FORTRA

Halcyon Systems Operations Suite 7.0

Installation & Implementation Guide

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Before You Begin

This document provides the necessary information required to complete an installation, or upgrade, of Halcyon's Level 2 - Systems Operations Suite and configure basic settings ready for use.

License Keys

In order to use Level 2 - Systems Operations Suite you will need a valid license key.

This can be obtained by sending a Level 2 - Systems Operations Suite license key request to keys@fortra.com.

Important Installation Notes

- Remember that the user profile used for installation must have *SECOFR class authority or greater. Additionally, the profile must also have *SECADM, *ALLOBJ and *AUDIT authority in order for the installation to complete successfully.
- To avoid potential conflict when installing Halcyon Level 2 - Systems Operations Suite please search the library list for library DBU10. If found, please remove it from the library list prior to install.
- If Halcyon Exit Point Manager is installed on the same system, the user profile running the install also requires *IOSYSCFG 'Special Authority'.
- You must be enrolled in the System Distribution Directory in order to install the software.
- Please ensure that system value QALWOBJRST is set to *ALL prior to starting and for the duration of the installation otherwise the installation process fails. Once the installation is complete, QALWOBJRST can be reset to its previous value.

System Requirements

Halcyon Level 2 - Systems Operations Suite requires the following:

- A minimum of IBM i Release 7.2

> WARNING: The installation will not proceed if the IBM i OS level of the machine on which you are trying to install is not supported by this release.

Installation options

Level 2 - Systems Operations Suite can be installed from:

- A remote device such as a CD or DVD Drive
- Installation files held on a file server

> NOTE: This documentation provides instructions on how to install from a remote device and not how to copy the files to a CD/DVD or file server.

Recommended IBM PTFs for Halcyon Products

The following is a list of the recommended IBM PTFs for Halcyon Products.

Job Queue Monitor

- V7R1 - SI63584
- V7R2 - SI63526
- V7R3 - SI63525

Message Monitor

- V5R4 - SI38399
- V6R1 - SI38400
- V7R1 - SI38401

Message Communicator

- V7R1 - SI53118
- V7R2 - SI53166

Output Queue Monitor

- V7R1 - SI43471

Auto-upgrade Control Panel

- V7R3 - SI60339

Performance Monitor

- Performance Monitor requires Halcyon PTF2014.048 or higher running on V6R1 or higher. Attempting to run PFT2013.343 or earlier on V7R1 or higher causes a GATHERDATA error.

Installing Level 2 - Systems Operations Suite

Follow these instructions to install Level 2 - Systems Operations Suite.

Downloading Level 2 - Systems Operations Suite

Halcyon Level 2 - Systems Operations Suite can be downloaded from the Fortra Support Portal:

Level 2 - Systems Operations Suite: https://support.fortra.com/lvl2-systems-operations-suite/downloads

> **IMPORTANT:** You must be registered with the Fortra Support Portal in order to access the Product Downloads section.

Copying Level 2 - Systems Operations Suite to the IBM i

Once you have downloaded Level 2 - Systems Operations Suite you must copy it to the IBM i.

Use these instructions to copy the suite to the IBM i.

1. Depending on your browser, you may be able to access the download direct from the toolbar. If this is not possible, navigate to the directory path to where you downloaded Halcyon Level 2 - Systems Operations Suite software.

> **NOTE:** Please refer to your browser documentation for assistance with this feature.

2. Double-click **HalcyonSolution.exe** to begin the installation.

> **NOTE:** Ignore any publisher verification warnings and click **Run** to continue.

3. On the Welcome dialog, click **Next** to continue and display the End User License Agreement (EULA). In order to proceed with the installation, the terms of the EULA must be accepted.
4. Once you have scrolled through and read the full license agreement click **Accept** to open the IBM i Components dialog. This display allows you to select either the

product suite or the individual Halcyon products from which the suites are comprised. Select Lvl2: Systems Operations Suite.

TIP: Selecting a product suite automatically selects the individual products that comprise the suite.

5. Click **Next** to continue. The Manuals dialog is displayed. Select the manuals that you want to install (if any) from those listed. (Click **Select All** to install all the manuals listed). Enter the **Destination Path** to where you want to install the manuals if you do not want to keep the default path.
6. Click **Next** to continue. The IBM i Partition Details dialog is displayed.
7. Enter the **Host Name/IP Address** for the IBM i onto which the product suite is to be installed.
8. Enter the **User Profile** under which the installation is to be actioned.

NOTE: The user profile must have *SECOFR class authority or greater. Additionally, the profile must also have *SECADM, *ALLOBJ and *AUDIT authority in order for the installation to complete successfully.

9. Enter the **Password** associated with the selected user profile.
10. Unless instructed otherwise, leave the FTP Port setting as **21**.
11. Leave the Verify Connection To Host setting enabled to ensure that a valid connection is made to the host machine prior to the installation.
12. If using FTPS (FTP-SSL) for the installation, click the **Use FTP Secure** option, confirming whether or not you want to ignore any connection errors.
13. Click **Next** to continue. A summary of the choices made for installation is displayed, in order that they can be reviewed prior to the installation being performed.

TIP: Use **Back** (available on all dialogs except the Welcome dialog) to revisit any point where you want to amend the current settings.

14. When you are satisfied with the installation options that you have selected, click **Install** to begin the installation process, the progress of which is displayed on the Installation Progress dialog.
15. Click **Finish** to complete this part of the installation process.

Installing Level 2 - Systems Operations Suite on the IBM i

You are now ready to install the software onto the IBM i.

1. Log on to the system onto which the software was copied.
2. From the command line type **HALINST/INSTALL** and press Enter.

IMPORTANT: If this is a first-time install or an upgrade of an existing installation that has not previously accepted the new End User License Agreement (EULA), you will need to accept the EULA prior to continuing.

Installation options

These installation options are useful if you want to install Halcyon Level 2 - Systems Operations Suite from a remote device such as a CD or DVD Drive or from installation files held on a file server.

NOTE: This documentation provides instructions on how to install from a remote device and not how to copy the files to a CD/DVD or file server. You need to have completed this prior to using the following instructions.

1. From the command line type: **HALINST/INSTALL**.

2. Press **F4** to display an additional display allowing you to specify parameters specific to the type of installation option chosen.

The following device options are available:

- ***DIR**: Specifies that the installation files are in a directory. Specify the directory path using the Save File Directory (DIR) parameter.
- ***FTP**: Specifies that the installation files are in a library on a remote system. A valid user ID and password are required for this option.
- ***LIB**: Specifies that the installation files are in a library. Specify the library name using the Save File Library (LIB) parameter.
- ***OPT**: Specifies that the installation files are on a CD inserted in an optical drive on this system.
- ***RMTOPT**: Specifies that the installation files are on a CD inserted on an optical drive on a remote IBM i. Specify the remote system using the Remote System (RMTSYS) parameter.

Save File Directory (*DIR) parameter

When Device(*DIR) is selected, this parameter specifies the path of the directory that contains the installation files.

