z Systems

Open Systems Adapter/Support Facility on the Hardware Management Console

SC14-7580-02

Notice

Before using this information and the products it supports, read the information in "Notices" on page 41. You should also familiarize yourself with *z Systems Open Systems Adapter-Express Customer's Guide and Reference*, SA22–7935, and the information from *z Systems Hardware Management Console Operations Guide* and *z Systems Support Element Operations Guide*, which can be found on the consoles' help systems, or on the IBM Knowledge Center at http://www.ibm.com/support/knowledgecenter/ (Select **z Systems** on the navigation bar, and then select your server).

This edition, SC14-7580-00, refers to the IBM Open Systems Adapter-Express3 Integrated Console Controller for the following operating systems: z/OS Version 1 Release 2 or higher (5694-A01), and z/OS.e Version 1 Release 3 or higher (5655-G52), Open Systems Adapter Support Facility for z/Virtual Machine/Enterprise (z/VM) Version 3 Release 1, Version 4 Release 2 (Program Number 5654-A17), and Version 4 Release 3 or higher (Program Number 5739-A03), OSA/SF for VSE Version 2 Release 2 (part of VSE Central Functions 6.1.1, 5686-066) in VSE/ESA Version 2 Release 2.6 (5690-VSE) or higher, and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

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About this publication

This document describes how to use the Open Systems Adapter/Support Facility on the Hardware Management Console.

Who should use this publication

This document is intended for technical staff who configure Open Systems Adapter-Express cards.

What is included in this publication

This publication contains the following chapters:

- Chapter 1, "Overview," on page 1 is an introduction to OSA/SF on the HMC.
- Chapter 2, "Creating an HMC user for OSA/SF," on page 3 shows the steps that the HMC access administrator must take to create a user for the OSA/SF system administrator.
- Chapter 3, "HMC windows," on page 7 contains the HMC windows and functions for the format and contents of the Query OAT Reply.
- Chapter 4, "Configuration error and warning messages," on page 27 summarizes the error and warning messages for OSA/SF on the HMC.
- Appendix A, "Migration steps," on page 37 outlines the steps to migrate an OAT that was created with the OSA/SF operating system component to OSA/SF on the HMC.
- Appendix B, "Summary of new HMC windows functions," on page 39 summarizes OSA/SF operating system component commands (IOACMD) and how they are handled with OSA/SF on the HMC.

Related publications

Important

Please ensure that you are using the most recent version of all related documentation.

Other IBM publications that you may find helpful include:

- *OSA-ICC User's Guide*, SA22-7990
- *z Systems OSA-Express Customer's Guide and Reference*, SA22-7935

A note on terminology

Throughout this publication, certain equipment terms and short versions of product names are used to make the information more easily understood. These are:

card As used on the HMC panels, refers to an OSA feature.

CHPID
Channel path identifier.

GbE Gigabit Ethernet.

OSA Open Systems Adapter. This document may refer to OSA-Express4S or OSA-Express5S as OSA.

OSA/SF
Opens Systems Adapter/Support Facility.

OSD The CHPID type for OSA-Express features that run under Queued Direct Input/Output architecture (QDIO).

OSE The CHPID type for OSA-Express features that do not use QDIO architecture (typically SNA/APPN/HPR applications).

OSN The CHPID type for OSA-Express features that use QDIO architecture and channel data link control (CDLC) protocol.

HMC Hardware Management Console.

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  SC14-7580-01
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Summary of changes

This document contains terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

You may notice changes in the style and structure of some content. For example, text that has a different look and format. The changes are ongoing improvements to the consistency and retrievability of information in our documents.

Summary of changes for SC14-7580-02

This version has received editorial and terminology updates.

New

There is a new chapter: Chapter 2, “Creating an HMC user for OSA/SF,” on page 3.

Summary of changes for SC14-7580-01

This version has received editorial and terminology updates, along with updated screen samples throughout.

Changed

The ASCII configuration file samples table in “Manual Configuration format” on page 18 has been updated.

Summary of changes for SC14-7580-00

This is the initial release of the document.

Chapter 1. Overview

For the generations of OSA prior to OSA-Express4S and OSA-Express5S, the system administrator who was responsible for OSA installation, configuration, and general management required a separate OSA management tool called OSA/SF (Support Facility). This operating system based tool provided functions that were used to configure and manage the OSA. This program product contained two pieces: a z/OS, z/VM, or z/VSE host piece, and a Java-based graphical user interface (GUI) based application as well as a z/OS REXX sample interface.

In addition to configuring OSE CHPIDs, OSA/SF provides useful run time management functions for the OSA to the host OS via the QDIO (Queued Direct Express Interface) interface. One key administrative function provided by OSA/SF is the ability to display the contents of the OSA Address Table (OAT) for both QDIO and non-QDIO OSAs. The OAT contains such information as IP addresses and Media Access Controls (MACs) that are currently (dynamically) registered by the host Operating Systems using (sharing) the OSA.

The OSA/SF functions necessary to configure, manage and display OSA-Express4S and OSA-Express5S are being moved to the HMC. This document describes the new support.

OSA/SF on the HMC is exclusive to the zEC12, zBC12, and to all follow-on systems. The latest driver level is required. OSA/SF on the HMC is required for the OSA-Express5S features. Either OSA/SF on the HMC or the OSA/SF operating system component can be used for the OSA-Express4S features. The OSA/SF operating system component must be used for the OSA-Express3 features. OSA/SF on the HMC can be used to configure channel path identifier (CHPID) type OSE. It can be used to manage (query/display) CHPID types OSD, OSE, and OSN

For more information about the OSA/SF operating system component, see *z Systems OSA-Express Customer's Guide and Reference*, SA22-7935.

HMC overview

Your system can have one or more OSE features defined. Although initial use of an OSE feature is enabled by the IBM Default Configuration loaded with the feature, any customization can be made with the OSA/SF HMC windows. OSA/SF configuration windows are accessible on your Hardware Management Console through the OSA Advanced Facilities windows. These windows allow you to customize each OSE on your system and to obtain query information about OSD, OSN and OSE features.

Hardware Management Console (HMC) information can be found on the console help system, or on the IBM® Knowledge Center at http://www.ibm.com/support/knowledgecenter/ (Select **z Systems** on the navigation bar, and then select your server).

OSA Address Table overview

A key administrative function provided by OSA/SF is the ability to display and manipulate the contents of the OSA Address Table (OAT). The OAT contains such information as Devices, IP addresses, images and virtual MACs that are currently enabled on the OSA.

While the OAT can be displayed for OSD, OSN and OSE features, the ability to configure parameters in the OAT is a function that is specific to CHPID type OSE.

Chapter 3, “HMC windows,” on page 7 shows the HMC panels and functions provided by the new OSA/SF HMC capability.

Security considerations

The following role groups have access to OSA/SF:

- service
- sysprog

Chapter 2. Creating an HMC user for OSA/SF

In order to utilize the OSA/SF configuration windows on your Hardware Management Console, the HMC access administrator must first create a user for the OSA/SF system administrator. This new user has the required permissions for the objects and tasks required on the HMC for the OSA/SF system administrator.

HMC version 2.13.0 and later

This section describes how the HMC access administrator creates a custom role for your OSA/SF system administrator and how to create the user for the OSA/SF system administrator. This is for HMC version 2.13.0 and later.

OSA/SF Role

Steps for the HMC access administrator to create a custom role for your OSA/SF system administrator are as follows:

1. Logon user ACSADMIN and choose the Task index to find the **User Management** task.
2. From the **User Management** dashboard, select the **Roles** icon in the navigation area.
3. From the action icons, select the **New** icon. The **New Role** wizard is started.

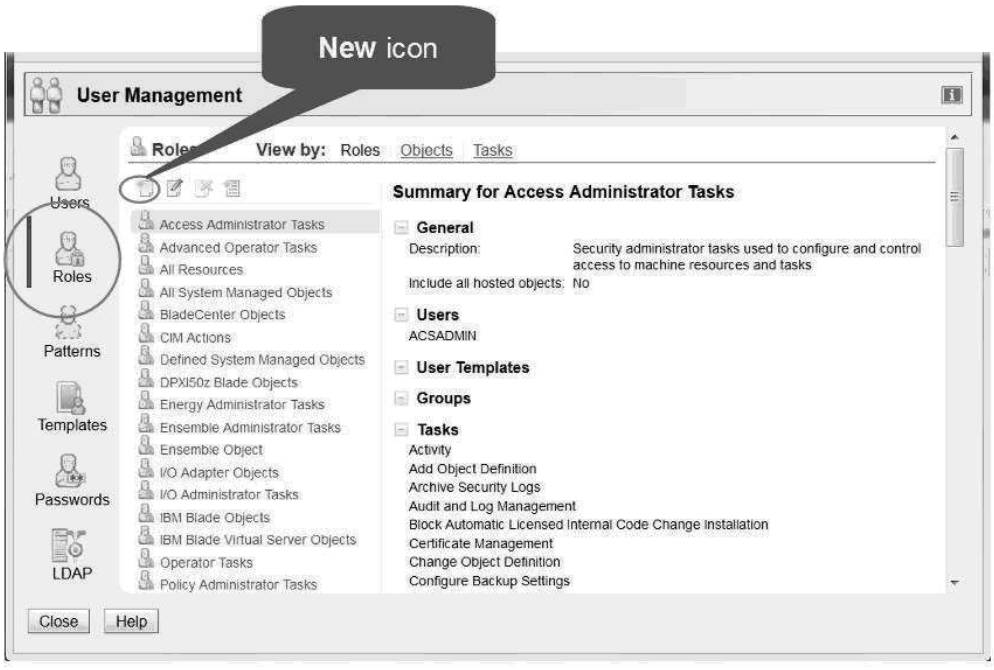

Figure 1. New Role wizard

4. On the Welcome page of the **New Role** wizard, read the text, then click **Next**.
5. On the Name page, in the Create Option section, leave the selection **New**. In the Role Details section, enter *OSASF Tasks* in the Name field. Optionally, enter meaningful text (that is, *OSA Support Facility tasks*) in the Description field to describe your role, and then click **Next**.

