display

The following parameters are shown on the Work with Remote Location Groups 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 Locations 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 <u>Adding a Remote Location Group</u> 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(s) 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.

## Adding a Remote Location Group

Use **F6=Add** from the main Work with Remote Location Groups display to open the Add Remote Location Group display from where the details of a new Remote Location group can be entered.

## Parameters on the Add Remote Location Group display

The following parameters are available on the Add Remote Location group display

## Group name

The Remote Location Group name must be unique and must begin with an asterisk(\*). The second character must be A-Z. Any additional characters must be A-Z or 0-9.

#### Description

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 Locations display.

# 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.

Select option **6=Work with IP Address Mappings** from the 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 2=Change 4=Delete	Enter. 5=Display		
Opt Primary IP			
192.168.0.15			
= 192.168.0.24			
			воттом
F3=Exit F5=Refresh	F6=Add F12=Cancel		

## Parameters on the Work with IP Address Mappings display

The following parameters are available on the Work with IP Address Mappings 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 Mapping 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.

## Adding a Primary IP Address

To add a primary IP Address to which alternate IP Addresses can be mapped, use **F6=Add** to open the Add IP Address Mappings display.

You are now prompted to enter the primary IP Address. Once entered, press Enter to open the fields into which the list of alternate IP Addresses for this primary IP address can be typed. Use **<TAB>** to move between lines. Press Enter to confirm and create the new IP Address mapping.

HAL2130R	Halcyon Software		HAL525P3
	Add IP Address Mappings	13/01/11	10:32:48
Primary IP address	192.168.0.24		
Type new/changed info	ormation, press Enter.		
Alternate			
IP address			
192.168.0.47			
192.168.0.69			
192.168.0.11			
			воттом
F3=Exit F5=Refresh	F12=Cancel		

# Work with Calendars

Calendars are used within HA-MX Monitor when working with Action Schedules.

The Work with Calendars display shows the available calendars and allows you to maintain the existing entries and create new calendars. A calendar can be used to assign an individual date, date ranges and date/time ranges.

To work with calendars, select option **8=Work with Calendars** from the Configuration menu.

## **Default Calendar**

A default calendar is supplied which has weekends and UK public holidays marked as nonworking days. UK public holidays are decided several years in advance by a government committee. Their decisions can be found online at: <u>https://www.gov.uk/bank-holidays</u>

**NOTE**: The day of the week on which the calendar starts is set within the system default <u>HAL/STARTDAYOFWEEK</u>.

The \*DEFAULT Calendar can be automatically populated. System default <u>HAL/CALAUTOPOPULATE</u> 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 <u>HAL/CALDFTSTRTIME</u> and the 'End time' parameter set to that defined in system default <u>HAL/CALDFTENDTIME</u>.

## Parameters on the Work with Calendars display

The following parameters are shown on the Work with Calendars 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 <u>Calendar Views</u> 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 <u>Creating a Calendar</u>.

## Сору

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.

**NOTE**: 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 assignations. 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. 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.

The following functions are available when working with calendars:

## 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 <u>Creating a Calendar</u> 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 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.

	Halcuon Software	
MMS	Work with Calendars	12/10/09 11:03:0
Calondan	*DEEOULT Default Calendar	12/10/03 11:03:03
V=View day	2003	
July	August	September
Mo Tu We Th Fr Sa Su	Mo Tu We Th Fr Sa Su	Mo Tu We Th Fr Sa Su
<u>01 02 03</u> 04 05	01 02	<u>01 02 03 04</u> 05 06
<u>06 07 08 09 10</u> 11 12	<u>03 04 05 06 07</u> 08 09	<u>07 08 09 10 11</u> 12 13
<u>13 14 15 16 17</u> 18 19	<u>10 11 12 13 14</u> 15 16	<u>14 15 16 17 18</u> 19 20
<u>20 21 22 23 24</u> 25 26	<u>17 18 19 20 21</u> 22 23	<u>21 22 23 24 25</u> 26 27
<u>27 28 29 30 31</u>	<u>24 25 26 27 28</u> 29 30	<u>28 29 30</u>
	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
<u>01 02</u> 03 04	01	<u>01 02 03 04</u> 05 06
<u>05 06 07 08 09</u> 10 11	<u>02 03 04 05 06</u> 07 08	<u>07 08 09 10 11</u> 12 13
<u>12 13 14 15 16</u> 17 18	<u>09 10 11 12 13</u> 14 15	<u>14 15 16 17 18</u> 19 20
<u>19 20 21 22 23</u> 24 25	<u>16 17 18 19 20</u> 21 22	<u>21 22 23 24</u> 25 26 27
<u>26 27 28 29 30</u> 31	<u>23 24 25 26 27</u> 28 29	28 <u>29 30 31</u>
	<u>30</u>	
XX =On. XX =Off.		

From within the Calendar view, to view a the details for any specific day, position the cursor over the required date and type 'V'. The Display Day popup window is displayed showing the date and time range details applicable to the selected day.

HAL40 MMS Caler Year V=Vie	000R 	Halcyon Software Work with Calendars EFAULT Default Calendar 09	HAL525P3 12/10/09 11:03:05
July		August	September
Mo Tu	ı We Th Fr Sa Su	Mo Tu We Th Fr Sa Su	Mo Tu We Th Fr Sa Su
	<u>01 02 03</u> 04 05	01 02	<u>01 02 03 04</u> 05 06
<u>13</u> <u>20</u> <u>27</u> Oct Mo	Date Time range #1 Time range #2 F12=Cancel	Display Day : 04/08/09 . <u>0</u> 0:00 - 23:59	
<u>05 06</u>	<u>07 08 09</u> 10 11	<u>02 03 04 05 06</u> 07 08	<u>07 08 09 10 11</u> 12 13
<u>12 13</u>	<u>3 14 15 16</u> 17 18	<u>09 10 11 12 13</u> 14 15	<u>14 15 16 17 18</u> 19 20
<u>19 20</u>	<u>) 21 22 23</u> 24 25	<u>16 17 18 19 20</u> 21 22	<u>21 22 23 24</u> 25 26 27
26 27	28 29 30 31	<u>23 24 25 26 27</u> 28 29	28 29 30 31
XX =On	. XX =Off.	<u>50</u>	
F3=E×i	t F5=Refresh F12=C	ancel F13=List view F22=P	rint

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.

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 <u>F6=Bulk Add</u> 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:** CALDFTSTRTIME is the default start time. CALDFTENDTIME is the default end time.

If consecutive days are selected, they are set in non-contiguous mode (i.e. 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.