1. Select Device as ***DIR**.
2. Enter the name of the directory that contains the installation files.
3. From within the Products parameter, use ***SELECT** to install with prompts, allowing you to control the installation.

   TIP: *UPGRADE can be used to upgrade an existing installation without further intervention. See Upgrading an Existing Installation.

4. If required, specify Product Setup options.
   - ***CTLEXTPNT** causes the install to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the install is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the install is complete.
   - ***MIGDSKBLD** causes Halcyon Disk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade.
5. Specify the product language to use. The default (*DFT) setting is English.

NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT).

6. Determine whether to notify a user on the local system of any completion and error messages. If PRODUCTS(*SELECT) is specified and F19=Submit to batch is used, messages are sent to the user who is running this command. Otherwise, messages are not sent.
7. Press Enter to open the Product Installation display from where you can specify the Environment to which the installation is actioned.

File Transfer Protocol (*FTP) parameter

When Device(*FTP) is selected, this parameter specifies the path of the library that contains the installation files.

1. Select Device as ***FTP**.
2. Enter the name of the remote system which can either be a TCP/IP host name or a SNA LU 6.2 name.
3. If required, enter the name of the backup system which can either be a TCP/IP host name or a SNA LU 6.2 name. The backup system is used if INSTALL is not able to access the save file library for any reason, typically because the remote system cannot be reached.

> NOTE: All other parameters apply to both systems, therefore the user id, password and save file library must be the same on each system.

4. Enter the **User ID** required to access the Remote System (use *CURRENT to keep the details of the user ID that is being used for the current session).
5. Enter the **Remote Password** associated with the entered user ID. Note that the entry in this parameter is hidden.
6. Configure the Port setting to be used for the FTP connection.
   - ***DFT**: The default setting uses port 21.
   - ***SECURE**: Port 990 is used. This port is reserved for secure FTP servers which use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data.
   - **1 - 65535**: Specify a port number for the FTP connection.
7. Specify the type of Secure connection used to protect the data (including User ID and password) during the file transfer.
   - ***DFT**: Defaults to *NONE, unless *SECURE is specified in the Port parameter.
   - ***NONE**: No encryption is used when connecting to the FTP Server.
   - ***SSL**: The connection to the FTP Server is made and a SSL/TLS session is requested. If this type of session is not supported, the connection is closed.
   - ***IMPLICIT**: Both this and the target system must be running i5/OS v5R3 or higher. The connection is attempted using SSL/TLS. The session is closed if the server does not support this type of connection.
8. Specify the type of Data protection to be used during the file transfer.
   - ***DFT**: Defaults to *PRIVATE if the Secure Connection parameter specifies a secure connection, otherwise it defaults to *CLEAR.
   - ***PRIVATE**: Data is encrypted during transmission. This option is only available if *SSL or *IMPLICIT is specified as the Secure Connection.
   - ***CLEAR**: Data is not encrypted during transmission regardless of the Secure Connection parameter setting. Both this and the target system must be running i5/OS v5R3 or higher

9. In the Save File Library parameter enter the name of the library that contains the installation files.
10. From within the Products parameter, use ***SELECT** to install with prompts, allowing you to control the installation.

TIP: *UPGRADE can be used to upgrade an existing installation without further intervention. See Upgrading an Existing Installation.

11. If required, specify Product Setup options.
    - ***CTLEXTPNT** causes the install to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the install is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the install is complete.
    - ***MIGDSKBLD** causes Halcyon Disk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade.
12. Specify the product language to use. The default (*DFT) setting is English.

NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT). If you set the 'Language option' parameter to 'JPN' then system default HAL/SYSCCSID is automatically set to a value of 5026.

13. Determine whether to notify a user on the local system of any completion and error messages. If PRODUCTS(*SELECT) is specified and F19=Submit to batch is used, messages are sent to the user who is running this command. Otherwise, messages are not sent.
14. Press Enter to open the Product Installation display from where you can specify the Environment to which the installation is actioned.

NOTE: An *FTP upgrade transfers the INSTALL file from the remote system library specified and uses it to compare PTF levels for the remote system library to the environment to be upgraded. Only FTP save files for Products that require upgrading are transferred. This does not work unless the HALINST library on the source and destination machines are at the same PTF Level.

Save File Library (*LIB) parameter

When Device (*LIB) is selected, this parameter specifies the name of the library that contains the installation files.

1. Select Device as ***LIB**.
2. In the Save File Library parameter, enter the name of the library that contains the installation files.
3. From within the Products parameter, use ***SELECT** to install with prompts, allowing you to control the installation.

TIP: *UPGRADE can be used to upgrade an existing installation without further intervention. See Upgrading an Existing Installation.

4. If required, specify Product Setup options.
   - ***CTLEXTPNT** causes the install to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the install is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the install is complete.

     ***MIGDSKBLD** causes Halcyon Disk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade.
5. Specify the product language to use. The default (*DFT) setting is English.

NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT).

6. Determine whether to notify a user on the local system of any completion and error messages. If PRODUCTS(*SELECT) is specified and F19=Submit to batch is used, messages are sent to the user who is running this command. Otherwise, messages are not sent.
7. Press Enter to open the Product Installation display from where you can specify the Environment to which the installation is actioned.

Local System (*OPT) parameter

When Device(*OPT) is selected, this parameter specifies the optical volume of the local system to use.

1. Select Device as ***OPT.**
2. Specify the volume as HALCYON unless instructed otherwise by Halcyon technical support staff.
3. From within the Products parameter, use *SELECT to install with prompts, allowing you to control the installation. *UPGRADE can be used to upgrade an existing installation without further intervention.
4. If required, specify Product Setup options.
    - ***CTLEXTPNT** causes the install to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the install is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the install is complete.
    - ***MIGDSKBLD** causes Halcyon Disk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade.
5. Specify the product language to use. The default (*DFT) setting is English.

> NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT).

6. Determine whether to notify a user on the local system of any completion and error messages. If PRODUCTS(*SELECT) is specified and F19=Submit to batch is used, messages are sent to the user who is running this command. Otherwise, messages are not sent.
7. Press Enter to open the Product Installation display from where you can specify the Environment to which the installation is actioned.

Remote System (*RMTOPT) parameter

When Device (*RMTOPT) is selected, this parameter specifies the remote system that has an optical drive loaded with an installation CD.

1. Select the Device as ***RMTOPT**.
2. Enter the name of the remote system which can either be a TCP/IP host name or an SNA LU 6.2 name.
3. Specify the volume as **HALCYON** unless instructed otherwise by Halcyon technical support staff.

> NOTE: To access the remote system INSTALL uses QFileSvr.400 file system. If the QFileSvr.400 file system does not contain an entry that matches the value specified for the RMTSYS parameter, INSTALL creates an entry and removes it upon completion.

4. From within the Products parameter, use *SELECT to install with prompts, allowing you to control the installation.

TIP: *UPGRADE can be used to upgrade an existing installation without further intervention. See Upgrading an Existing Installation.

5. If required, specify Product Setup options.
    - ***CTLEXTPNT** causes the install to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the install is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the install is complete.
    - ***MIGDSKBLD** causes HalcyonDisk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade.
6. Specify the product language to use. The default (*DFT) setting is English.

NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT).

7. Determine whether to notify a user on the local system of any completion and error messages. If PRODUCTS(*SELECT) is specified and F19=Submit to batch is used, messages are sent to the user who is running this command. Otherwise, messages are not sent.
8. Press Enter to open the Product Installation display from where you can specify the Environment to which the installation is actioned.

Product Installation display

The main installation display is now shown, from where you can enter the details of the environment onto which you want to install the software.

If present, the installation uses the default environment on your IBM i, otherwise the environment 'PROD' is used, leaving you free to complete the environment description.

Installation Display

This display shows all products/suites that have been previously installed or are ready to be installed.

> **NOTE:** The version and PTF level of the current products planned for installation are shown under the 'Available' heading. It is possible to both upgrade and downgrade the version and PTF level of the current software.

Halcyon Environments

Prior to installing the suite it is possible to specify the environment to which it is installed.

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.

> **TIP:** See Installing Level 2 - Systems Operations Suite on a different environment.

If no previous installations of Halcyon products or suites have been undertaken on this IBM i, or if no default environment is specified, then the installation routine uses the default environment 'PROD'.

If Halcyon products or suites have been previously installed on this IBM i then the environment displayed is the last one to which an installation was undertaken, with both the 'Environment Name' and 'Description' parameters completed.

In either of the above cases, you may change both the 'Environment Name' and 'Description' parameters to suit the requirements of your installation.

> **NOTE:** Use the Change Environment Description (**CHGENVDSC**) command to quickly change the description shown for the Halcyon Environment in which the command is run.

Installing Level 2 - Systems Operations Suite to a specific environment

The installation is dependent on the environment to which you are installing:

- If this installation is for the default 'PROD' environment, enter a Description for the environment and then go to step 1
- If this installation is for the same environment used for the last install of Halcyon products, leave the Environment Name and Description parameters as they are and go to Step 1.
- If you want to create a new environment or use an environment that has previously been created but is not displayed, either over-type the current parameters with the new environment details or enter an existing Environment Name and Description and go to step 1

1. Select option **1=Install** against product LV2 Halcyon Systems Operations Suite. All the products (listed separately) that comprise this suite are selected automatically.

> **NOTE:** Only the individual products selected to install or upgrade are listed on this display.

2. Press Enter to confirm the installation.

> **NOTE:** A warning is displayed if you attempt to install a PTF level that is older the current installation.

Further displays are shown during the installation process which prompt the user for input prior to continuing.

> TIP: Note: It is recommended that an interactive install is used for first time installations. If you want to update the PTF level of a product that has already been installed, use **F9=Submit to Batch** to automate the installation process.

The installation progress of each product is displayed on the next display using the following text color legend:

- **Green**: Pending installation
- **White**: Currently installing
- **Blue**: Installation completed

Once the installation is complete, all the products are displayed in blue text and the message 'Installation Complete' is displayed at the bottom of this display. Press Enter to continue.

Displaying system information

HALINST contains a utility that allows you to display your system information. This is useful for obtaining system details that are used to generate authorization codes.

To run this utility type:

HALINST/HALDSPINF

on the command line and press Enter.

TIP: Press **F4** instead of Enter to be able to specify the name of an outfile to which to write the information.

The system information is now displayed on screen.

Authorizing Halcyon Level 2 - Systems Operations Suite

You are now prompted to enter a valid authorization code:

NOTE: This display is the same regardless of whether a temporary or permanent code is being applied.

To obtain a license key for Halcyon Level 2 - Systems Operations Suite please email: keys@fortra.com or contact your local Halcyon Software distributor.

1. Type, or copy and paste your Authorization Code and press Enter. Once the authorization code has been entered, the Halcyon products secured by the code are displayed along with the expiry date.
2. Press Enter to exit this display and open the Change System Default display. This display allows you to set the default system user profile.

Setting the Default User Profile

The default value for the user profile is: QSYSOPR. If required, you may change this user for any other user profile on your system.

For any user profile that is defined, even if you use the system default value of QSYSOPR, you must set user permissions for Halcyon Products using **Configuration - Work with User Authority** option from the Halcyon Level 2 - Systems Operations Suite main menu.

It is recommended that the default setting of QSYSOPR is used but if you decide to change this parameter then the user profile you enter must have permission to all the queues (MsgQ/JobQ/OutQ) listed in Halcyon Level 2 - Systems Operations Suite rules. The user profile must also have special authorities *SYSOPR, *JOBCTL and *SAVSYS set for normal operations.

IMPORTANT: Any userid that is used must have the MAXSTG parameter of the user profile set to *NOMAX.

For the Output Queue monitor and Spooled File Manager you will also need to grant *SPLCTL. When using GSM terminals for SMS alerting *IOSYSCFG will also be required.

Finally, in addition you must manually use the following command to grant all authority to the QAUDJRN journal object:

QSYS/GRTOBJAUT OBJ(QSYS/QAUDJRN)

OBJTYPE(*JRN)

USER(QSYSOPR)

AUT(*ALL)

*If you are not using QSYSOPR then please specify the correct user profile.

Journaling

Journaling provides an audit trail across Halcyon products allowing you to see what actions have been undertaken at what times and by which users. This can assist you in fault-finding should any issues arise during use of Halcyon Level 2 - Systems Operations Suite.

1. Press **F20** to start journaling for this installation. If you do not want to start journaling at this point, press Enter to continue.

> **NOTE:** Journaling can be activated later from within the Halcyon Level 2 - Systems Operations Suite **- Utilities - Work with Journal** menu option.

Assuming that you have started journaling at this point using F20, the following display is opened:

2. Press Enter to confirm the start of journaling.

Installation Complete

You have now completed the installation of Halcyon Level 2 - Systems Operations Suite.

Important Considerations

QGPL Library

If you add or move the QGPL library to your system library list AFTER the installation of Halcyon Level 2 - Systems Operations Suite, you must manually update the job descriptions in the Halcyon product libraries.

QCRTOBJAUD Setting

Please check the setting of system value QCRTOBJAUD and ensure that it is not set to *ALL.

If this value is set to *ALL, then the system will be overrun with audit entries as each time an object is accessed or changed an audit journal entry is created.

Review Work with System Reply List Entries (WRKRPYLE)

Once Halcyon Level 2 - Systems Operations Suite has been installed, it is recommended that you review the existing system reply list entries by using the Work with Reply List Entries (**WRKRPYLE**) command.

To prevent any potential conflict with Halcyon, any system reply list entries that are already configured to generate automatic responses should be deleted or converted into Halcyon rules.

Converting existing Halcyon Products into Systems Operations Suite

> NOTE: From Halcyon PTF Level 2019.192, **HALIMPORT** has been deprecated. If you require this feature please install an earlier PTF level, use **HALIMPORT** and then upgrade to the latest release.

If you already have one or more of the following Halcyon legacy products installed you can import your existing data and settings into Halcyon Level 2 - Systems Operations Suite:

- Message Manager
- TCP/IP Monitor
- Message Communicator
- System Event Manager
- Audit Journal Monitor
- Restricted Tasks Manager

On the Command Line, type; **HALIMPORT** and press **F4**.