6. On the Tasks page, select the **OSA Advanced Facilities** task. You can type *facilities* in the filter to narrow down the list of tasks in the table, or you can scroll down to find the selection. When you have made the task selection, click **Next**.
7. On the Objects by Type page, select the rows for the following object types. When complete, click **Next**.
   a. *Defined CPC*
   b. *LPAR Image*
8. On the Specific Objects page, make no selections, then click **Next**.
9. On the Groups page, make no selections, then click **Next**.
10. On the Objects by Group page, make no selections, then click **Next**.
11. Review the details on the Summary page, then click **Finish**. The role *OSASF Tasks* is created. On the dashboard, the role *OSASF Tasks* is added to the list of roles and is the current selected role. View the *Summary for OSASF Tasks* to verify the Tasks and Object Types that the role granted permission are correct.

OSA/SF User

Steps to create the user for the OSA/SF system administrator are as follows:

1. From the **User Management** dashboard, select the **Users** icon in the navigation area.
2. From the action icons, select the **New** icon. The **New User** wizard is started.
3. On the Welcome page of the **New User** wizard, read the text, then click **Next**.
4. On the Name page, in the Create Option section, leave the selection **New**. In the User Details section, enter *OSASF* in the Name field. Optionally, enter meaningful text (that is, *OSA Support Facility user)* in the Description field to describe your user, and then click **Next**.
5. On the Authentication page, keep the default selection **Local authentication**. Leave the Password rule as the default *Standard*. Enter the desired password in the Password and Confirm password fields, then click **Next**.
6. On the Roles page, select the check box for role *OSASF Tasks* to give the user access to the required objects and tasks. You can type *osa* in the filter to narrow down the list of roles in the table, or you can scroll down to find the selection. When you have made the task selection, click **Next**.
7. Review the details on the Summary page, then click **Finish**. The user *OSASF* is created.
8. On the dashboard, user *OSASF* is added to the **Users** list and is the current selected user. View the *Summary for OSASF* to see the Roles, Tasks, and Object Types that OSASF is granted permission.

HMC version 2.12.1 and prior

This section describes how the HMC access administrator creates a custom role for your OSA/SF system administrator and how to create the user for the OSA/SF system administrator. This is for HMC version 2.12.1 and prior.

OSA/SF Role

Steps for the HMC access administrator to create a custom role for your OSA/SF system administrator are as follows:

1. Logon user ACSADMIN.
2. From **Tasks Index** (in tree style UI) or **Console Actions** (in classic UI), select the **Customize User Controls** task.

3. From the Customize User Controls window, select **Task Roles**.
4. Select **Edit** from the menu bar and **Add** from the drop-down list.
5. From the Add Role window, select **System Programmer Tasks** from the Based on drop-down list.
6. From the Available Tasks area in the Add Role window, expand **Operational Customization** and select **OSA Advanced Facilities**.
7. Click **Add** to add the selection to the Current Tasks area.
8. Enter a meaningful name (that is, *OSA Facilities Permission*) in the **Role Name** input area and click **OK** to save the new role. The new role is displayed in the Task Roles list.
9. From the Customize User Controls window, select **Edit** from the menu bar.
10. From the drop-down list select **Exit**.

OSA/SF User

Steps to create the user for the OSA/SF system administrator are as follows:

1. From Tasks Index (in tree style UI) or Console Actions (in classic UI), select the **User Profiles** task.
2. From the User Profiles window, select **Edit** from the menu bar.
3. From the drop-down list, select **Add**.
4. From the Add User window:
   a. Enter a User ID and Description in the input areas.
   b. Select a Password Rule from the drop-down and a Password.
   c. Select **OSA Facilities Permission** role from the Task Roles list to ensure the new user has access to the OSA Facilities task.
   d. Click **OK** to save the new user information.
5. From the User Profiles window, select **Edit** from the menu bar.
6. From the drop-down list, select **Exit**.

Chapter 3. HMC windows

This chapter summarizes the HMC windows for managing OSE, OSD, and OSN features, as well as for configuring OSE features. Note that you need to be logged on with the OSA Support Facility user created in Chapter 2, "Creating an HMC user for OSA/SF," on page 3.

Refer to the OSA/SF operating system component details provided in *z Systems OSA-Express Customer's Guide and Reference*, SA22-7935.

For a summary of OSA/SF operating system component commands (IOACMD) and how they are now handled with OSA/SF on the HMC, see Appendix B, "Summary of new HMC windows functions," on page 39:

Logging on to HMC as an OSA/SF User

After doing the steps in Chapter 2, "Creating an HMC user for OSA/SF," on page 3, the OSA/SF system administrator can logon to the HMC as user OSASF. OSASF is required to change the password on the first logon. When logged on, the OSASF user can target the appropriate CPC and open the **OSA Advanced Facilities** task to perform the OSA Support Facilities functions.

1. From the HMC main panel, select the **Systems Management** icon in the navigation area.
2. In the *Systems Management* work area, select the desired CPC.
3. In the Tasks area, expand the *Operational Customization* task group.
4. Select the **OSA Advanced Facilities** task. If a list of channels that are not available panel appears, click **OK**.
5. Select the desired channel ID (that is, CHPID), then click **OK**. The OSA Advanced Facilities for that channel is displayed.

Advanced Facilities

Users familiar with OSA Advanced Facilities on the HMC will recognize the following Advanced Facilities main window. Additions for OSA/SF on the HMC have been added under the **Card specific advanced facilities...** option.

The following is the main Advanced Facilities window:

Figure 2. Main Advanced Facilities window

To work with the current CHPID type OSE Configuration or to use the OAT Display capabilities for CHPID types OSD, OSE and OSN, select **Card specific advanced facilities...** and click **OK**.

Advanced Facilities card-specific window

For CHPID type OSE, the Advanced Facilities window provides the following options:

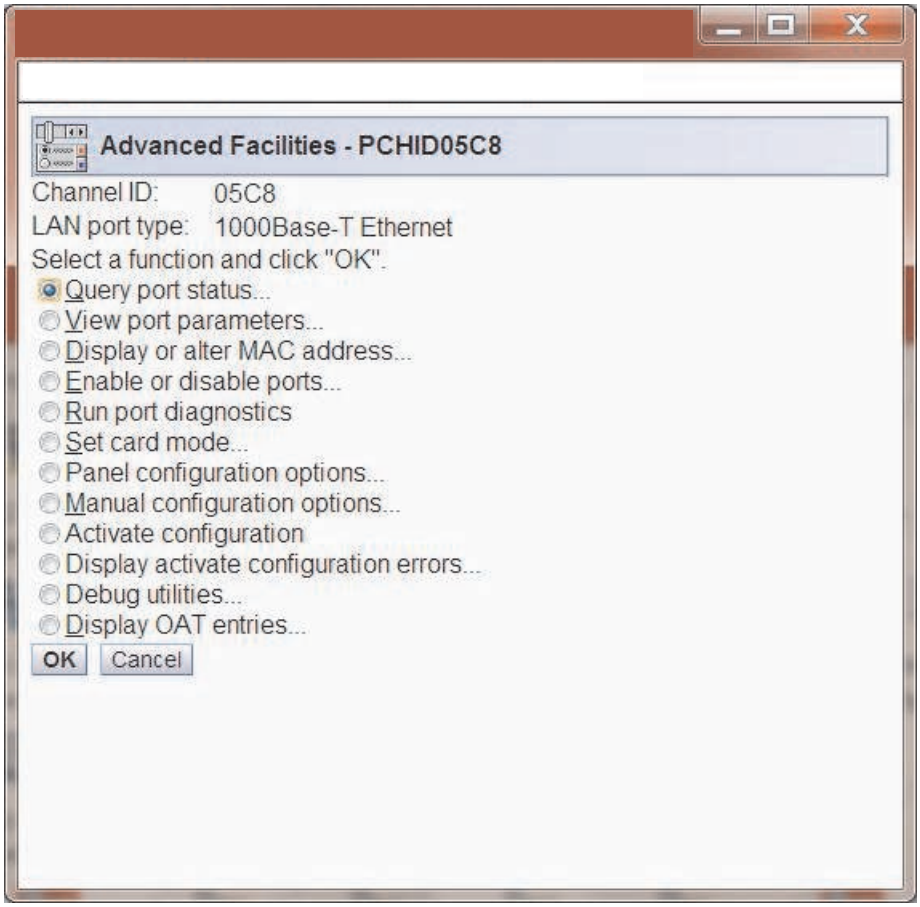

Figure 3. Advanced Facilities window (CHPID type OSE selections)