HAL4	1000R	Halcyon Software Work with Calendars	HAL525P 30/01/09 16:28:0	
Cale	ndar : *	DEFAULT <u>Default Calendar</u>		
Year	1 <u>2</u>	<u>009</u>		
Y=Se	t day N=Clear day	V=View day SE=Set contiguous	days	
Janu	lary	February	March	
Mo T	u We Th Fr Sa Su	Mo Tu We Th Fr Sa Su	Mo Tu We Th Fr Sa Su	
	01 <u>02</u> 03 04	01	01	
05 12		Add Dau		
19	Date	. : 10/04/09		
26	Time range #1			
	Time range #2			
0	E12=Cancel			
прт				
Мо				
Мо				
нрг Мо <u>06 0</u>	17 08 09 1Y 11 12	04 <u>05 06 07 08</u> 09 10	<u>08 09 10 11 12</u> 13 14	
Mo 06 0 13 <u>1</u>	07 08 09 1Y 11 12 4 15 16 17 18 19	04 <u>05 06 07 08</u> 09 10 <u>11 12 13 14 15</u> 16 17	<u>08 09 10 11 12</u> 13 14 <u>15 16 17 18 19</u> 20 21	
Mo 06 0 13 <u>1</u> 20 2	12 03.60 1 17 08 09 1Y 11 12 14 15 16 17 18 19 11 22 23 24 25 26	04 <u>05 06 07 08</u> 09 10 <u>11 12 13 14 15</u> 16 17 <u>16 19 20 21 22</u> 23 24	08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	
Mo <u>06 0</u> <u>13 1</u> <u>20 2</u> <u>27 2</u>	12 03.60 1 17 08 09 1Y 11 12 14 15 16 17 18 19 11 22 23 24 25 26 18 29 30	04 <u>05 06 07 08</u> 09 10 <u>11 12 13 14 15</u> 16 17 <u>18 19 20 21 22</u> 23 24 25 <u>26 27 28 29</u> 30 31	08   09   10   11   12   13   14     15   16   17   18   19   20   21     22   23   24   25   26   27   28     29   30   20   21   23   24   25   26   27   28	

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 <u>HAL/CALDFTSTRTIME</u> and <u>HAL/CALDFTENDTIME</u> system defaults.

The following functions are available when creating a new calendar:

F3=Exit

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

F4=Prompt

Use **F4=Prompt** to prompt any set day or set contiguous days commands that have been typed.

F5=Refresh

Use **F5=Refresh** to reset the display to the details that were last saved. 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.

HHL40	Work with Calendars	30/01/09	16:29:43
Yea	Bulk Add		
Y=S Jan Mo	From		
05 12 19 26	Mo Tu We Th Fr Sa Su Days of the week	Y=Select 1-4=nth of the month L=Last of the month	
Apr Mo	Days of the month	01-28=Day of month FD,LD=First/last day FW,LW=First/last week	day
<u>96</u> 13	Time range #1 <u>09:00</u> - <u>17:00</u>		
<u>20</u> 27	Time range #2		
<u> </u>	F12=Cancel		
=3=E ļ			

## 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.

Υ	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 of 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 <u>Setting calendar time ranges that</u> <u>overlap days</u> 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

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.

**NOTE**: 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 Calendar Year Type dates, p	: TE : <u>20</u> oress Enter.	Halcyon Work with STCAL <u>TEST</u> 11	Software Calendars ING CALENDAR		5/01/11	HAL525P3 13:41:15
Day   Date   F     Sat   08/01   1     Sun   09/01   0	From - To 17:00 23:59 00:00 03:00 	From - To	Day Date	From - To	From	- To
F3=Exit F5=R	Refresh F6=B	ulk add F12=C	ancel F13=C	alendar vie	2W	MORE

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**

The Retrieve Calendar (**RTVCAL**) command can be used in Control Language programs to verify details against a Halcyon Calendar. To run the command, type **RTVCAL** on the command line and press **F4**.

## **Command Parameters**

The following command parameters are available for the Retrieve Calendar Command.

## Date

Specifies the date to be verified.

*CURRENT	The current system date is used	
Date	Specify the date in CCYYMMDD format (i.e. 20120831)	

## 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 (i.e. 1659)

## Calendar

Specifies the name of the Calendar to be verified.

*DEFAUL	The *DEFAULT calendar is used
Name	Specify the name of a valid calendar that exists within the Halcyon 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.

# 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.

To work with action schedules, select option **10=Work with Action Schedules** from the Configuration menu.

The Work with Action Schedules display shows the available action schedules and provides options and functions for creation and maintenance.

## 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.

To do this:

- 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.

HAL4020R	Halcyon Software Work with Action Schedules	HAL525P3 7/05/10 14:56:32
Type options, press Ente 2=Change 3=Copy 4=Del	er. lete 5=Display 6=Print 8=Where us	ed
Opt Name Descriptic _ AS1 Default Ac	on ction Schedule	
F3=Exit F5=Refresh F6=	=Add F12=Cancel F22=Print	ВОТТОМ

Parameters on the Work with Action Schedules display

The following parameters are shown on the Work with Action Schedules 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 <u>Creating an Action Schedule</u>.

## Сору

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 <u>Copying specific actions from within an action</u> <u>schedule</u> 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.

The following functions are available when working with action 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 open the Create Action Schedule display from where a new action schedule can be created. See <u>Creating an Action Schedule</u> 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.

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 an new action schedule.

HAL4020R	Halcyon So Add Action Sche	ftware dule Entry	30/01/09 Pa	HAL525P3 16:50:26 ge 1 of 2
Entry description	<u>*AUTO</u>			2
Entry type		D=Concurrent date r √=Concurrent weekda T=Non-concurrent ti C=Calendar A=All	ange y range me range	
Start: Time End:		time		
Time		time		
Effective dates	<u>*NOMIN</u> - <u>*NOI</u>	<u>MAX</u> date, *NOM	IN, *NOMAX	
Effective days	Y Y Y Y Y	<u>Y</u> Y,N		
F3=Exit F4=Prompt F5=Re	fresh F12=Cance	1		More

Parameters on the Add Action Schedule Entry

The following parameters are available on the Add Action Schedule Entry 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
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, 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=AII	Specifies that the range lasts all day, every day. With All mode specified, the time 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.

HAL4020R	Halcyon Software Add Action Schedule Entry		30/01/09	HAL525P3 16:52:12
			Pa	ge 1 of 2
Entry description	<u>*AUTO</u>			
Entry type		D=Concurrent date r W=Concurrent weekda T=Non-concurrent ti C=Calendar A=A11	range ny range me range	
Start:		H-HTT		
Date		date		
Time	00:00	time		
End:				
Date		date		
Time	<u>23:59</u>	time		
	<b>6 1 5 1 0 0</b>			More
F3=Exit F4=Prompt F5=Re	fresh F12=Canc	el		
Start Date is required.				

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.

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. (i.e. just typing 'T' is insufficient). If the end day is an earlier weekday than the start day, it applies to the following week.

HAL4020R	Halcyon S Add Action Sch	oftware edule Entry	30/01/09	HAL525P3 16:54:21
Entry description	<u>*AUTO</u>		Pa	nge 1 of 2
Entry type		D=Concurrent date r W=Concurrent weekda T=Non-concurrent ti C=Calendar 0=011	ange ny range me range	
Start: Day	<u>Mon</u> 00:00 Fri 23:59	day of week time day of week time		
F3=Exit F4=Prompt F5=Re	fresh F12=Canc	el		More

## Non-concurrent Time Range parameters

**NOTE**: These parameters are only displayed if '**T**' is selected as the entry type.

HAL4020R	Halcyon S Add Action Sch	oftware edule Entry	HAL525P3 30/01/09 16:54:59 Page 1 of 2
Entry description	<u>*AUTO</u>		5
Entry type		D=Concurrent date r W=Concurrent weekda T=Non-concurrent ti C=Calendar A=All	ange ay range me range
Start:			
Time	<u>09:00</u>	time	
Ena: Time	<u>17:00</u>	time	
Effective dates	<u>*NOMIN</u> - <u>*N</u>	<u>OMAX</u> date, *NOM	IIN, *NOMAX
Effective days	Mo Tu We Th Fr <u>Y Y Y Y</u> Y	Sa Su YYY,N	
F3=Exit F4=Prompt F5=Re	fresh F12=Canc	el	More

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.