> **NOTE:** Settings are only imported if the necessary libraries exist on the system on which Halcyon Level 2 - Systems Operations Suite is installed.

Messages detailing import activity are recorded in the Halcyon Message Log.

You can import all or just selected product settings by changing the defaults from *YES to *NO as required.

Importing Message Manager (**HMMIMPORT**) settings imports:

- Action schedules
- Message Queue rule configuration

Importing TCP/IP (**TCPIMPORT**) data imports:

- TCP/IP rule configuration

Importing Event Manager (**HEMIMPORT**) settings imports:

- Event Manager rule configuration

Importing Message Communicator (**HMCIMPORT**) settings imports:

- Service providers
- Remote locations
- Phones
- Pagers
- Emails
- Broadcast groups
- Call rosters
- Call schedules
- Escalation lists

> **NOTE:** Any imported service providers need their communications scripts manually updating.

Importing Audit Journal (**HAMIMPORT**) settings imports:

- Audit Journal rule configuration

> NOTE: In the legacy version of Halcyon Audit Journal Monitor, there are no groups. Therefore the use of Replace=*YES deletes the current group plus all of its rules and reimports the legacy rules.
> Replace=*NO leaves the existing group and rules and imports the legacy rules by giving them a rising sequential rule number.

Importing Restricted Tasks (HRTIMPORT) settings imports:

- Restricted Task rule configuration

> NOTE: Imported remote locations default to type ‘i5’ by default, as the true type is not known. If the remote location is an Enterprise Console, then you must manually change the ‘Type’ setting to ‘PC’.
> Network Receive monitor does automatically change it but only when a connection has been made from the Enterprise Console back to the i5 device, when using **Tools** | **Reload Devices** for example.

Select **Replace Existing Data** to overwrite any data that exists in identical form on the Halcyon Level 2 - Systems Operations Suite system with legacy data. Any data not in identical format, such as additional message queues, is added when specifying *YES to this command.

Similarly, when specifying *YES to this command, the same rule but with a different sequence number generates two rules that perform the same function.

Press Enter to perform the selected import routine.

Installing From An ISO Image

Download the ISO file

You can download the ISO file direct from:

Level 2 - Systems Operations Suite: https://support.fortra.com/lvl2-systems-operations-suite/downloads

Installation

1. Make a Directory in the IFS (Integrated File System) on the IBMi:
   MKDIR('HALINST')
2. Using a mapped drive or iSeries Navigator, place the Halcyon ISO file into the HALINST directory.
3. Create a Virtual Optical Drive on the IBMi. Note: In the Example Steps below I have placed the ISO file in location: '/HALINST/HalcyonSolution.iso' on the IBMi.

> **NOTE:** Replace HalcyonSolution.iso with the name of the .iso file you are using.

4. **CRTDEVOPT DEVD(OPTVRT01) RSRCNAME(*VRT) LCLINTNETA(*N) TEXT ('Your virtual optical Device')**. If successful, you will see a message like this: Description for device OPTVRT01 created.
5. Vary the new virtual device on: **VRYCFG CFGOBJ(OPTVRT01) CFGTYPE(*DEV) STATUS(*ON)**. If successful, you will see a message like this: Vary on completed for device OPTVRT01.
6. Create an image catalog: **CRTIMGCLG IMGCLG(HALINST) DIR('/HALINST') CRTDIR(*YES)**. If successful, you will see a message like this: Image catalog HALINST created in library QUSRSYS.
7. Add an image catalog entry for the ISO file: **ADDIMGCLGE IMGCLG(HALINST) FROMFILE('/HALINST/HalcyonSolution.iso') TEXT('Halcyon Install Image')**. If successful, you will see a message like this: Image catalog entry added to image catalog HALINST.
8. Load the image catalog onto the virtual optical device: **LODIMGCLG IMGCLG (HALINST) DEV(OPTVRT01)**. If successful, you will see a message like this: Image catalog HALINST loaded in device OPTVRT01.
9. To verify the mounting of the Virtual Optical Drive, run the following command: **DSPOPT VOL(*All) DEV(OPTVRT01)**.

10. To start the Halcyon installation, run the command: **LODRUN DEV(OPTVRT01)**.
11. See Installing Level 2 - Systems Operations Suite for further instructions.

Advanced Installation Routines

This section covers additional installation routines that assist you to installing the software via the **LODRUN** command, installing to a different environment other than the default and installing from a remote optical device.

Installing Level 2 - Systems Operations Suite using the LODRUN command

To install Halcyon Level 2 - Systems Operations Suite using the **LODRUN** command:

1. On the Command line type; **LODRUN** and press **F4**.
2. From the Load and Run (LODRUN) display, select the Device as ***OPT01**.

> **NOTE:** If using a device other than *OPT01, change the Device parameter name to the appropriate device name.

3. You can now continue with the installation as documented from the Installation Display.

Installing Level 2 - Systems Operations Suite on a different environment

Use the following instructions to install HalcyonLevel 2 - Systems Operations Suite to a different environment other than the default environment:

> **NOTE:** Remember that the user profile used for installation must have *SECOFR class authority or greater. Additionally, the profile must also have *SECADM, *ALLOBJ and *AUDIT authority in order for the installation to complete successfully.
>
> The installation routine must have previously been run in order for the following command to be recognized. If the routine has not been run on this IBM i, refer to Installing Systems Operations Suite on IBM i of this document.

1. On the Command line type: **HALINST/INSTALL**.
2. Press **Enter** to open the Installation display pre-configured with the details of the last environment used.
3. Over-type the displayed environment name with the new environment name. This can consist of up to five alphanumeric letters but must not start with a numeric.

4. Move the cursor to the 'Environment Description' parameter and over-type the current entry with a description for the new environment.
5. You can now continue with the installation as detailed from step 1 of Installing the Suite.

> **IMPORTANT:** Your authorization code must allow you install multiple copies otherwise the installation fails when you attempt to enter your authorization code. Please contact support.halcyon@fortra.com if you are unsure about the limitations of your authorization code.

To access Halcyon Level 2 - Systems Operations Suite on the newly created environment, on the Command line type:

GO HALnnnnn/halcyon

(Where nnnnn is the name of the new environment).

> **TIP:** When working in an environment that is not the default, a color-coded icon is displayed in the top left-hand corner of the display.

Upgrading An Existing Installation

Unattended upgrade

Follow these instructions to perform an unattended upgrade of an existing installation of Halcyon Level 2 - Systems Operations Suite.

WARNING: The upgrade will not proceed if the IBM i OS level of the machine on which you are trying to upgrade is not supported by this release.

NOTE: For an attended upgrade use the ***SELECT** option within the 'Products' parameter.

WARNING: Attempting to upgrade Halcyon while remote journals are active against the HALJRN journal results in the upgrade being abandoned. An advisory message is displayed in this event.

NOTE: If Halcyon Exit Point Manager is installed on the same system, the user profile running the upgrade requires *IOSYSCFG 'Special Authority'.