For CHPID types OSD and OSN, a limited set of functions is available as shown in Figure 4 on page 10:

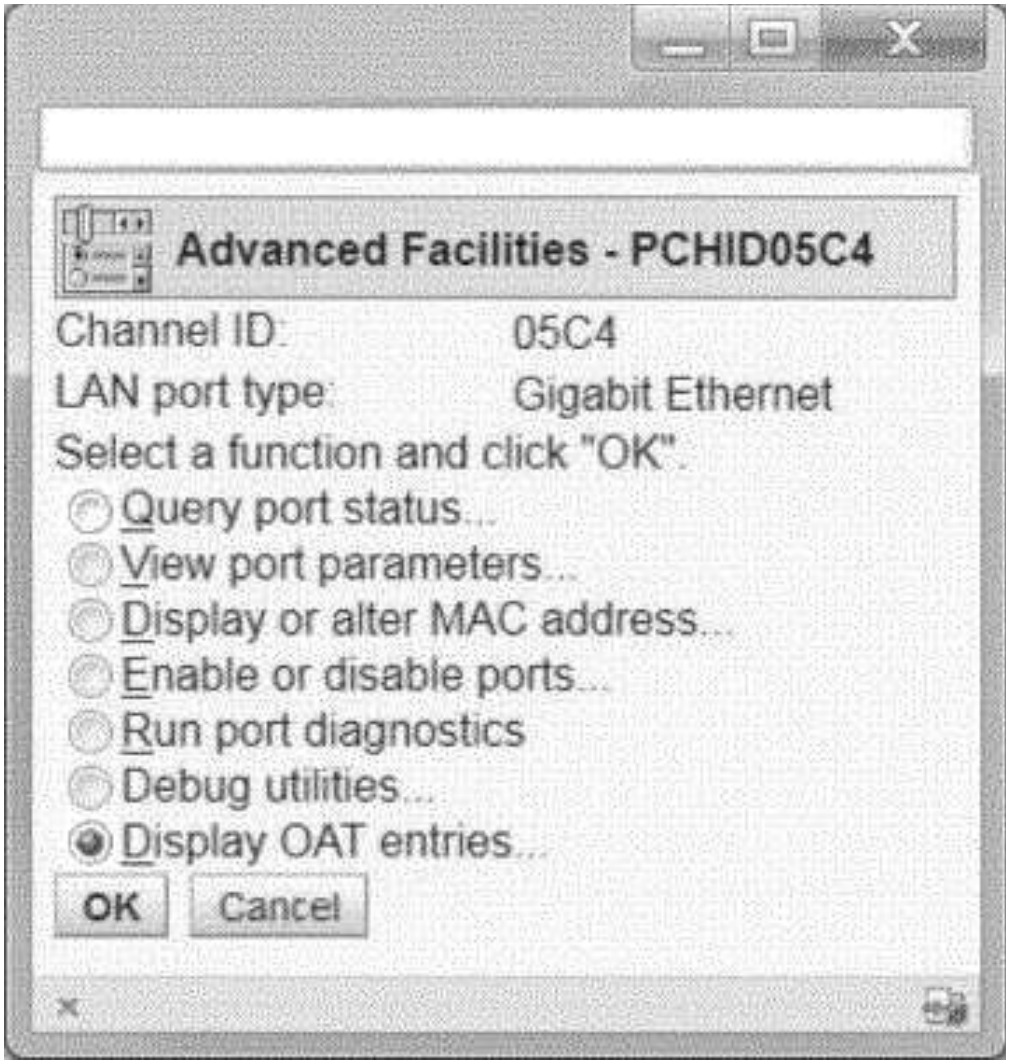

Figure 4. Advanced Facilities window (CHPID type OSD/OSN selections)

Two methods are provided to configure CHPID type OSE to be used as a TCP/IP or SNA gateway.

1. The panel configuration options provide a window-driven menu set that enables you to add the appropriate settings to configure the CHPID type OSE.
2. A manual configuration that enables you to manually edit an ASCII file containing configuration key words.

Note: The parameters and values entered for both the manual and panel configuration options interface must be validated before you can activate the configuration.

After a successful activation, the values of the windows option menus and manual ASCII file are synchronized on the HMC. This means that you can interchangeably use the panel configuration options or manual options to configure CHPIDs type OSE.

Panel Configuration Options window

The Panel Configuration Options window is a GUI driven option that can be used to create or modify OAT entries for either SNA or TCP/IP sessions. Once a

configuration is created, this set of windows can also be used to validate the configuration and view errors or warnings if they exist.

The following is the Panel Configuration Options window. Access this panel from the card-specific Advanced Facilities window (see "Advanced Facilities card-specific window" on page 8) by selecting **Panel configuration options..** and clicking **OK**:

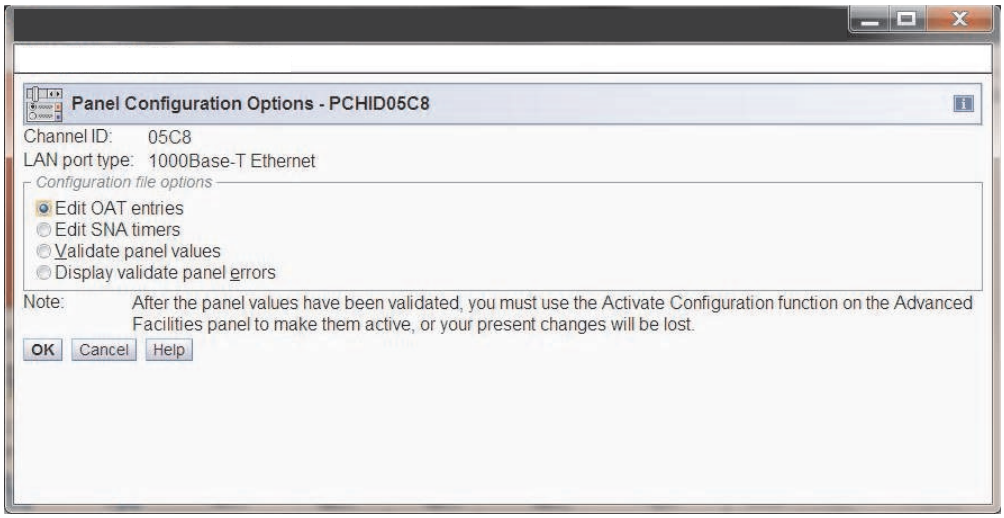

Figure 5. Panel Configuration Options window

The **Configuration file options** are the following:

Edit OAT entries
See "Edit OAT Entries window."

Edit SNA timers
See "Edit SNA Timers window" on page 15.

Validate panel values
Runs the validate option. This option verifies syntax and definitions in the panel setting.

Display validate panel errors
Displays the errors, warnings and information messages, if any, after a validate has been performed. The message codes are listed and briefly explained in Chapter 4, "Configuration error and warning messages," on page 27.

Select a configuration option and click **OK** to continue.

Edit OAT Entries window

The OSA Address Table (OAT) is a component of an OSA feature's configuration. An OAT entry defines the data path between an OSA feature port and an image and device unit address.

The Edit OAT Entries window is invoked from the Panel Configuration Options window. Figure 6 on page 12 is a representative window of an active Display. To choose an action, select an entry by selecting the radio button next to the entry and selecting an entry from the **Select Action** pull down.