#### Calendar parameters

**NOTE**: These parameters are only displayed if 'C' is selected as the entry type.

HAL4020R	Halcyon S Add Action Sch	Goftware Medule Entry	30/01/09 P>	HAL525P3 16:56:01
Entry description	<u>*AUTO</u>		Fa	ge 1 01 2
Entry type		D=Concurrent date r W=Concurrent weekda T=Non-concurrent ti C=Calendar A=All	range ay range ime range	
Calendar		Name, F4=Prompt		
Calendar mode		N=Normal I=Inverse		
E2-Evit E4-Decent EE-Pa	food Elgona			More
F3=EXIT F4=Prompt F5=Ket Calendar Name is required.	rresn FlZ=Cand	e (		

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.

#### Condition parameters

**NOTE**: These parameters are only displayed if 'O' is selected as the entry type.

HAL4020R OCS Entry description	Halcyon Add Action Sc . <u>*</u> AUTO	Software hedule Entry	HAL525P3 6/05/10 11:58:36 Page 1 of 2
Entry type	. <u>0</u>	D=Concurrent date ra W=Concurrent weekday T=Non-concurrent tim C=Calendar A=All 0=On condition	inge   range  e range
Conditions	And/Or Seq . IF <u>*PREV</u>	Status <u>*PASS</u> *PASS, *FAI	L, *ANY
F3=Exit F5=Refresh F12			More

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 actions must go to Complete status
*FAIL	The specified action(s) must go to Error status
*ANY	The specified action(s) 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

- 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.

#### For 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 '0' 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:
  - COMPSame as IF \*ALERT \*ANY in an action schedule.
  - COMPNOERRSame 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

HAL\_MNTACT HAL525P3 MMS Add Action Schedule Action 7/05/10 15:01:47 Page 2 of 2 Action type Select Action Type Position to . . . . 1=Select Opt Item Description Close Alert CLOSE COMMAND Run Command CONSOLE Console Alert CPYTOSTMF Copy Spooled File to STMF DLTSPLF Delete Spooled File Disconnect Job DSPOBJD Dump Object Info MORE... F12=Cancel

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=Prompt** to select from a list of applicable actions.

**NOTE**: See <u>Rule Actions</u> 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.

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 (where applicable)

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.

To copy a specific action or actions from an existing schedule, select **3=Copy** against the required action(s) and press **Enter** to open the Confirm Copy of Action Schedule Entries display.

To action schedule

The default setting is to copy actions into the same schedule. To specify another action schedule, overtype \*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.

### Action Schedule Entry Copying Rules

Please observe the rules below:

- 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.

# Work with Action Templates

Not used in this version of HA-MX Monitor.

# 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 <u>HAL/ADMINMSGQ</u>. Select option **12=Work with Admin Alert Criteria** from the main configuration menu display.

The default administrator message queue is 'QSYS/QSYSOPR'.

HAI	_0090R MS		Halcyon Software Work with Administrator Alert Criteria 11/10/12	HAL525P3 14:49:27
Ty	pe option	ns, press	Enter.	
2:	=Change	4=Delete	5=Display	
Opt	Msgid	File	Message text	
	HAL0016	*ALL	Product authorization code deleted.	
	HAL0124	*ALL	Warning! Halcyon temporary code for environment	&1 has ex
	HAL0125	*ALL	Warning! Halcyon temporary code for environment	&1 expire
	HAL0126	*ALL	Warning! Halcyon maintenance cover for environme	nt &1 has
	HAL0127	*ALL	Warning! Halcyon maintenance cover for environme	nt &1 exp
_	HAL0392	*ALL	System &1 contacted at IP address &2 on port &3.	
	HAL0585	*ALL	Warning - Slow network response by remote locati	on &1.
_	HAL0807	*ALL	Warning! Calendar &1 data has expired.	
_	HAL0808	*ALL	Warning! Calendar &1 data expires on &2.	
_	HAL0924	*ALL	Expired temporary product authorization code was	automati
	HEM0248	*ALL	Performance Monitor detected a suspected system	time chan
	HMC0114	*ALL	Communications resource(s) not available for Hal	cyon Mess
	HMC0191	*ALL	Service provider message: &2	
	HMC0300	*ALL	Mail Server Framework is not active.	
	HMC0301	*ALL	Mail Server Framework is active.	
				MORE
F3:	=Exit F	5=Refresh	F6=Add F12=Cancel F17=Set admin message queue	

Parameters on the Work with Administrator Alert Criteria display

The following parameters are shown on the Work with Administrator Alert 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.

### Using the Work with Admin 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 <u>Add Administrator Alert Criteria</u> 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).

### Add Administrator Alert Criteria

Press **F6=Add** to Add a new administrator alert criteria to those already defined. The following parameters are available for selection 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.

*ALL	All message ID's 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, use this parameter to 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, use this parameter to 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 message file library 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.

# Default Admin Alert Criteria Messages

The following Admin Alert Criteria messages are pre-defined in the product

HAL0016 Product authorization code deleted

HAL0585 Warning - Slow network response by remote location &1

HAL0807 Warning - Calendar &1 data has expired

HAL0808 Warning - Calendar &1 data expires on &2

**HAL0924** 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 has expired

**HAL1227** Warning! Halcyon maintenance cover for &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 PRF levels are different

**HEM0248** Performance Monitor detected a suspected system time change and is restarting

HEM0846 Error(s) in SQL execution. Rule held.

**HMC0114** Communications resource(s) 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

HMC0354 WARNING! One or more required IBM PTFs is missing

HMC2098 Notification message failed due to error HMC0082 #

HMM0060 Monitoring suspended for &2/&1

HMM0544 Log on attempt by user rejected

HMM0548 Export failed. Level check on file &1. Remote environment is not compatible

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.

# Work with Exit Point Handlers

# Halcyon Primary and Secondary Handlers

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 dispenses with the one program limit that many exit points have.

**NOTE:** Halcyon Exit Points are controlled via system default <u>HAL/EXITPNTMGMT</u>.

The Work with Exit Point Handlers display lists the registered exit points that support Halcyon 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.

HAL	_0200R	Hal	lcyon Softwa	are				HAL	720P4
QA	A	Work with	Exit Point	Har	ndlers		18/08/14	14:	42:53
Тур	pe options, press Ente	er.							
1=	Add primary handler	4=Remove p	orimary hand	dler	∵ 5=Disp	lay			
			Primary		Secon	idary	handlers		XP
Opt	Exit point	Format	handlers	+	Halcyon	I	User	+	Aud
	QIBM_QDB_OPEN	DB0P0100				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		HMM	HXP			
	QIBM_QTMF_SERVER_REQ	VLRQ0100	HAL_QTMFSR		НММ	HXP	HAL_QTMFSR		
	QIBM_QTMF_SVR_LOGON	TCPL0100	HAL_QTMFSL			HXP	HAL_QTMFSL		
	QIBM_QTMX_SERVER_REQ	VLRQ0100	HAL_QTMXSR		HMM	HXP			
	QIBM_QTMX_SVR_LOGON	TCPL0100	HAL_QTMFSL			HXP	HAL_QTMFSL		
	QIBM_QTOD_SERVER_REQ	VLRQ0100	HAL_QTODSR		НММ	HXP			
	QIBM_QZDA_INIT	ZDAI0100	HAL_QZINIT			HXP	HAL_QZINIT		
	QIBM_QZDA_NDB1	ZDAD0100	HAL_QZNDB1			HXP	HAL_QZNDB1		
								Mor	e
F3=	Exit F5=Refresh F1	L=Alt view	F12=Cancel	l F	23=More	optio	ons F24=Mo	re	keys

Parameters on the Work with Exit Point Handlers Display

The following parameters are shown on the Work with Exit Point Handlers display.