NOTE: A Halcyon upgrade that fails as it is HELD within the Control Panel on the Master system issues: `INS0094 - Unattended upgrades for SYS/ENV are prohibited by remote system SYS.`

WARNING: If you have copied any Halcyon objects into your own libraries you must replace them with the versions installed as part of the upgrade.

From Halcyon PTF level 2019.192 onwards, Halcyon no longer restarts the servers if you add or remove Halcyon from Exit Points. Set Exit Points (**SETEXITPNT**) now defaults "Restart servers" to *NO. If you previously relied on this command restarting the servers without explicitly specifying it, that will no longer happen.

To get started with the unattended upgrade, run the command: **HALINST/INSTALL** and press **F4**.

Upgrades can be run unattended and system procedures automatically controlled by using settings specified on this display.

Device

Select the install device option that is to be used for this upgrade.

***DIR**	Specifies that the installation files are in a directory. Specify the directory path using the Save File Directory (DIR) parameter
***FTP**	Specifies that the installation files are in a library on a remote system. A valid user ID and password are required for this option
***LIB**	Specifies that the installation files are in a library. Specify the library name using the Save File Library (LIB) parameter
***OPT**	Specifies that the installation files are on a CD inserted in an optical drive on this system
***RMOPT**	Specifies that the installation files are on a CD inserted on an optical drive on a remote IBM i. Specify the remote system using the Remote System (RMTSYS) parameter.

> **NOTE:** The upgrade routine varies with the option chosen here, although the actual upgrade options remain constant. For the purposes of these instructions, the upgrade is performed using the *LIB option. For the parameters required for all other device options please refer to the relevant section within Installation options.

Save File Library

Enter the name of the library that contains the installation files.

Products

Select *UPGRADE to ensure that the upgrade options are available for selection.

Press **Enter**. Additional options are now displayed, allowing you to specify the conditions of the upgrade.

Environment Name

Enter the name of the environment that you want to upgrade.

Delete Previous Libraries

Whenever the upgrade is run unattended (i.e *SELECT has not been chosen in the Product parameter), this parameter can be used to specify if previous release libraries can be deleted as part of the upgrade routine.

***NO**	Do not delete previous release libraries. If a previous release library already exists, the upgrade is canceled
***YES**	Deletes any previous libraries for the products being upgraded

Start Journaling

Whenever the upgrade is run unattended (when *SELECT has not been chosen in the Product parameter), this parameter can be used to specify if automatic journaling of Halcyon objects is started upon successful upgrade.

***NO**	Do not start journaling
***YES**	Start journaling

Control Monitors

Whenever the upgrade is run unattended (when *SELECT has not been chosen in the 'Product' parameter), this parameter can be used to specify if the routine is allowed to control (Stop and Restart) the Halcyon monitors in order to perform the upgrade.

***NO**	The upgrade cannot stop and restart the monitors. If any of the monitors are active they may to be manually stopped prior to the upgrade routine and restarted once the routine has finished
***YES**	The upgrade routine ends the monitors and subsystem prior to starting. If the upgrade is successful, the monitors and subsystem are automatically restarted on completion
***END**	The upgrade routine ends the monitors and subsystem prior to starting. They are not restarted on completion of the upgrade routine
***SAME**	The upgrade routine only ends and restarts the monitors that are running at the time that the upgrade is initiated

Subsystem end time-out

Whenever the upgrade is run unattended (when *SELECT has not been chosen in the Product parameter), and the Control Monitors parameter is set to *YES, this parameter can be used to specify the number of seconds allowed to complete a controlled subsystem end operation.

If this amount of time is exceeded and the end operation has not completed, any jobs still being processed in the subsystem are ended immediately.

60-99999	Enter a time-out period within this range

NOTE: Be aware that Disk Space Manager builds, Advanced Job Scheduler jobs and other batch tasks run in the Halcyon subsystem by default. Remember to allow sufficient time for these jobs to end normally.

Setup options

Specifies product setup options. Type keywords as required.

***CTLEXTPNT**	Causes the upgrade to remove any registered Primary Exit Point handlers, as shown within 'Work with Exit Point Handlers' (WRKEXTHDL), before the upgrade is performed. The Primary Exit Point handlers are then re-registered against the relevant Exit Points after the upgrade is complete
***MIGDSKBLD**	Causes Halcyon Disk Space Manager setup (if in use), to automatically migrate all available builds from the previous release during an upgrade

Language option

Specifies the product language to use, or can be used to change the existing product language during an upgrade.

***SAME**	When upgrading, the same language that was previously installed is used
***DFT**	English
***JPN**	Japanese

NOTE: If you select a language that is not supported by all products, English is used as the substitute language in the non-supported products. To determine which products support which languages, use PRODUCTS(*SELECT).

Notify Local User

Specifies whether to send completion and error messages to a user on the local system.

***NONE**	Messages are not sent
***CURRENT**	Messages are sent to the user who is running this command
user	Enter the user profile name to which the messages are sent

NOTE: If using FTP as the Device parameter, an additional option Notify Remote User is also available. You can specify to send messages to the current, remote or named user.

Update Installer

This parameter defines whether to check if a new version of the installer library (HALINST) is available from the remote location. The following values can be selected:

***PROMPT**	If running interactively, the check is performed and if a new version of the installer is found the user is prompted as to whether they want to upgrade the installer or not. If running in batch it is treated the same as *NO (see below). This setting is the default value
***NO**	Do not check for a new version of the installer
***YES**	Check for a new version of the installer and if found on the remote location update the local installer from it

NOTE: *YES can only be used if 'Products' is set to *NONE. See below.

Updating just the Installer

Update Installer (**UPDINST**) is available from the HALINST/INSTALL command when performing installs or upgrades from a remote location.

In the Products parameter, specify the special value of *NONE so that no Products are installed/upgraded as part of this routine.

Once the installer has updated itself, it must be run again in order for the updated version of the installer to be used.

If running interactively, use F9 after the installer has upgraded.

If running in batch, *PROMPT and *NO used together do not check for an installer upgrade and *YES only upgrades the installer itself, not any products.

Example:

For an unattended upgrade you need to run the command twice:

HALINST/INSTALL

DEVICE(*FTP)
RMTSYS(xxxx)
RMTUSR(xxxx)
RMTPWD(xxxx)
PRODUCTS(*NONE) (Don't upgrade products)
UPDINST(*YES) (Upgrade installer (if needed))

HALINST/INSTALL

DEVICE(*FTP)
RMTSYS(xxxx)
RMTUSR(xxxx)
RMTPWD(xxxx)
PRODUCTS(*UPGRADE) (Upgrade products (if needed))
UPDINST(*NO) (Don't upgrade installer)

Example of running an Upgrade using *FTP

Using parameters on the INSTALL command, plus the FTP Monitoring commands within Message Manager, it is possible to set up an automatic upgrade. You do this by first running an upgrade to the installer, then ending FTP Monitoring, running an upgrade of the Products and restarting FTP Monitoring.

The required commands can be used in a CL Program or within the IBM Job Scheduler, to automatically upgrade an environment.