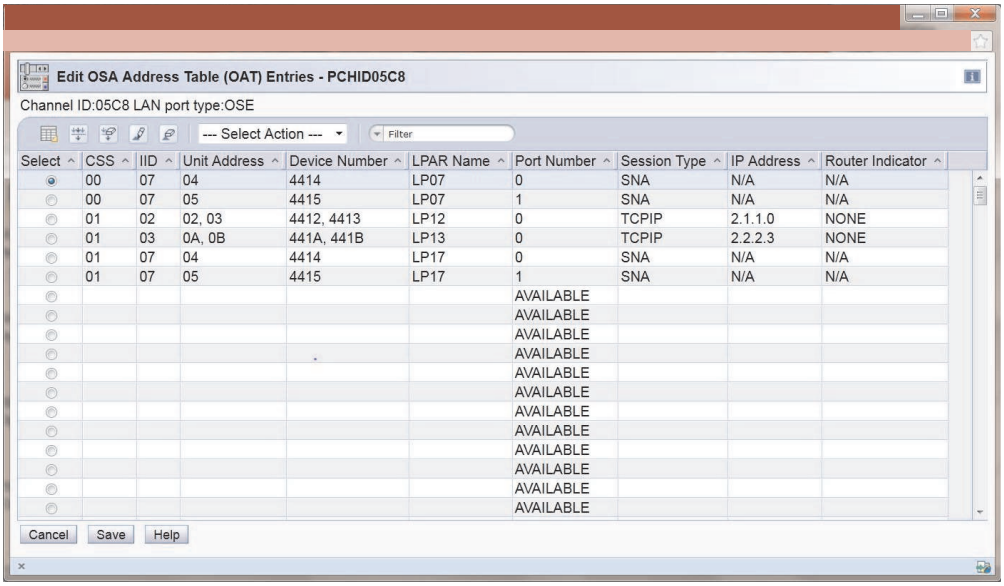

Figure 6. Edit OAT Entries window

The window has the following columns:

CSS The Channel Subsystem (CSS) in which this entry is valid.

IID The LPAR number, also known as the Image ID or Image Number.

Unit Address
The I/O device representation or UNITADD on a CUNUMBER (control unit) in the IOCPgen (Range 0x00 - 0xFD).

Device Number
A mapping of the I/O device representation (UNITADD) to the Host I/O Device Address (IODEVICE ADDRESS).

LPAR name
The name of the Logical Partition as defined in the IOCDS. A value of UNKNOWN means that this CSS.IID is not defined in the IOCDS that is currently active.

Port Number
The Port Number on the OSA.

Session Type
The session type, defined as SNA or TCP/IP. For a TCP/IP session, the UA start address must be an even number and has two UAs per entry; for a SNA session, the UA start address can be an even or odd number and contains only one UA per entry.

IP Address
The IP address of an OAT Entry if only one IP is present. The field contains MULTIPLE if more than one IP is defined per OAT entry.

Router Indicator
The router, defined as PRI, SEC, N/A (for SNA), or None.

Click **Save** to preserve your changes.

Selecting actions on the Edit OAT Entries window: The following table describes the actions you can select from the Edit OAT Entries window.

Table 1. Selecting actions on the Edit OAT Entries window

Select action	**Action when selected**
Edit as SNA Entry	Edit the OAT Entry as a new SNA Entry
Edit as TCP/IP Entry	Edit the OAT Entry as a new TCP/IP Entry
Invalidate Entry	Clear the Entry
Invalidate all Entries	Clear all entries
Table Actions	
Export Data	Export the table to local file
Show Filters Row	
Clear all Filters	
Edit Sort	Sort the table by column value
Clear all Sorts	

Edit OAT Entry (as TCP/IP) window: From the Edit OAT Entries window, selecting **Edit as TCP/IP Entry** brings up the window shown in Figure 7 on page 14. Available values for CSS, Image Number and Unit Address are pre-entered from data gathered from the active IOCDS of the machine.

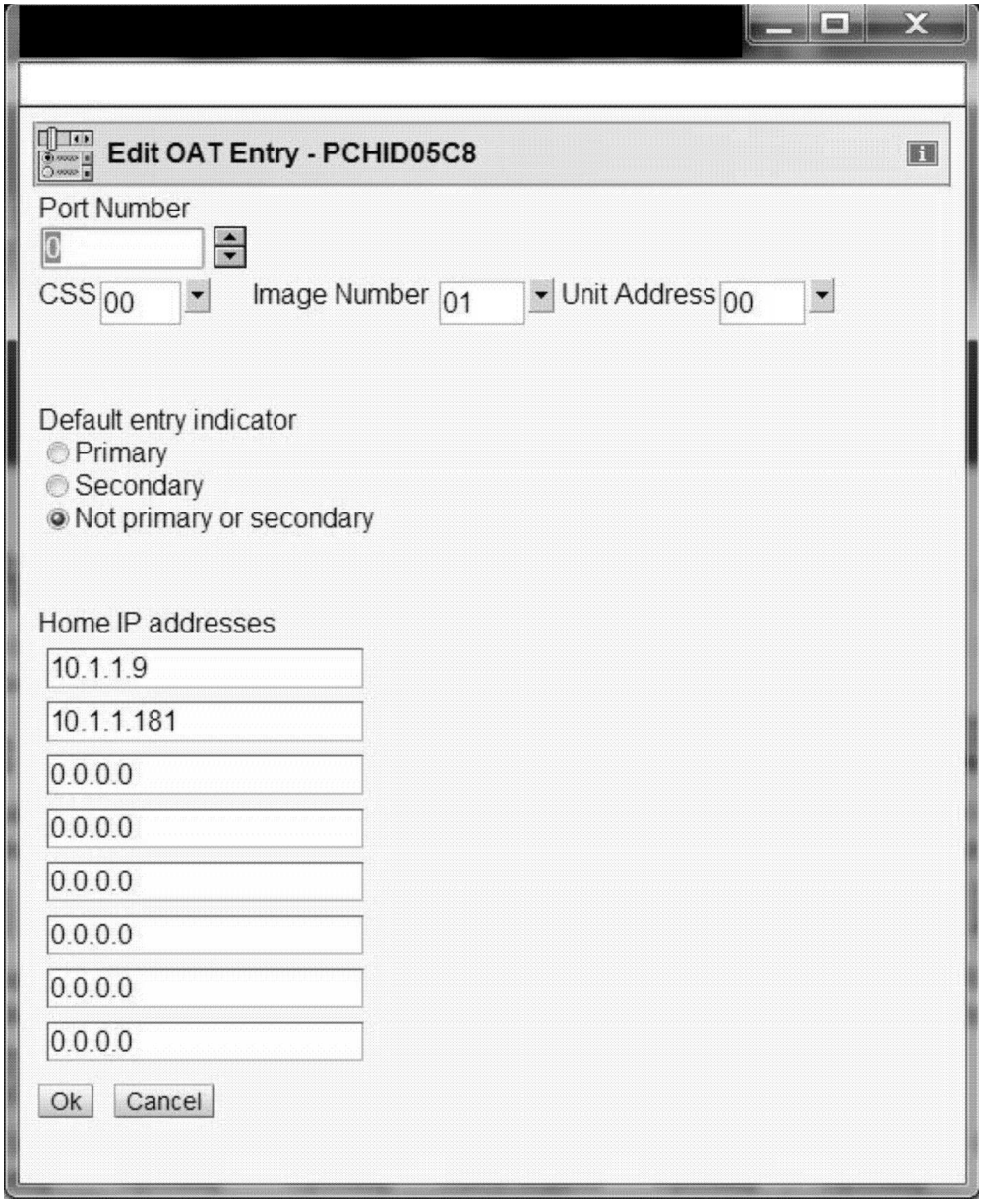

Figure 7. Edit OAT Entry (as TCP/IP) window

This window has the following choices:

Port Number
Select the port number by using the up and down arrows to select the correct setting.

CSS Select the CSS (Channel Subsystem Number) from the drop down list. If the OSE is Dedicated in the IOCDS, this value must be 0.

Image Number
Select the image number (LPAR number) from the drop down list. If the OSE is Dedicated in the IOCDS, this value must be 0.

Unit Addresss
Select the unit address (UNITADD) from the drop down list.

Default entry indicator
Choose one of the following default routing entry indicators:

- Primary
- Secondary
- Not primary or secondary

Home IP addresses
Enter an IPV4 address in dotted decimal notation. You may enter up to eight IPV4 addresses per OAT entry.

Click **OK** after entering the information to define your OAT entry.

Edit OAT Entry (as SNA) window: From the Edit OAT Entries window, select an OAT entry with a session type of SNA.

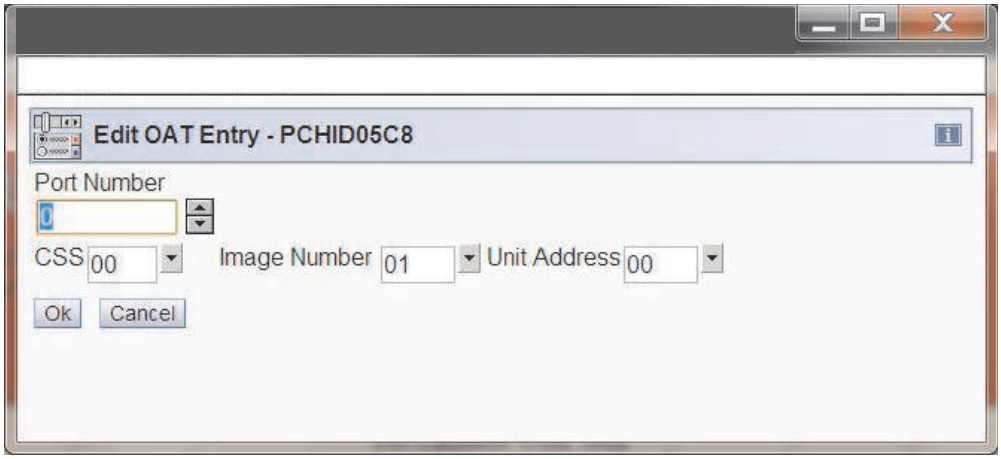

Figure 8. Edit OAT Entry (as SNA) window

This window has the following choices:

Port Number
Select the port number by clicking the up or down arrows to the correct setting.