#### Exit point

This displays the name of the exit point. The exit points listed on this display are from a predefined 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 **WRKREGINF** command.

#### Primary handlers

This displays the name of an exit program that is registered to the associated exit point.

If the Halcyon primary handler for the current environment is registered to this exit point, the Halcyon 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 Halcyon Primary Handler is registered to this exit point
Blue	Secondary handlers and exit point auditing is not enabled. If the Halcyon 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 Halcyon Primary Handler is not registered to this exit point. If the Halcyon Primary Handler program appears to be shown in red, it is actually the handler from a different Halcyon environment. In these instances, use <b>5=Display</b> 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 - Halcyon

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			
НХР	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**: Halcyon 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 Halcyon 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.

#### 1=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 Halcyon Primary Handlers for the selected exit points, or press F12 to cancel.

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 Halcyon primary handler. Press **F2** when prompted to allow this amendment.

#### 4=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 Halcyon Primary Handlers from the selected exit points, or press **F12**to cancel.

#### 5=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.

#### 6=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.

#### 7=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.

The following functions are available when using the Work with Exit Point Handlers display.

#### F3=Exit

Use **F3=Exit** to exit this display and return to the main menu.

#### F5=Refresh

Use **F5=Refresh** to update this display with the most 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 screen.

#### 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).

#### • 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 the Halcyon Message Manager product 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 the Halcyon Authority Swapper product 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.

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 Halcyon 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 do not have exit point auditing enabled

**N** No exit point 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

**NOTE**: 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 additional options at the top of the screen that are currently out of view.

# Work with User Lists

Where supported throughout Halcyon HA-MX Monitor, user lists provide an alternative to working with individual user profiles.

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.

**NOTE**: 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.



### Parameters on the Work with User Lists display

The following parameters are shown on the Work with User Lists display.

#### Name

Displays the name of the user list.

#### Description

Displays the textual description of the user list.

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 <u>Adding a User List</u> 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 exiting user list.

#### Print

Use option **6=Print** to print a report of the selected user list(s). For a parameter driven report use **F22=Print**.

The following functions are available when using the Work with User Lists 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 <u>Adding a User List</u> 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.

# Adding a User List

From the Work with User Lists display use **F6=Add** to open the Add User List display. This display allows you to add a new user list to those already defined.

HAL4700R	2		Halcyon Software		HAL720P4
QA			Add User List	23/03/15	14:35:02
User lis	st	. *TEST	<u>New User List</u>		
Type new	/changed ir	formation, p	press Enter.		
User	Descrip	otion			
					Bottom
F3=Exit	F4=Prompt	F5=Refresh	F12=Cancel		

The following parameters are available on the Add User Lists display.

#### User list

Enter the name of the new user list. This must be prefixed with an '\*'. Tab to the next field and enter a description for this user list. Press **Enter** to display blank fields into which you can enter the details of the user profiles that comprise this user list.

**NOTE**: If you do not add an '\*' as a prefix the system automatically makes the adjustment.

#### User

Type the name of the user profile to be included in this user list. 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.

# 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 <u>Message Console</u>, in addition to the Alerts and Systems views.

The Work with Message Sub-Consoles display, accessed by taking option **15=Work with Message Sub-Consoles** from the Configuration menu lists the Message sub-consoles that have been defined and provides functions and options for maintaining them.

HAL0140R		Halcyon Software		QAWN2K8B
MANL		Work with Message Sub-Consoles	18/11/15	15:08:10
Tupe options	, press Ente	ır.		
2=Change 4	=Delete 5=D	isplay 8=Where used 10=Authority		
20=Change s	sub-console a	octions		
Opt System	Name	Description		
LOCAL *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			
				Bottom
F3=EX11 F5=	Retresh F6=	Hdd Fl2=Cancel		

Parameters on the Work with Message Sub-Consoles Display

The following parameters are shown on the Work with Message Sub-Consoles display.

Name

Displays the name of the Message sub-console.

Description

Displays the textual description of the Message sub-console,

The following options are available when using the Work with Message 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 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 <u>Adding a Message Sub-Console</u> 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.

#### 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 <u>Changing Console Actions</u> for more information regarding this feature.

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' (below) 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 Add Message Console	HAL720P4 13/02/15 16:48:57
Name	<u>URGENT</u> <u>Must with dealth with insid</u>	e 10 minutes
F3=Exit F4=Prompt	F5=Refresh F12=Cancel F16=List s	ubstitution variables

### Parameters on the Add Message Sub-Console Display

The following parameters are shown on the Add Message Sub-Console display.

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.

# 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.

**NOTE**: Actions that are added using this option are performed against every alert that is added to the selected sub-console.



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 shown on the Change Console Actions 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.

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 <u>Adding a</u> <u>Local Console Action</u> for further information relating to these parameters.

#### Сору

Use option **3=Copy** to copy the selected action(s) 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 action(s). 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.

The following functions are available when using the Change Console Actions 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 <u>Adding a Local Console Action</u> 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 hold 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.

**NOTE**: The same parameters are used on this display whenever you use option **2=Change** from the Change Console Actions display.



### Parameters on the Add Local Console Action Display

The following parameters are available on the Add Local Console Action 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 <u>Adding Actions to Rules</u> 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.

The following functions are available on the Add Local Console 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**, where applicable, to open a list of valid alternatives from which a selection can be made.

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 the <u>Message</u> <u>Console - Alerts view</u> display.

When invoked within the relevant menu option general options are shown in blue, and userspecific options shown are shown in green.

Select option **16=Work with System Level User Defined Options** from the Configuration menu.



#### Notes

- 1. General options are available to all users.
- 2. To maintain general options, run the command: WRKUSROPT USER(\*GENERAL).
- 3. You must have authority to the HAL/CONSOPTS function.
- 4. User-specific options are specific to the users who create them.

Parameters on the Work with System Level User Defined Options display

The following parameters are available on the Work with System Level User Defined Options display.

#### Туре

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 <u>Adding a</u> <u>System Level User Defined Option</u> for more information

#### Сору

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.

The following functions are available on the Work with System Level User Defined Options 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 <u>Adding a System Level User Defined Option</u> 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



### Parameters on the Add User Defined Option display

The following parameters are available when adding a new user defined option.

#### 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.

#### 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 overtype 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.

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.

# Additional Utilities

# Overview

The Utilities menu options, available from the Halcyon main menu allow you to view and interact with various aspects of the software.

Take option=41 Utilities Menu from the Halcyon main menu.



# **Display Network Log**

The Network Log display shows the network data that has been sent from and received by this system. Select **1=Display Network Log** from the Utilities menu.