> NOTE: It is not possible to use the Halcyon Advanced Job Scheduler as you are unable to upgrade a Product that is in use.

In the following example, FTP is used for the upgrade. This ends FTP Monitoring, upgrades the installer, upgrades the Products including sending notification messages to local user LCLUSER and to remote user RMTUSER. Finally it restarts FTP Monitoring. The Subsystem and Monitors are ended and restarted as part of the Products upgrade:

HMMPROD/ENDFTPMON

HALINST/INSTALL DEVICE(*FTP) RMTSYS(REMOTE) RMTUSR(RMTUSER) RMTPWD(PWD)

PRODUCTS(*NONE) UPDINST(*YES)

HALINST/INSTALL DEVICE(*FTP) RMTSYS(REMOTE) RMTUSR(RMTUSER) RMTPWD(PWD)

PRODUCTS(*UPGRADE) ENVNAME(PROD) DLTPRVLIBS(*YES) STRJRN(*YES)

CTLMON(*YES) NFYLCLUSR(LCLUSER) NFYRMTUSR(RMTUSER) UPDINST(*NO)

HMMPROD/STRFTPMON

> NOTE: Starting and ending FTP Monitoring causes existing FTP connections to break at the time the command is run.

Message Communicator Script Upgrade Notes

During an upgrade, any existing supplied scripts are renamed to include a suffix of underscore, prior to the new scripts being installed.

Halcyon supplied Message Communicator scripts include a warning at the top of the script stating not to modify the script directly and that a copy should be taken to a new name and that version modified instead.

"*This script is provided by Halcyon. During an upgrade this script may be replaced by a modified version. If this happens, the previous version will be renamed. If you need to make changes to this script we recommend copying the script, modifying the copy, then changing the Service Provider to point to the new script.*"

After You Are Done

Congratulations! Level 2 - Systems Operations Suite is now installed. Read the following for additional information and your next steps.

Running Level 2 - Systems Operations Suite

Halcyon Level 2 - Systems Operations Suite is pre-configured with basic templates and defaults to enable you to be 'up-and-running' very quickly. The following guidelines also assist you in populating the default settings with your data.

From the i5/OS main menu command line type:

GO HALCYON (default environment) or **GO HALnnnnn/halcyon**

(Where nnnnn is the name of the alternative environment)

Running the Setup Wizard

A command, **HEMINZRULE**, is available to setup rule groups and rules for active subsystems and jobs based on your current system configuration. Once the command is run the following options are available:

Job subsystem (JOBSBS)

Specify whether to create subsystem rules.

***NONE**	Subsystem rules are not created
***ALL**	Subsystem rules are created for all subsystems
name	Subsystem rules are created for the specified subsystem

Job type (JOBTYPE)

When JOBSBS(*NONE) is not specified, specifies the type of jobs to be handled by the subsystem rules groups being initialized.

***ALL**	The following job types are handled: Autostart jobs Batch jobs Interactive jobs Spooled reader jobs Spooled writer jobs
***BATCH**	Handles the job types listed above with the exception of interactive jobs

Replace (REPLACE)

Specifies whether to replace rule groups that already exist.

***NO**	Existing rule groups are not replaced. Existing job lists are not deleted. If a job list is required, a new one is created
***YES**	If a rule group to be initialized already exists, it is deleted with all its rules and a new rule group is created. If JOBSBS(*ALL) is specified, all *PFML.xxxx job lists are deleted and new job lists are created as needed. If JOBSBS(name) is specified, the job list for that subsystem is deleted (by matching the text description) if it exists, and a new one is created if needed

IMPORTANT: This command can remove existing Groups/Rules and should only be used on a clean install of Halcyon or where the loss of existing Performance Rule Groups and/or Rules is acceptable.

TIP: Before re-running HEMINZRUL it is best to manually delete the job lists. Job lists created by **HEMINZRUL** are named *PFML.0001, *PFML.0002.

Starting the Monitors

1. From the Halcyon Level 2 - Systems Operations Suite main menu, select option **3=Work with Monitors**.
2. Following installation, all monitors are initially in a status of Stopped. Take option **1=Start** against each of the listed monitors and press **Enter**.
3. Use **F5=Refresh** to update the progress until each monitor is showing as Active.
4. Press **F3=Exit** to return to the Halcyon Level 2 - Systems Operations Suite main menu.

Message Monitor Notes

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

- V5R4 - SI46690
- V6R1 - SI40330

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

Building Message Review History

Halcyon Level 2 - Systems Operations Suite allows you to build message rules based upon your previous message history. The following example uses message queue QHST but you can repeat this process for as many message queues that are available (QSYSOPR recommended).

1. From the Halcyon Level 2 - Systems Operations Suite main menu, select option **5=Work with Rules**.
2. With the cursor positioned against the message queue, select **F11=Expand** to display all available message queues.
3. Position the cursor against message queue **QHST** and type option **15=Review Messages** and press Enter. The system now builds the 999 day message history for this message queue and automatically opens the Display Message Review display.

This display shows all the messages currently held in this message queue spanning the past 999 days activity. The key column on this display in which we are primarily interested is Count. This parameter shows the number of times the displayed message text has been received by this message queue. Armed with this information it is possible to build message rules that monitor for the most frequent messages received by this queue.

> NOTE: Messages on this display are shown in chronological order; the most recent being last. Use the Page Up key to scroll backward through earlier messages to ensure that you do not miss importantdetail.

Use the Clear Message Review (**CLRMSGRVW**) command to clear the message review data.

Adding Rules

Adding a rule allows you to monitor for any chosen message being received (or not being received), in this message queue on specific days and between specific times.

If the rule is activated, an action can be taken so that you are notified. In addition, further actions may be directly applied to the message itself so that no further user intervention is required.

To add a rule to a message queue:

1. From the Display Message Review display, select option **1=Add Rule** against the message to which you want to add the rule.

2. Press Enter to open the Add Message Queue Rule display.

The message queue rule is built using system defaults which you can keep or override as you want. For the purpose of this example, it is best to keep the system defaults and change specific parameter detail later if required.

> NOTE: There are two pages of information to be completed when adding the rule. If you press Enter at any time during the creation of the message queue rule, the data that you have already entered is validated. If it passes the validation rules, the new rule is created and further configuration must be undertaken via option **2=Change** against the rule from the Work with Rules main display.

Please refer to the Halcyon Level 2 - Systems Operations Suite User Reference documentation for full parameter information available when adding rules.

Adding An Action For The Message Queue Rule

Still using the example selected in the previous section, use the Page Down key to display the second page of this message queue rule.

This page shows a summary of the message rule and any actions that are applied. As we have yet to define any actions, this area of the display is blank.

To add an action:

1. On the second page of the Add Message Queue Rule display, position the cursor so that it is in the 'Actions' area of the display and press **F6=Add** to open the Create Message Action display.

> NOTE: If you see the Add Message Queue Rule display again, then the cursor was not in the correct position when you press **F6=Add**. Press **F12=Cancel** and re-position the cursor to the under the 'Actions' line and press **F6=Add** again.