CSS Select the CSS (Channel Subsystem Number) from the drop down list.

Image Number
Select the image number (LPAR number) from the drop down list.

Unit Addresss
Select the unit address (UNITADD) from the drop down list.

Click **OK** after entering all of the information.

Edit SNA Timers window

The Edit SNA Timers window is accessed from the Panel Configuration Options window ("Panel Configuration Options window" on page 10).

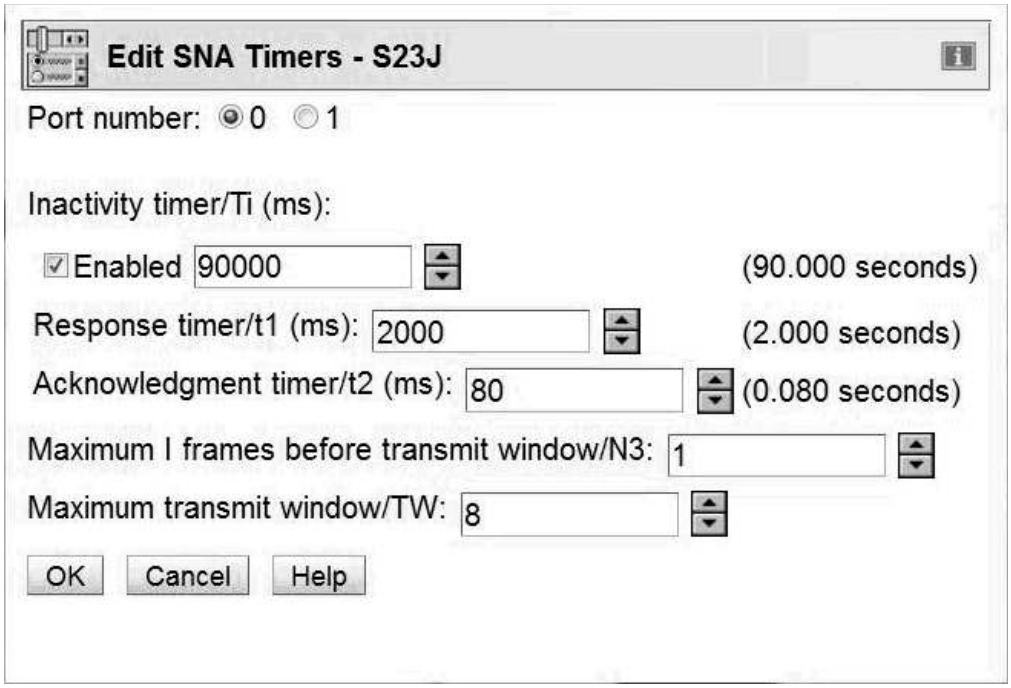

Figure 9. Edit SNA Timers window. Defaults: Inactivity Timer - 90000ms, Response Timer - 10000ms, Acknowledgment Timer - 1040ms.

This window has the following choices:

Port Number
Select the **0** or **1** radio button.

Inactivity Timer/Ti (ms)
Range .24 - 90.0 seconds in .12 second intervals. If you enable the inactivity timer, the card periodically tests the viability of the network media. The timer setting applies to all clients on the target LAN, not to individual clients. The timer interval indicates how quickly a failure of the network media can be detected when the connection is quiescent.

Choose one of the following:

- Enabled
- Disabled

Response Timer/t1 (ms)
Range .20 - 51 seconds. The T1 timer clocks link events that require responses from clients on the network.

Acknowledgment Timer/t2 (ms)
Range .08 - 20.40 seconds. An OSA CHPID starts the T2 timer when it receives an I-Format LPDU and stops when it sends an acknowledgement.

Maximum I Frames Before Transmit Window/N3
Range 1 - 4. The maximum number of I-Frames that can be sent before an acknowledgement is sent.

Maximum Transmit Window/TW
Range 1 - 16. Maximum number of outstanding I-format link protocol data units (LPDU) before an acknowledgement has to be received.

Click **OK** when you are finished.

Manual Configuration Options window

In addition to being able to configure your CHPID type OSE from the windows described previously in this chapter, you can do so by using the Manual Configuration Options window to edit an ASCII file and to generate a new configuration. You can edit this configuration file directly on the HMC or you can edit the file on another platform and then use either a USB or the File Transfer Program to import it into the HMC.

Access this window by selecting **Manual Configuration Options** from the Advanced Facilities card-specific window (see "Advanced Facilities card-specific window" on page 8).

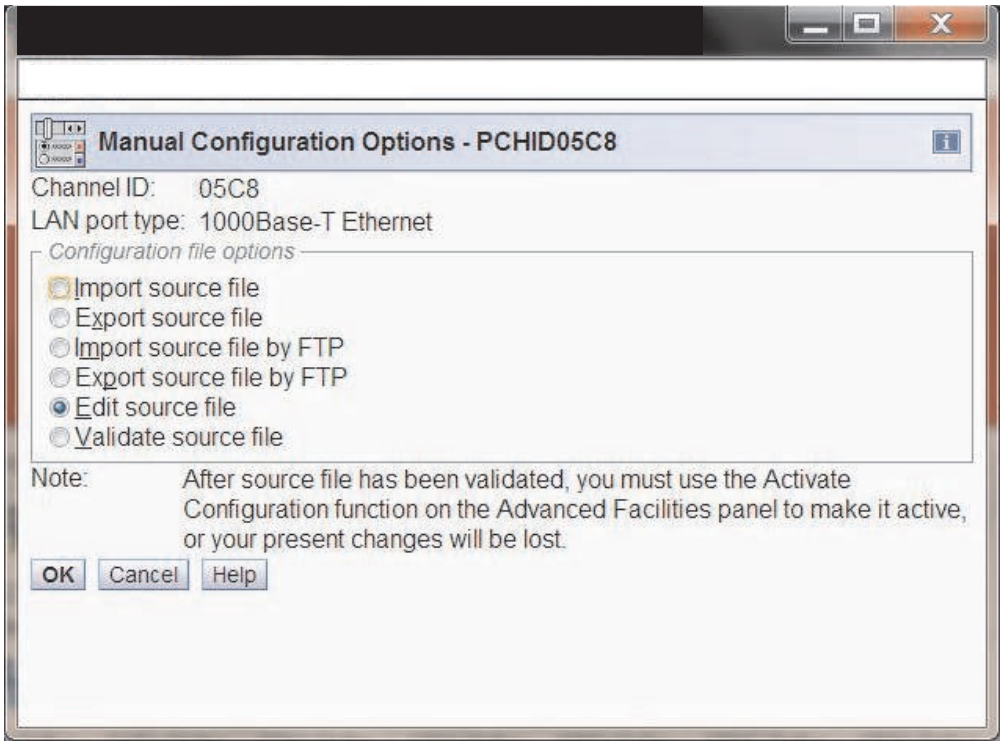

Figure 10. Manual Configuration Options window

Select one of the following under Configuration file options and click OK:

Import source file
Open a configuration file from the local USB port. The ASCII configuration file may have been saved from an OSA-E4S or OSA-E5S on a separate platform and then imported here for editing.

Export source file
Save the current configuration to the local USB port.

Import source file by FTP
Re-open a configuration from a remote FTP Server.

Export source file by FTP
Save the current configuration to a remote FTP Server.

Edit source file
Edit the current configuration as an ASCII file.

Validate source file

Check the syntax of the current ASCII configuration file. If any messages were issued during the validation process, the ASCII file is updated with the messages, which occur immediately before the configuration statement to which the message applied. Any messages with a code greater than 999 must be corrected and the file must be re-validated.

Manual Configuration format

Use of the manual configuration is intended to give you control over the entire configuration of the OSE type of CHPID through manipulation of a single file. This section describes the rules to which you must adhere when updating this file.

Table 2 defines the valid tags available for use in the configuration file.