HAL2200R MMS Position to date Position to time	Halcyon Software Display Network Log 	HAL525P3 12/10/09 10:23:20
Type options, press H 5=Display 6=Print Dta Rov Log Opt Dir Mode Date	Enter. 7=Messages Log Local Remote Time Prod Location Env Prod	Status Local UID
_ SND 12/10/09 :	10:22:48 HAL AB-3100D HEC	Sent-Ok 2
F3=Exit F5=Refresh	F12=Cancel F17=Subset F18=Bottom	BOTTOM F22=Print

Use one of the following options to move through the network log records:

- 1. Use the **<Page>** or **<Roll>** keys.
- 2. Position the display by keying the date and/or time required and press Enter.
- 3. 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 the Display Network Log 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
В	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 <u>Work with Remote Locations</u>. 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 <u>HAL/NETAUTOCFG</u> 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 canceled 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

Local UID

Specifies the local UID. The UID is a 9 digit number that uniquely identifies this data on the local system.

# Using the Network Log

The following options are available when working with the Network 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 a network log report for the selected local UID.

#### Display Messages

Use option **7=Display Messages** to open the Display Message Log display subsetted to show only the message related to the selected network packet.

The following functions are available when working with the Network Log:

#### 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 report.

# **Display Action Log**

The Display Action Log shows the actions that have been invoked as a result of alerts being raised. Select option **2=Display Action Log** from the Utilities menu.

Use one of the following options to move through the Action Log records:

- 1. Use the **<Page>** or **<Roll>** keys
- 2. Position the display by keying the date and/or time required and press Enter.
- 3. 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 the Display Action Log 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 <u>Work with Remote Locations</u>) 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
- Run command
- Console alert
- Hold rule
- Reply to inquiry messages
- 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 <u>Work with Remote Locations</u>) 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 (applies only 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 display 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 display which shows the communication data related to the selected action.

**NOTE**: This option only applies to SNDTXT actions performed on the local system.

The following functions are available when working with the Action Log:

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, option **3=Work with Journal** from the utilities menu, 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 JRNRCVSIZ 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 <u>HAL/JRNRCVSIZE</u> has been set to a low value.

HAL	0060R			Hal	cyon Softw	are		HAL525P:
				Work	with Jour	nal	27/	02/09 09:30:0
Ha No Typ 4=	lcyon of jo e opti Delete	Journale Durnale ions, p = 5=Di	al: HALI ed objects: press Enter isplay Attr	NEW/HALJR 00004 ibutes	N		0	<b>c</b> : (1/5)
Upt	Recei	lver	Httached Da	ate	Detach	ed Date	Saved	Size(Kb)
	HALRC	/0016	2009-02-10	10:06:01	2009-02	-12 14:23:	26 Y	107168
	Start	Seq:		4290889	End Seq:		4724083	
	HALRC	/0017	2009-02-12	14:23:26	2009-02	-14 05:11:	02 Y	109216
	Start	Seq:		4724084	End Seq:		5187439	
	HALRC	/0018	2009-02-14	05:11:02	2009-02	-15 01:51:	43 Y	103072
	Start	Seq:		5187440	End Seq:		5672264	
	HALRC	/0019	2009-02-15	01:51:43	2009-02	-15 22:31:	49 Y	109216
	Start	Seq:		5672265	End Seq:		6157297	
	HALRC	/0020	2009-02-15	22:31:49	2009-02	-16 21:19:	05 Y	103072
	Start	Seq:		6157298	End Seq:		6638866	
	HALRC	/0021	2009-02-16	21:19:05	2009-02	-17 20:28:	44 Y	109216
	Start	Seq:		6638867	End Seq:		7125735	
								More
	Exit	F10=Fc	orce CHGJRN	F12=Can	cel F15=A	ttributes	F20=Start	F23=End

### Parameters on the Work with Journal display

The following parameters are displayed on the Work with Journal display.

#### Journal Name

Displays the name of the Halcyon journal and the common library for this environment.

#### No of Journaled Objects

Displays the current number of objects 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.

#### Create

Use option **1=Create** to create a new journal receiver.

NOTE: See <u>Creating Journal Receivers</u> 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.

#### 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.

The following functions are available when working with the journal display:

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=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.

## Working with Journal Receivers

Selecting option **5=Display attributes** from the Work with Journal display opens the Work with Journal Receivers (WRKJRNRCV) display which 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 (JRNRCV) 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 fields that are blank with the option number, journal receiver name and library name. Press Enter.

#### Parameters on the Work with Journal Receivers display

The following parameters are available from the Work with Journal Receivers 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.

## **Creating Journal Receivers**

Use option **1=Create on the Work with Journal Receiver** display to open the Create Journal Receiver display. 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.

Create Journ	al Receiver <u>(CR</u>	TJRNRCV)	
Type choices, press Enter.			
Journal receiver	HALRCV0002 HALNEW *LIBASP 1500000 *BLANK	Name Name, *CURLIB 1-32, *LIBASP 1-1000000000,	*NONE
			Bottom
F3=Exit F4=Prompt F5=Refresh F13=How to use this display	F10=Additional F24=More keys	parameters	F12=Cancel
	Create Journ Type choices, press Enter. Journal receiver	Create Journal Receiver (CR   Type choices, press Enter.   Journal receiver HALRCV0002   Library HALNEW   ASP number *LIBASP   Journal receiver threshold 1500000   Text 'description' *BLANK   F3=Exit F4=Prompt F5=Refresh F10=Additional   F13=How to use this display F24=More keys	Create Journal Receiver (CRTJRNRCV)   Type choices, press Enter.   Journal receiver

#### Parameters on the Create Journal Receiver display

The following parameters are available on the Create Journal Receiver 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 32 to specify the identifier of the ASP from which to have the storage space of the journal receiver allocated. Valid values depend on how ASP's 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 (**CRTJRN**) 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 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 1000 KB specifies 1,024,000 bytes of storage space. A value less than 100,000. 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 fields.

#### 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 (CRTAUT) parameter on the Create Library ( <b>CRTLIB</b> ) command for the library containing the object to be created. If the value specified for the CRTAUT 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

The following functions are available when working with journal display:

**NOTE**: 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** 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.

F10=Additional parameters

Use F10=Additonal parameters to display further options on this screen.

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.

# Starting and Ending 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 of Halcyon menu.

**IMPORTANT:** The collection of subsystem availability data can only be run in the default environment.

**NOTE:** See <u>Generate Subsystem Availability Report</u> for more information.

# Add/Remove Halcyon Autostart Job Entry

Option **12=Add/Remove Halcyon Autostart Job Entry** on the Utilities menu allow 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 Halcyon after an IPL.

If you wish to remove this option at a later date type \*RMV when prompted and press Enter to delete the autostart entry.

# **Display Halcyon Statistics**

Use option **20=Display Halcyon Statistics** to open the Display Halcyon Statistics display. The default display shows the statistical breakdown of events performance by Halcyon products installed on this IBM i. Results can also be displayed in graphical format if required.