   For the purposes of this example, we are going to set an action of 'Console', that when the rule is activated, sends an alert to the Message Console to notify users.
2. Leave the first three parameters on this display as their current default settings.
3. With the cursor positioned in the 'Action type' parameter, either type **CONSOLE** and press Enter or press **F4=Prompt** to display a popup window with all possible actions listed. If using this method, position the cursor against the **CONSOLE** action and type **1**.
4. Press Enter to close the pop-up window and display CONSOLE as the Action type. Further parameter options, unique to the Console action, are displayed.

5. Leave the remaining parameters as their system defaults and press Enter. The Console action is now displayed in the 'Actions' area of the Add Message Queue Rule display.
6. Press Enter to add the message rule and action to the message queue and return to the Display Message Review display.

> NOTE: A message is shown at the bottom of this display advising you that a new rule has been added to the selected message queue by a user from the message review display.

To see that the rule has been added to the QHST Message Queue, press <Enter> to return to the Work with Rules display. Position the cursor against the **QHST** message queue and press **F11=Expand**. All message rules in the QHST message queue are now displayed.

> NOTE: If the message rule that you just added is not displayed, press **F5=Refresh** to update the display.

If the example that you have just created was a test it can be deleted by taking option **4=Delete** against the rule and confirming deletion when prompted. Otherwise you can keep adding rules for this and other message queues using the method described.

Email To SMS Services

Where email to SMS services are not available (typically outside of the USA), additional equipment, such as a GSM terminal (see below) may be required to enable SMS alerting. Please speak to one of Halcyon's technical representatives regarding suitable equipment for this purpose.

Installing a GSM Terminal or NETGSM Terminal

These instructions are not required if you use an email to SMS service.

To send messages to mobile phones and pagers, HalcyonLevel 2 - Systems Operations Suite requires a GSM terminal phone connected to a V24 communications adapter on your IBM i or a NPort NETGSM device connected to your local network.

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

This can be determined by using: **WRKHDWRSC TYPE(*CMN)**

and looking at the configuration status of the communications resources. You have to vary off any resources that have a status of Active or Rcypnd that you want Halcyon Message Communicator to use.

Installing and configuring a GSM terminal

1. From a V.24 port on the IBM i, connect the V.24 cable to the GSM.
2. Insert the SIM card into the GSM (make sure it is data enabled) and power it on.
3. From the Halcyon Level 2 - Systems Operations Suite main menu select option **21=Message Communicator**.
4. From the Message Communicator menu select option **31=Work with Communications Resources**. A default communications resource is displayed.
5. Select option **2=Change** against the default communications resource to open the Change Communications Resource display.
6. Change the Comm Port setting to the same as that identified for the V.24 Port in the Work with Communications Resource display.

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

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

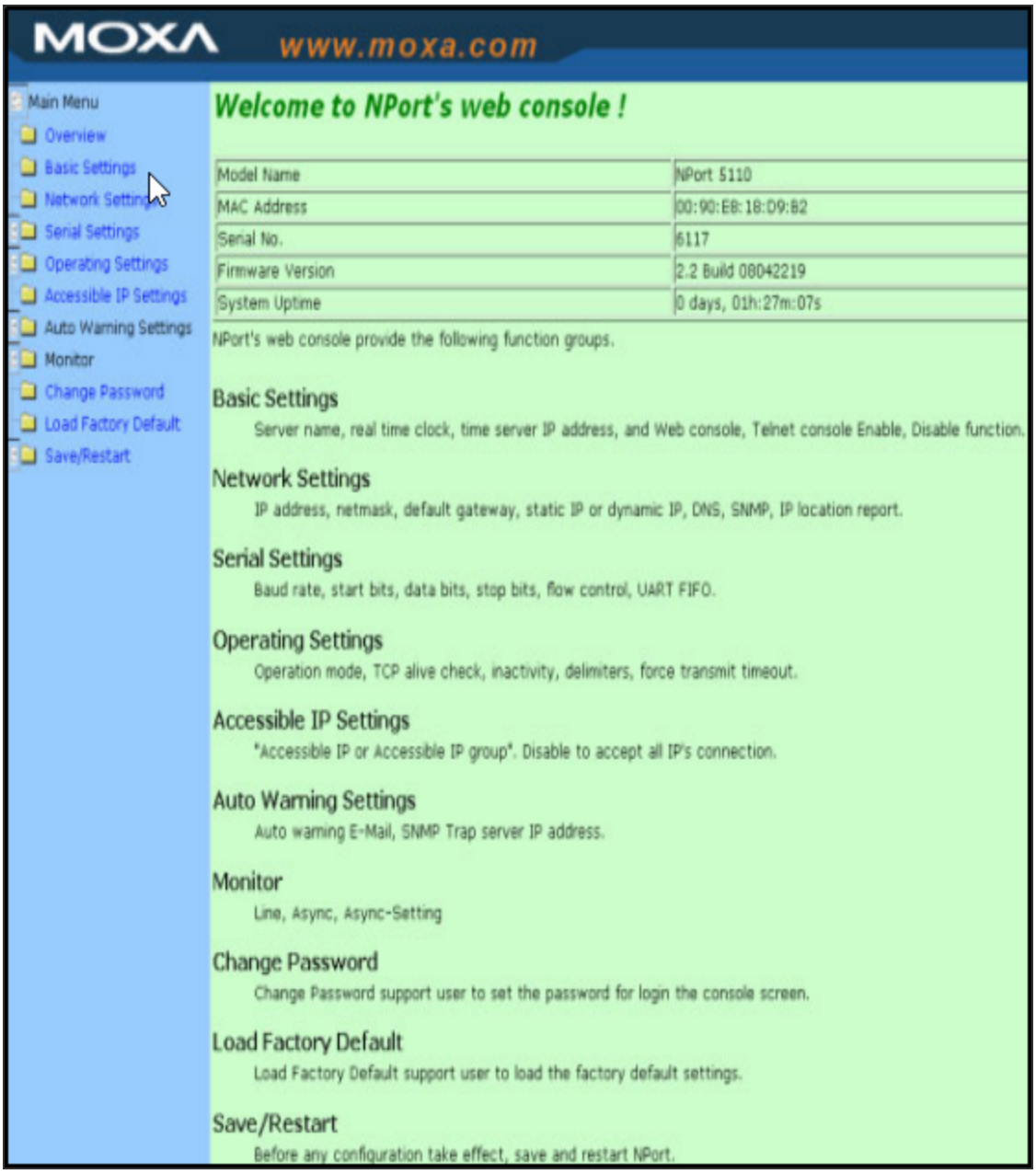
Installing and Configuring a NPort NETGSM device

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

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

> **NOTE:** A quick installation guide for the NPort device can be found at: https://www.moxa.com/doc/man/NPort_5110_QIG_v3.pdf

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



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

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

The configuration of the NPort NETGSM device is now complete.

Configuring the NETGSM device within Halcyon Level 2 - Systems Operations Suite

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

> NOTE: This entry must be the same as that configured in the Local TCP Port setting of the Operating Settings of the NETGSM device. If you change this setting within Halcyon Level 2 - Systems Operations Suite, you must change the corresponding entry on the NETGSM device and vice versa.