Table 2. Valid tags available for use in the configuration file

Tag	Description
//	This indicates that any text to the end of the line is a comment.
<OSE>,</OSE>	Start and ending tags.
<OSE_PORT0>,</OSE_PORT0> <OSE_PORT1>, </OSE_PORT1>	Port Specific Information (only valid in OSE section).
<OAT_TABLE>,</OAT_TABLE>	Start/End of OAT table area (only vaild in OSE section).
<OATENTRY>,</OATENTRY>	Individual OAT Entries - range 1 - 240 (only valid in OAT_TABLE section).
<CSS_IID>,</CSS_IID>	Starting and ending Image information (only valid in OAT_TABLE section).
RECORD_TYPE=	SNA | TCPIP (only valid in OATENTRY section).
PORT_NUM=	OSA port Number (only valid in OATENTRY section).
IP_ADDRESS	This tag is used to label the IP address defined on the host for this OAT entry; that is, the value that follows it should be the IP address in dotted decimal notation (for example, 10.128.12.43). This address is assigned to the OSA entry. You can have a maximum of 8 entries per OAT Index to a maximum of 4096 IP addresses per card. There is no default (only valid in OATENTRY section).
UNIT_ADDR=	Unit Address (UNITADD) of connection, must be even for TCPIP (only valid in OATENTRY section).
ROUTER_PARM=	For TCP/IP - NONE | PRIMARY | SECONDARY - the routing parameter for this OAT entry. (only valid in OATENTRY section).
IID=	Image ID (LPAR number; only valid in CSS_IID section). If the OSE is Dedicated in the IOCDS, this value must be 0.

Table 2. Valid tags available for use in the configuration file (continued)

Tag	Description
CSS=	Channel Subsystem ID (only valid in CSS_IID section). If the OSE is Dedicated in the IOCDS, this value must be 0.
INACTIVITY_TIMER=	For SNA, If set, enable timer - default 90000ms (only valid in OSE_PORTx section).
RESPONSE_TIMER=	For SNA, Default 10000ms (only valid in OSE_PORTx section).
ACK_TIMER=	For SNA, T2 - default 1040ms (only valid in OSE_PORTx section).
MAX_I_FRAME=	For SNA, N3, Max I frame before acknowledgement - default 1 (only valid in OSE_PORTx section).
MAX_XMIT_WIN=	For SNA, Max transmit windows - default 8 (only valid in OSE_PORTx section).

Table 3. ASCII configuration file samples

ASCII configuration file samples

```
// This file has been generated from the binary file: /console/data/iqzc039c.hut
// by the Classic OSA/SF on 01/08/2015 13:37:09
// Java Code Level= 106 OSA Code Version= e91
//
// This is an Example OSE Configuration file
//
// Anything found between <OSE_PORT> and </OSE_> tags is treated as
// port specific configuration
//
// Anything between  <OAT_TABLE> and </OAT_TABLE> tags is OAT Entry specific
// There can be 240 OAT Entries, each defined between the <OATENTRY> and
// </OATENTRY> tags
// However, there can be only one <OSA_TABLE>  section
<OSE>
  <OSE_PORT0>
    INACTIVITY_TIMER= 90.0
    RESPONSE_TIMER= 2.0
    ACK_TIMER= 0.08
    MAX_I_FRAME= 1
    MAX_XMIT_WIN= 8
  </OSE_PORT0>

  <OSE_PORT1>
    INACTIVITY_TIMER= 90.0
    RESPONSE_TIMER= 2.0
    ACK_TIMER= 0.08
    MAX_I_FRAME= 1
    MAX_XMIT_WIN= 8
  </OSE_PORT1>

<OAT_TABLE>
<CSS_IID>
CSS= 01
IID= 01
   <OATENTRY>
    RECORD_TYPE= TCPIP
    PORT_NUM= 0
    UNIT_ADDR= 00
    ROUTER_PARM= NONE
    IP_ADDRESS= 10.123.71.16
   </OATENTRY>

   <OATENTRY>
    RECORD_TYPE= TCPIP
    PORT_NUM= 0
    UNIT_ADDR= 06
    ROUTER_PARM= NONE
    IP_ADDRESS= 10.123.200.1
   </OATENTRY>
   <OATENTRY>
    RECORD_TYPE= TCPIP
    PORT_NUM= 0
    UNIT_ADDR= 08
    ROUTER_PARM= NONE
    IP_ADDRESS= 10.2.3.4
   </OATENTRY>
</CSS_IID>
```

Table 3. ASCII configuration file samples (continued)

ASCII configuration file samples

<CSS_IID>
CSS= 03
IID= 09
  <OATENTRY>
  RECORD_TYPE= TCPIP
  PORT_NUM= 0
  UNIT_ADDR= 00
  ROUTER_PARM= NONE
  IP_ADDRESS= 10.123.71.17
  </OATENTRY>
  <OATENTRY>
  RECORD_TYPE= SNA
  PORT_NUM= 0
  UNIT_ADDR= 04
  </OATENTRY>
  <OATENTRY>
  RECORD_TYPE= SNA
  PORT_NUM= 1
  UNIT_ADDR= 05
  </OATENTRY>
</CSS_IID>
</OAT_TABLE>
</OSE>

Note:

1. Depending on the record type, the default values will be loaded into the configuration file.
2. If you are saving iterations of the ASCII configuration file, they must be saved to USB or to another file outside the SE, because only one version of the configuration file exists at a time on the SE.

Manual Configuration - Import Source File

Selecting this option brings up a window that enables you to copy a file from a USB port to the HMC. You can then edit this file by selecting the **Edit source file** option and clicking **OK**.

Manual Configuration - Export Source File

Selecting this option brings up a window that enables you to copy the active configuration file to the USB port and a storage device attached to it.

Manual Configuration - Export file by FTP/Import file by FTP

Selecting this option brings up the following window. From this window you can transfer a configuration file to and from a remote FTP server.

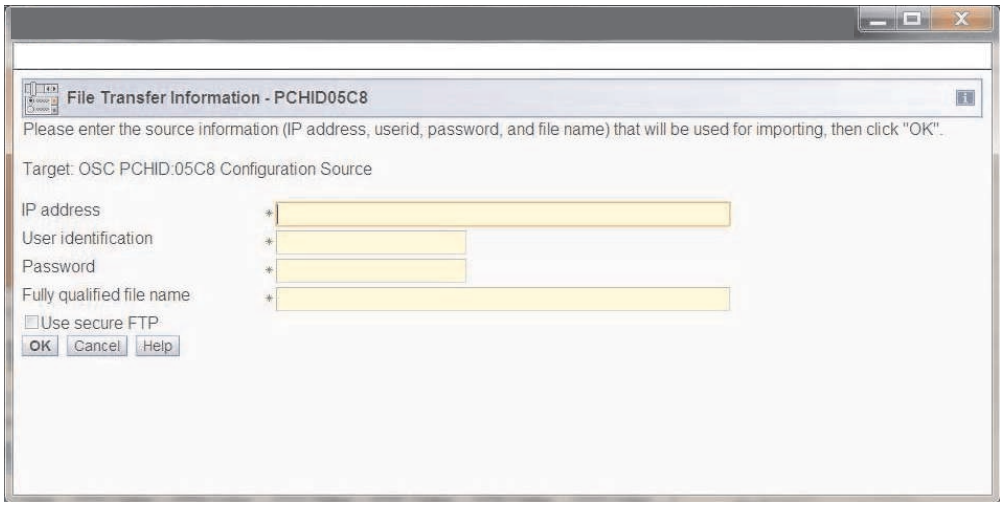

Figure 11. File Transfer Information window

This window has the following choices

IP address
The IP address of the FTP server, in IPV4 dotted decimal notation.

User identification
The user ID on the FTP server.

Password
The password for the user ID.

Fully qualified title name
The path and name of the file to save or retrieve.

Once the file is imported, you can edit it by selecting the **Edit Source file** option and clicking **OK**.

Manual Configuration - Create New Configuration file

This option creates a new ASCII file that contains a sample configuration. All entries in the sample begin with // which indicates they are comments. You need to uncomment and customize the contents of this ASCII file, then validate and activate the configuration to make it active on the OSE PCHID.

Manual Configuration - Edit source file

Selecting this option brings up the editor window on the HMC with the active configuration file loaded.

There are certain rules that must be followed when creating and editing the configuration file:

1. Each section must be started with and ended by a tag. That is, <OATENTRY> is a beginning tag, </OATENTRY> is the ending tag. An error is generated if the section is not started or ended with the proper tag.
2. Tags and alphabetic values must be all uppercase.
3. There is no space between a tag and the following equals sign (=), but there is a space between the equals sign and the value. For example:

   ```
   RECORD_TYPE= SNA|TCPIP
   ```

4. The CSS/IID must be added in ascending order. (that is, if an entry exists for CSS 0, then it must be located before entries for CSS 1, and so on). If the entries are not in this order, an error is generated during the validation phase.
5. Per the previous example, different section headings are used to specify data in the configuration file. A table of errors and warning with corrective steps is provided in Chapter 4, "Configuration error and warning messages," on page 27.

   There are two main parts of the configuration file: the port specific information (tag <OSE_PORT0> or <OSE_PORT1>) and the OAT information (tag <OAT_TABLE) section. Presently, the only information allowed in the <OSE_PORTx> </OSE_PORTx> section is the SNA timer information.