HAL1660R	Dis	Halcy splay Ha	on Soft lcyon S	ware tatist	ics	2	27/05/10	HAL 13:	525P3 59:53
Monitor : Date : Detail :	<u>*ALL</u> 26/04/10 *WEEKS	All ev	ents						
Local Event	26/04 03	/05 10/0	5 17/05	24/05	31/05	07/06	14/06 2	1/06	28/06
Alerts raised			- 19	51					
Alerts acknowledged									
Alerts closed			- 18	52					
Phone messages sent									
Pager messages sent									
Email messages sent									
Messages replied to									
SMS commands ok									
SMS commands failed									
ACTSCH action			- 15	35					
ARCHIVE action									
CLOSE action									
COMMAND action									
CONSOLE action			- 17	51					
F22=Print F24=More	keys							MOR	E

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 action
- SNDMSG actions
- SNDTXT actions

#### Parameters on the Display Halcyon Statistics display

The following parameters are available on the Display Halcyon Statistics 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 popup 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 overtype 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 Halcyon 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.

The following functions are available when displaying Halcyon Statistics:

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.

#### 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 righthand 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 lefthand 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 pop-up 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 popup 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 (PRTHALSTAT) 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.

#### 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 Halcyon software

*NOMON	Report contains events handled by Halcyon software but not generated though 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
НМССОМ	Report contains events generated by the Primary Communications Monitor
HMMMSG	Report contains events generated by the Message Manager Monitor
НММТСР	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** (only displayed if PDF Formatted File Required is \*YES)

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 system default <u>HAL/DFTDIR</u> . The file name is in the format of reportname_ yyyy-mm-dd.pdf where 'reportname' is the name of the report and 'yyyy-mm- dd is the date the report is created
path	Specify the full path of the PDF file to create

#### **PDF file option** (only displayed if PDF Formatted File Required is \*YES)

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

Option **30=Dump Product Data** on the Utilities menu is used to save product data to a save file so it can then be sent to Halcyon Technical Support who can use the data to carry out an in depth investigation to assist in any problem resolution.

Dump Pr	roduct Data ([	DUMP)
Type choices, press Enter.		
Product	<u>*YES</u> HALCYON QGPL *ALL	HAM, HDM, HEM, HFM, HJS *YES, *NO Name - Name *ALL, *CONFIG, *NONSYS, *SYS
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display

## Parameters on the Dump Product Data Display

The following parameters are available on the Dump Product Data display.

#### Product

Specify the Halcyon product code for which data is to be saved.

*NONE	No product information is saved
HAM	Halcyon Audit Journal Manager
HDM	Halcyon Disk Space Manager
HEM	Halcyon System Event Manager
HJS	Halcyon Advanced Job Scheduler
HMC	Halcyon Message Communicator
НММ	Halcyon Message Manager
HMQ	Halcyon MQ Manager
HMX	Halcyon HA-MX Monitor

HRP	Halcyon Record & Playback
HRT	Halcyon Restricted Tasks Manager
НХР	Halcyon Exit Point Manager

#### **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.

Press Enter to generate the save file data.

## Sending the saved Data to Halcyon

After creating the save file, you can email the data to Halcyon Technical Support 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 qgpl/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: <a href="mailto:support.halcyon@fortra.com">support.halcyon@fortra.com</a>.

The following functions are available when working with the Dump Product Data display.

#### 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 reset the display to the details that were last saved.

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.

**NOTE**: This command requires Halcyon Message Communicator to be installed on the specified location.

Select option **31=Send Text Message** from the Utilities menu.

HAL1365R	Halcyon Softwa Send Text Messa	are age	21/02/11	HAL525P3 11:47:53
Subject, if email	<u>*AUTO</u>			
Message text	_			
From location	<u>*LOCAL</u>	Name, F4=Prompt Name, F4=Prompt		
Message priority Alarm tones, if phone	<u>*LOW</u> <u>*TONE1</u>	*HIGH, *NORMAL, *NONE, *TONE1-4	*LOW, F4=	Prompt
F3=Exit F4=Prompt F10=Se	nd message F12=Ca	ncel		

Parameters on the Send Text Message display

The following parameters are available on the Send Text Message 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

#### 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, call rota 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 Communications Script; TC35SND supplied with Halcyon' software.

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
*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.

The following functions are used when sending a text message:

#### 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.

#### F10=Send message

Use **F10=Send message** to send the text message.

#### F12=Cancel

Use **F12=Cancel** to exit the current 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:



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. This is the default value
*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.

# Additional Reports

# Overview

In addition to the reports facility of HA-MX Monitor there are additional reports that allows you to print the details of log files and specific aspects of your software configuration.

The Reports menu is displayed by selecting option **40=Reports Menu** from the Halcyon main menu.

HMXRPT HMX	HA-MX Monitor Halcyon HA-MX Mo Reports Mer	ring onitor 20/09/13 nu	HAL525P3 10:19:27
Select	one of the following:		
1. 2.	Print Message Log Print Alert Log		
5. 6.	Print Rules Print System Defaults		
10.	Print HA-MX Status		
Selectio	on or command		ВОТТОМ
F3=Exit	F4=Prompt F5=Refresh F9=Retrieve	F12=Cancel	

# **Output Rules**

# Overview

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.

Output	Rules (OUTRU	LES)
Type choices, press Enter.		
Output file	<u>*FMT1</u> <u>*ALL</u> <u>*ALL</u> <u>*ALL</u>	Name, *STMF Name *FMT1, *FMT2 Valid product, *ALL MSG, TCP, Name, *ALL, *OUTQALL Name
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display

TIP: To create a PDF formatted Stream File use the Print Rules (**PRTRULES**) command.

## Parameters on the Output Rules display

The following parameters are available on the Output Rules 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

Product

Specify HMX as the product code.

Monitor

Specify MMX as the monitor parameter.

#### 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 field must be set to \*ALL.

*ALL	All rule groups for the MMX monitor are included on the output
group	Enter the name of the specific MIMIX rule group

#### Library

The parameter can be left blank.

#### Output Member

Specifies the name of the physical file member to which to send the output. The member is created if it does not already exist.

*FILE	The file name used specifies in the 'Output file' parameter is used as the member name
outmbr	Specify the member name

#### Replace physical file

Specifies whether to replace the physical file if it already exists.

\*NO If the file already exists, it is not replaced. The member is added to the existing file, replacing a member with the same name if it already exists. If the file does not exist, it is created
\*YES If the file already exists it is deleted and then recreated. If the file does not exist, it is created

#### Stream file

Specifies the path of the stream file to which to send the output. The stream file is created if it does not already exist, but the directory structure must already exist. 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. 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 .csv extender (where nnn is a number in the range 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 include column heading as the first line of the output report.

*YES	Column headings are included
*NO	Column headings are not included

#### Stream file code page

Specifies the stream file code page used for data conversion.

*PCASCII	A Microsoft Windows compatible code page is used
*STDASCII	An IBM PC compatible code page is used
stmfcodpag	Specify the code page to be used
(	

**NOTE**: For more information regarding this parameter, please refer to the help 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 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

Once the selections have been made, press Enter to generate the output.

# 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 and Remote UID.

Select option **11=Print Network Log** from the Reports main menu.

Print Ne	twork Log (PR	
Type choices, press Enter.		
Local UID	<u>*ALL</u> *TODAY *FROMDATE *NO_	1-999999999, *ALL *TODAY, *YESTERDAY, yyyymmdd *FROMDATE, yyyymmdd *YES, *NO
F3=Exit F4=Prompt F5=Refresh	F12=Cancel	Bottom F13=How to use this display
F24=More keys		

## Parameters on the Print Network Log display

The following parameters are available on the Print Network Log 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
1-9999999999	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	The report begins with the first available network messages 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 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)

### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# Print Action Log

The Print Action Log (**PRTACTLOG**) command prints an Action Log report which shows the actions that have been invoked.