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

Adding a Phone

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

1. From the Halcyon Level 2 - Systems Operations Suite main menu, select option **21=Message Communicator** followed by option **10=Work with Phones**.
2. To create a new mobile phone, use **F6=Add** from the main Work with Phones display to open the Add Phone display.
3. Enter a **Name** and **Description** for the new phone, such as ‘Test’. (The phone can be deleted once the test is complete).
4. Enter the phone number of the mobile to be used for the test. You can enter spaces if you want as these are ignored when the number is used.
5. Leave the Service Provider and SMS Send Authority parameters as their default settings and press Enter to create the phone.

Sending a test message via the GSM/NETGSM

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

1. On the Command line, type **SNDTXTMSG** and press **F4** to open the Send Text Message display.
2. Type **Test Message** into the Message Test parameter.
3. Position the cursor on the 'To Message Device' parameter and type in the name of the phone that you added in the previous section.
4. Press Enter to send the test message, which should arrive at the phone within a few moments.

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

If the Test Message does not arrive

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

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

EHS6T LAN Configuration Guide

Overview

Gemalto's Cinterion EHS6 Terminal is a simple plug-and-play 3G M2M connectivity device that connects using wireless technology.

Initial Configuration

1. Connect an Ethernet cable from the EHS6T modem to a PC that is configured for DHCP and connect the power cable to the device.
2. Open a browser on the PC and browse to **192.168.1.1**.
3. Login to the **OpenWrt** webpage (default user is root, password leave blank)
4. Select **Network** | **Interfaces** from the menu:
5. Click **Edit** on the LAN interface to modify the network settings.
6. Enter the correct **IPv4 Address**, **netmask** and **gateway**.
7. Scroll down and tick the box for **Ignore Interface** within the DHCP Server section.
8. Click **Save**.
9. Scroll back up to the menu and select **Network** | **Interfaces** from the menu.
10. For each of the remaining networks listed (Everything other than LAN) perform the following:
    i. Click **Edit** against the Network interface.
    ii. Click on **Advanced Settings** then uncheck the **Bring up on boot** option.
    iii. Click **Save** then move on to the next interface and perform the same process.
11. Once all remaining interfaces have been disabled, scroll back up to the menu and select **System** | **Startup** from the menu.
12. Scroll down until you find an entry called **smstools3**. Click **Enabled** to the right of the text to disable this application.

TIP: You will know that the application has been disabled as the Enabled button will change to read Disabled.

13. Finally, click **UNSAVED CHANGES** at the top of the screen.
14. On the next screen click **Save & Apply**.
    This will save the changes to the configuration and reboot the device.

    You will now be able to connect the modem to your network and access it via the new IP Address.

Modem Timeout

To enable a timeout on the modem's telnet server (port 1234) you will need to telnet/ssh onto the device then run the following command:

sed -i 's/1234:telnet:0/1234:telnet:30/g' /etc/ser2netehsfw-0.01.conf

This command will enable a 30 second timeout.

If you need to disable the timeout you can use this command:

sed -i 's/1234:telnet:30/1234:telnet:0/g' /etc/ser2netehsfw-0.01.conf

Then reboot the device.

Device Password

If you would like to protect the device from unauthorized changes you will need to setup a password to access the device.

1. Select **System** | **Administration** from the menu.
2. Look for the section titled 'Router Password' and enter a new password into both the **Password** and **Confirmation** boxes.
3. Scroll to the bottom of the page and select **Save & Apply**.
4. Once the password has been set it will then be required to access the web admin pages.
   In addition, the telnet server is disabled and the SSH server is activated which requires the username 'root' plus the password you have defined to login.

2-Way POP Email Using SECURE Connection

In order to support 2-way *POP email with *SECURE connections you must ensure that there is a *SYSTEM certificate in the IBM i Digital Certificate Manager (DCM). If not, you must create one.

Additionally, certain authorities must be granted to the keys created in the IFS to enable Halcyon to access the certificate.

- Verify that the key database exists. Use the following command:
  wrklnk 'QIBM/UserData/ICSS/Cert/Server/*'

  to check that the directory contains files DEFAULT.KBD and DEFAULT.RBD
- If the key database does not exist, ensure the Digital Certificate Manager service is started.
  - Check that the QHTTPSVR subsystem is active and a specific set of *ADMIN jobs are running based upon the operating system you have installed (see: https://www-01.ibm.com/support/docview.wss?uid=nas8N1010356 for specific job details).
  - If QHTTPSVR is not running, you can issue command STRTCPSVR SERVER (*HTTP) HTTPSVR(*ADMIN). We recommend that you check with your IBM i system administrator prior to running the command.
- If the DCM service is started and the QHTTPSVR ADMIN* jobs are active, access the DCM management portal and check if the *SYSTEM certificate store exists.Use the following URL to access the DRM portal, replacing systemname with your IBM i system/LPAR name:

  https://systemname:2001/QIBM/ICSS/Cert/Admin/qycucm1.ndm/main0
- If the *SYSTEM store does not exist then you must manually create it. Use the information in the following link: http://www-01.ibm.com/support/docview.wss?uid=nas8N1010356 on how to create a server certificate. Once complete, check under the *SYSTEM store that a server certificate has been created.

  Should you continue to experience issues, please contact Halcyon Technical Support: support.halcyon@fortra.com

Troubleshooting

Dumping Product Data

Although Halcyon Level 2 - Systems Operations Suite is a very robust and stable product, there are times when problems may arise. So that Halcyon can assist you fully, there is an in-built utility that allows you to download system information to a *SAV file and then forward it to the support team as an email attachment.

To Dump Product Data:

1. From the Halcyon Level 2 - Systems Operations Suite main menu, select option **41=Utilities** followed by **30=Dump Product Data** from the Utilities menu.
2. Select the **Product Code** to which the issue relates. (HEM=System Event Manager, HMC=Message Communicator, HMM=Message Manager and so on).
3. Select ***YES** for Common Library if you want to include the common library data.
4. Enter the name of the *SAV File that you want to use (or keep the default of Halcyon) together with the name of the library in which the *SAV file is held.
5. Press Enter to generate the *SAV file.

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: support.halcyon@fortra.com.

Other resources

This document forms part of a series of manuals designed to assist you in getting the most from your software.

Other documents available in this series include:

- Halcyon Level 2 - Systems Operations Suite - User Reference
- Enterprise Console - Installation Guide
- Enterprise Console - User Reference

Technical Support

For technical support relating to anything contained within this document, please email: support.halcyon@fortra.com.

Contacting Fortra

Please contact Fortra for questions or to receive information about Halcyon Systems Operations Suite. You can contact us to receive technical bulletins, updates, program fixes, and other information via electronic mail, Internet, or fax.

Fortra Portal

For additional resources, or to contact Technical Support, visit the Fortra Support Portal at https://support.fortra.com.

For support issues, please provide the following:

- Check this guide's table of contents and index for information that addresses your concern.
- Gather and organize as much information as possible about the problem including job/error logs, screen shots or anything else to document the issue.