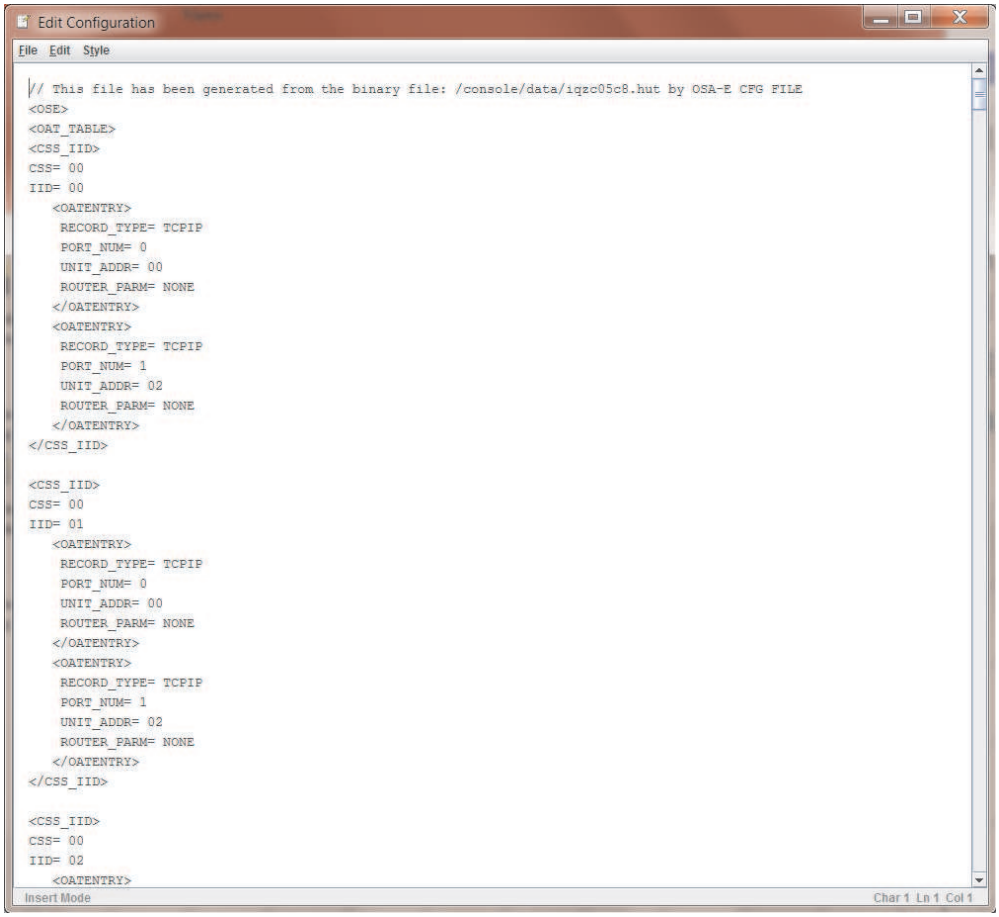

Figure 12. Edit Configuration window

Validating your configuration

You must use the Validate option to check the validity of the parameters and values entered for both the manual and windows interfaces before you can activate the configuration. If there are any problems, OSA/SF issues warnings or errors (described in Chapter 4, "Configuration error and warning messages," on page 27).

Activating your configuration

After you have validated your configuration, activate it by selecting **Activate configuration** and clicking **OK** from the Advanced Facilities card-specific window (see "Advanced Facilities card-specific window" on page 8).

Display OAT Entries window

The Display OSA Address Table (OAT) Entries window is valid for CHPID types OSD, OSE, and OSN.

This window displays the OSE OAT entries that have been defined and activated using the OSA/SF configuration facility or OSD entries that are defined (automatically generated) when a QDIO interface is activated. Note that you do not configure the values displayed under the Entry column; they are determined at run-time from system information.

The Entry tag defines the state of the device, determined at run-time from system information. There are two states:

- S - The entry is defined in an OAT_ENTRY
- SIU - The entry is defined and started by the Operating System.

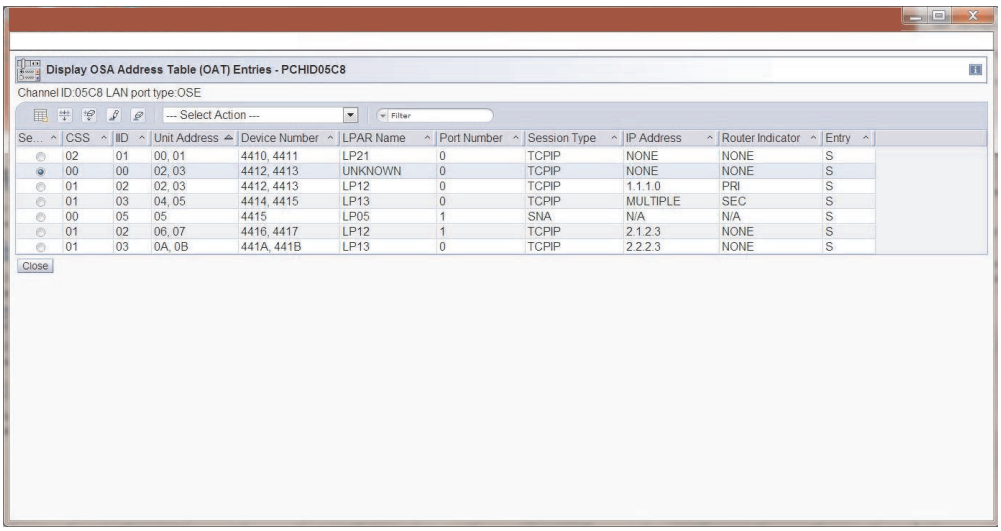

Figure 13. Display OAT Entries window (for CHPID type OSE)

The following is the Display OSA Address Table (OAT) Entries window for CHPID type OSD:

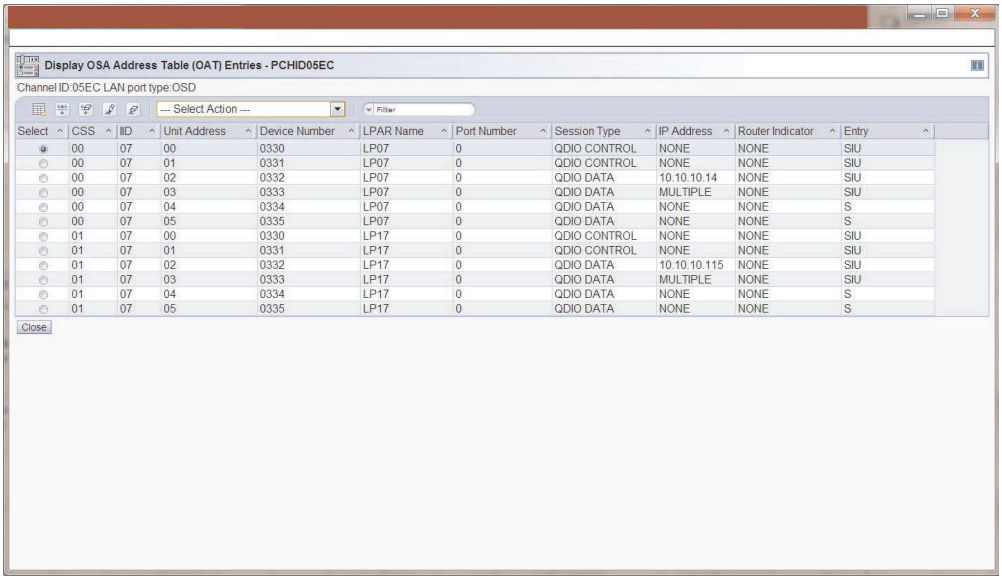

Figure 14. Display OAT Entries window (for CHPID type OSD)

The following is the Display OSA Address Table (OAT) Entries window for CHPID type OSN:

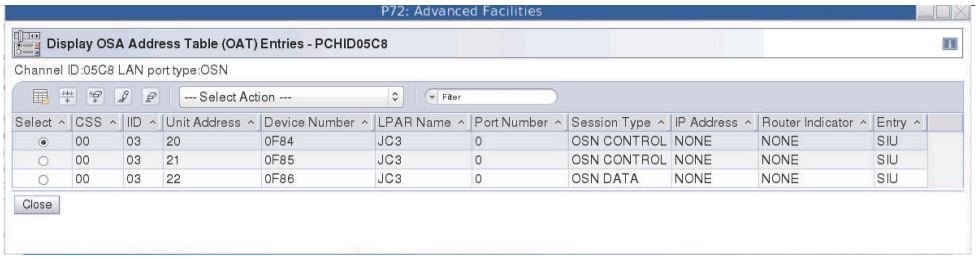

Figure 15. Display OAT Entries window (for CHPID type OSN)

Under Select Action in this window, you can export this OAT data to a USB or FTP device.