Select option **12=Print Action Log** from the Reports main menu.

Print Action Log (PRTACTLOG)				
Type choices, press Enter.				
Alert ID	<u>*ALL *TODAY</u> <u>*FROMDATE</u> <u>*LIST</u> <u>*NO</u>	1-999999999, *ALL *TODAY, *YESTERDAY, yyyymmdd *FROMDATE, yyyymmdd *LIST, *FULL *YES, *NO		
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display		
F3=Exit F4=Frompt F3=Kerresh F24=More keys	-riz-cancel	Fishow to use this display		

## Parameters on the Print Action Log display

The following parameters are available on the Print Action Log 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
1-999999999	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

*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)

Specifies the beginning date of the messages that you want to print.

## To date

Specifies the ending date of the messages that you want to print.

*AVAIL	The 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)

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# 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 the Halcyon product suites.

Select option **13=Print User Authorities** from the Reports main menu.

Print User A	uthorities (P	PRTUSRAUT)	
Type choices, press Enter.			
User ID	<u>*</u> ALL *NO	User, *CURRENT, *ALL *YES, *NO	, *PUBLIC
			Bottom
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	F13=How to use this d	isplay

## Parameters on the Print User Authorities display

The following parameters are displayed on the Print User Authorities display.

User ID

Specifies the user whose authority you want to print.

*ALL	Prints user authority for all users
*CURRENT	Prints user authority for the user running this command
*PUBLIC	Prints user authority for the *PUBLIC user authority
user	Enter a specific user name to print the authority for just that user

#### PDF formatted file required

Specifies if a PDF file is created for the report so it can be viewed as a PDF document.

\*NOA PDF document is not created for the report\*YESA 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# **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.

Select option **14=Print Remote Locations** from the Reports main menu.

Print Remote L	ocations (PRTRMTLOC)	
Type choices, press Enter.		
PDF formatted file required > * PDF stream file path *	YES *YES, *NO AUTO	
Stream file option	ADDSEQ *NONE, *RE	PLACE, *ADDSEQ
F3=Exit F4=Prompt F5=Refresh F F24=More keys	12=Cancel F13=How to	Bottom use this display

## Parameters on the Print Remote Locations display

The following parameters are displayed on the Print Remote Locations display.

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# Print Substitution Variables

The Print Substitution Variables (**PRTSUBSVAR**) command prints a Substitution Variables report which shows the Halcyon Substitution Variables (SYS) and User defined Variables (USR) that are defined on the system. Select option **15=Print Substitution Variables** from the Reports main menu.

Print Substitut	ion Variables	(PRTSBSVAR)
Type choices, press Enter.		
Detail	<u>*LIST</u> <u>*YES</u> <u>*</u> AUTO	*LIST, *FULL *YES, *NO
Stream file option	<u>*ADDSEQ</u>	*NONE, *REPLACE, *ADDSEQ
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display

# Parameters on the Print Substitution Variables Report display

The following parameters are available on the Print Substitution Variables display.

Detail

Specifies the amount of detail to put on the report.

*LIST	The *LIST report uses one line for each Substitution Variable 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

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# **Print Action Schedules**

The Print Action Schedules (**PRTACTSCH**) command prints an Action Schedule report which lists the Halcyon Action Schedules that have been created. Select option **16=Print Action Schedules** from the Reports main menu.

Print Action	Schedules	(PRTACTSCH)
Type choices, press Enter.		
Action schedule	*ALL *LIST *YES *AUTO	Character value, *ALL *LIST, *FULL *YES, *NO
Stream file option	<u>*ADDSEQ</u>	*NONE, *REPLACE, *ADDSEQ
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display

## Parameters on the Print Action Schedules display

The following parameters are available on the Print Actions Schedules display.

#### Action schedule

Specifies the Action Schedule to be printed.

*ALL	Prints 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 in a schedule 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

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# 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.

Select option **17=Print Calendars** from the Reports main menu.

Print	Calendar (PR	TCAL)
Type choices, press Enter.		
Calendar	<u>*DEFAULT</u> <u>*CURRENT</u> <u>*FROMYEAR</u> <u>*ULINE</u> *NONE	Character value *CURRENT, year *FROMYEAR, year *ANGLES, *ULINE, *NONE
Style for Non-Marked Days Legend for Non-Marked Days	<u>*NONE</u> <u>*NONE</u>	*ANGLES, *ULINE, *NONE
View	<u>*CALENDAR</u> <u>*NO</u>	*CALENDAR, *LIST *YES, *NO
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel	Bottom F13=How to use this display

# Parameters on the Print Calendars display

The following parameters are available on the Print Calendars 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 as the 'From year' parameter
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

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# 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.

**IMPORTANT:** This report can only be run in the default environment.

Generate SBS	Availability	(PRTSBSAVL)
TYPE CHOICES, PRESS ENTER.		
Subsystem name	<u>*ALL</u>	Valid Subsystem Name or *ALL Name, *LIBL
From Date	*AVAIL *AVAIL	date, *AVAIL, *TODAY, *YESTERD date, *AVAIL, *FROMDATE
Available Start Time Available End Time	<u>0000</u> 2359	hhmm, *CAL hhmm
		ВОТТОМ
F3=EXIT F4=PROMPT F5=REFRESH F24=MORE KEYS	F12=CANCEL	F13=HOW TO USE THIS DISPLAY

## Parameters on the Generate SBS Availability display

The following parameters on the Generate SBS Availability display.

#### Subsystem name

Specify the Subsystem and library (defaults to \*LIBL) on which you wish to report. It is possible to specify up to 64 Subsystems for this parameter.

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 Subsystem 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(s) 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 yyyymmdd format

#### 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
*YESTERDAY	Specify the ending date in yyymmdd 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

**NOTE**: This parameter is only available if \*CAL has been specified in the 'Available start time' parameter.

Specify the Calendar used to retrieve the required availability time.

Calendar name	Enter a valid Calendar name from which to retrieve required availability
	time

#### 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 Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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

*NONE	The stream file is generated automatically. The file is created in the default Halcyon directory path. This is obtained from the Halcyon system default value for <u>HAL/DFTDIR</u> . 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)
*REPLACE	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
*ADDSEQ	A suffix is added to the stream file so as to create a unique file name if necessary

# **Technical Information**

# Overview

The Technical Information section of Halcyon HA-MX Monitor consists of:

- Halcyon products installed on your IBM i
- System information of your IBM i



# **Display Product Information**

Select option **1=Display Product Information** from the Technical Information menu to open the Display Product Information screen.

HAL0006R H	lalcyon So	ftware				HAL525P3
DMS Display	Product	Informatic	n	17/	12/13	15:47:37
Type options, press Enter.						
5=Display						
					Autho	rization
Opt Installed Product		Version	PTF		Type	Expires
_ Halcyon Operations Center		V5.0				
Halcyon Audit Journal Manage		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 Schedul	er	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 Man	ager	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
						BOTTOM
F3=Exit F5=Refresh F11=Show mo	nitors F	12=Cancel				

**NOTE**: You can also display product information by selecting option **5=Display Product Information** from the display.

The display lists the installed Halcyon products together with version information and authorization status.

## Parameters on the Display Product information display

The following parameters are shown on the Display Product information 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
*NONE	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 product(s) 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.

#### Display

Use option **5=Display** to display detailed information about the selected suite, product or monitor.

The following functions are available when displaying product 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.
# 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**

Select option **2=Display System Information** from the Technical Information menu to open 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.

#### 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.

# Appendix - Common Library System Defaults

# Overview

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, available from the option 7 from the Halcyon Configuration menu 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 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.

# 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 ( <b>CLRACTLOG</b> ) command to manually purge the Action Log

**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.

#### 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 <u>HAL/ACTMAXBUSY</u>.

Minimum number of auxiliary action monitors (HAL/ACTMONMIN)

Specifies the minimum number of Auxiliary Action Monitors that are run. See <u>HAL/ACTMAXBUSY</u>.

#### 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 <u>HAL/DFTMONPTY</u> 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.

\*JOBD The user profile in the **STRMON** job description is used. This value is shown in the <u>HAL/MONUSRPRF</u> system default

**1-99** 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.

7-365	Specify the number of days
*NONE	Alerts are not closed automatically
NOTE: To a HAL/ALTI	utomatically delete closed alerts see the system default _OGLIFE.

# 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	n is specified
name	Enter the name is passed the fo	e and library of the program to call . The user program ollowing 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 IBM i 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 the system on which the Enterprise Console was running

The p	ossible values for the method parameter are:
А	Close Alert (CLOSE) action
В	Close Alert (CLOSE) action with condition *COMP or *COMPNOERR
С	Close Alert (CLSALT) command
D	Clear Alert Log (CLRALTLOG) command
Е	Enterprise Console or Message Console
0	4=Delete or 10=Close on Work with Alert Log display
М	Automatically closed - Situation no longer current
R	Inquiry message was replied to
S	SMS device
Т	Automatically closed via <u>HAL/ALTAUTOCLOSE</u> system default
Х	Remote close action or command
The us alert f can be RTVSI	ser program may retrieve additional information about the rom substitution variables. For example, the text of the alert e retrieved using: BSVAR VAR (ALERT) ALERT (&ALERTID) CHAR256

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 ( <b>CLRALTLOG</b> ) command to manually purge the Alert Log
<b>NOTE</b> : 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 auto-export
*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 <b>13=Export</b> on the Work with Rules display or by using the Export Rules ( <b>EXPRULE</b> ) command. Once created on the remote system, it is automatically updated with any subsequent changes on the source system

#### 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 <u>HAL/AUTOEXPORTTMOUT</u> 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 <u>HAL/AUTOEXPORTRETRY</u> until the export is successful or until the time-out specified here elapses.

#### 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 <u>HAL/CALDFTSTRTIME</u> and <u>HAL/CALDFTENDTIME</u>. 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 populated
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 add 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/CALCMDENDBLOCK)

Specifies the command character for the End of Contiguous Days option on the Work with Calendars display.

#### Calendar command set day (HAL/CALCMDSETDAY)

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 <u>HAL/ADMINMSGQ</u> 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	Enter the number of days
*NOMSG	No warning messages are issued

Auto-delete expired temporary authorization codes (HAL/CODEAUTODELETE)

Specifies whether to automatically delete temporary product authorization codes that have expired. The default setting is \*YES.

*YES	Enter the number of days
*NOMSG	No warning messages are issued

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

**NOTE**: To automatically delete temporary codes that have expired, set system default <u>HAL/CODEAUTODELETE</u> 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

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

**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.

#### Message Console default color control (HAL/CONDFTCOLORCTRL)

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 <b>2=System Attributes</b> from the Message Console - Systems View
*SEV	The default scheme is set by message severity. The color scheme may be modified using <b>F22=Alert Attributes</b> from the Message Console - Alerts View

# **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 <u>Work with Remote Locations</u> display.

The default value is \*DFT. This system default, and the associated <u>HAL/DFTLOGOPOSITION</u> system default, determine the logo and logo positioning used when \*DFT is specified.

*HALCYON	The Halcyon Software logo is used as the default logo
*HELPSYS	The HelpSystems logo is used as the default logo
path	Specify the path of 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 <u>Work with Remote Locations</u> display. The default value is \*DFT. This system default, and the associated <u>HAL/DFTLOGO</u> 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
<b>NOTE</b> : This value is ignored when system default HAL/DFTLOGO is set to *HALCYON.	

# **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

#### **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=Substitution variables** 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=Substitution** variables to view a list of valid substitution variables.

#### **Default message for send message action (**HAL/DFTMSGSNDMSG**)**

Specifies the default message for Send Message Queue Message (SNDMSG) actions. This setting defaults to the alert text. This message may comprise fixed

text and/or substitution variables. Press **F16=Substitution variables** to view a list of valid substitution variables.

#### **Default message for send text action (HAL/DFTMSGSNDTXT)**

Specifies the default message for the Send Text Message (SNDTXT) 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.

*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

#### **Default message for SNDTXT email subject (HAL/DFTSUBJECT)**

Specifies the default subject for the Send Text Message (SNDTXT) 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
*ACK	Specify the actual subject text. This text may include substitution variables. Permitted substitution variables can be retrieved by pressing <b>F16</b>

#### Exit Point Management (HAL/EXITPNTMGMT)

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 ( <b>SETEXITPNT</b> ) 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

#### 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
*JOBDFT	Automatically change the coded character set identifier (CCSID) to the value of the default coded character set identifier (DFTCCSID)
NOTE: For job initiated unle	os with CCSID = 65535 a CHGJOB command is automatically ess 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.

1-365	Specify the number of days to retain data
*NOMAX	Journal receivers are not automatically deleted. Use the Purge Journal ( <b>CLRJRNRCV</b> ) command to manually purge 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 100000000** Specify number of Kb (min is 100000)

#### 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 (CHGJOBD) command.

#### 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.

#### **1-365** Specify the number of days

\*NOMAX Messages are not automatically deleted. Use the Clear Message Log (CLRMSGLOG) command to manually clear the message log

**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.

# 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/NETAUTODLTI5)

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 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

**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.

#### 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 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 <u>HAL/DFTMONPTY</u> 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.

*JOBD	The user profile within the STRMON job description is used. This value is shown in the <u>HAL/MONUSRPRF</u> 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 form 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

\*FTPData is exported using \*FTP\*NETMGRData is exported using Network Manager

#### Number of days warning of maintenance expiry (HAL/PERMCODEEXPWARN)

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 <u>HAL/ADMINMSGQ</u> 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 s is enabled.	econdary exit program is not called unless the primary exit program 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	v exit program	is s	pecified
INCINE	NU SECULUAL	y enit program	12.2	pecifieu

**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	v exit program	is specified
INUINE	IND SECOLIDAL	y 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
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**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

#### 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 <u>HAL/SNDMONMIN</u>. 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.

#### 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 <u>HAL/SNDMONMAX</u>. 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.

# **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 IBM i system
host or IP	Enter either a host name or an IP Address

#### 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.

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 <u>HAL/ADMINMSGQ</u> system default.

1 to 90	Specify the number of days
*NOMSG	No warning messages are issued

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