View OAT Entry (detailed) window

The View OAT Entry (detailed) window is accessed from the Display OAT Entries window (“Display OAT Entries window” on page 24).

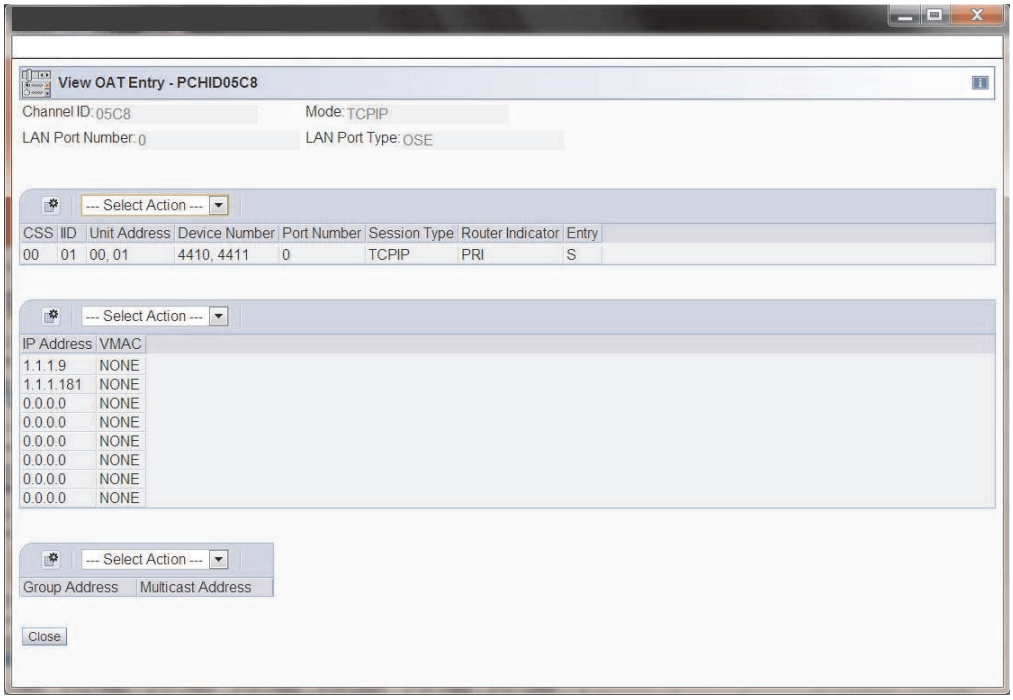

Figure 16. View OAT Entry (detailed) window

This window displays the following information: Channel ID, Mode, LAN Port Number, and LAN Port Type.

Click **Close** when you are finished.

Chapter 4. Configuration error and warning messages

OSA/SF displays configuration errors and warnings with the following window:

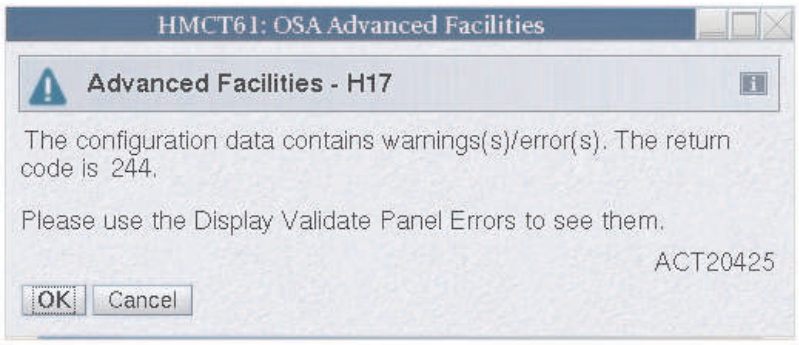

Figure 17. Errors and warnings window

A non-zero return code value between 1 and 999 is a warning. **Warning messages do not prevent a configuration from being activated.** A return code of 1000 or greater is an error and must be fixed prior to activating the configuration. The entire file is parsed to find errors, but only the first one is displayed on this window. The remainder of this chapter is a list of errors and warnings that may be detected in the OSA configuration file.

Table 4. Warning and error codes

Code	Text/User Action
Warnings	
176	**Text:** This IP address is already in use. **User Action:** Verify your IP addresses.
212	**Text:** The Inactivity Timer has been rounded off to the nearest 0.12 seconds. **User Action:** None.
214	**Text:** It is recommended that the Inactivity timer is set to a value at least 5 times greater than the response timer. **User Action:** Verify your settings.
222	**Text:** The Response Timer has been rounded off to the nearest 0.20 seconds. **User Action:** None.
224	**Text:** It is recommended that the Response timer is set to a value greater than or equal to the Acknowledgement Timer. **User Action:** Verify your settings.
232	**Text:** The Acknowledgement Timer has been rounded off to nearest 0.08 seconds. **User Action:** None.
244	**Text:** It is recommended that the Max I frame is set to a value greater than Max transmit window size. **User Action:** Verify your settings.

Table 4. Warning and error codes (continued)

Code	Text/User Action
318	**Text:** SNA tags which are not present in the configuration file will be generated and set to the specified default values. **User Action:** Verify your settings.
320	**Text:** Adding default <OSE PORT#> section since at least one SNA OAT entry was defined for this port. **User Action:** Verify your settings.
506	**Text:** The OAT entry cannot be brought on-line because CSS is not defined in the active IOCDS. **User Action:** Verify your I/O Definitions.
507	**Text:** The OAT entry cannot be brought on-line because IID is not defined for CSS in the active IOCDS. **User Action:** Verify your I/O Definitions.
508	**Text:** The OAT entry cannot be brought on-line because Device is not defined for IID in the active IOCDS. **User Action:** Verify your I/O Definitions.
509	**Text:** The OAT entry cannot be brought on-line because device is not defined in the active IOCDS. **User Action:** Verify your I/O Definitions.
510	**Text:** The OAT entry cannot be brought on-line because there are no images associated to this CSS in the active IOCDS. **User Action:** Verify your I/O Definitions.
600	**Text:** This warning is generated because the I/O definitions were not found in the Configuration file examined by the validation tool. The most likely reason for this warning is this is the first invocation of the SE based OSA/SF. After a successful activation using this tool, the warning will not be presented again.
Errors	
3010	**Text:** Duplicate CSS/IID/UNIT Address combination. **User Action:** Correct definition.
3020	**Text:** Cannot have multiple <OSE> tags in a file. **User Action:** Correct Syntax.
3021	**Text:** Cannot have <OSE> tag within a <OAT_TABLE> section. **User Action:** Correct Syntax.
3022	**Text:** Cannot have more than one <OSE> section (<OSE>...</OSE>). **User Action:** Correct Syntax.
3023	**Text:** <OSE> tag not valid within a <OSE_PORT#> section. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3024	**Text:** </OSE_PORT#> tag position not valid. **User Action:** Correct Syntax.
3030	**Text:** </OSE> tag position not valid. **User Action:** Correct Syntax.
3031	**Text:** <OSE> section must be closed by the </OSE> tag. **User Action:** Correct Syntax.
3032	**Text:** <OAT_TABLE> section has to be closed by a </OAT_TABLE> tag. **User Action:** Correct Syntax.
3061	**Text:** <CSS_IID> section must be closed by a </CSS_IDD> tag. **User Action:** Correct Syntax.
3062	**Text:** </CSS_IID> tag not valid outside <OAT_TABLE> section. **User Action:** Correct Syntax.
3063	**Text:** <CSS_IID> tag not valid outside <OAT_TABLE> section. **User Action:** Correct Syntax.
3064	**Text:** </CSS_IID> section must be closed by a <CSS_IID> tag. **User Action:** Correct Syntax.
3065	**Text:** <CSS_IID> tag not valid inside a <OAT_ENTRY> section. **User Action:** Correct Syntax.
3066	**Text:** Duplicate CSS/IID combination within <CSS_IID> section. **User Action:** Correct Syntax.
3067	**Text:** CSS keyword value missing from <CSS_IID> section. **User Action:** Correct Syntax.
3068	**Text:** IID keyword value missing from <CSS_IID> section. **User Action:** Correct Syntax.
3069	**Text:** <CSS_IID> section must be closed by a </CSS_IID> tag. **User Action:** Correct Syntax.
3070	**Text:** Missing <OATENTRY> tag in <CSS_IID> section. **User Action:** Correct Syntax.
3071	**Text:** CSS keyword value missing before <OATENTRY> section. **User Action:** Correct Syntax.
3072	**Text:** IID keyword value missing before <OATENTRY> section. **User Action:** Correct Syntax.
3100	**Text:** </OAT_TABLE> tag must be within <OSE>,</OSE> tags. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3101	**Text:** Duplicate <OAT_TABLE> tags. **User Action:** Correct Syntax.
3102	**Text:** <OAT_TABLE> section has already been defined. **User Action:** Correct Syntax.
3110	**Text:** Incorrect </OAT_TABLE> position. **User Action:** Correct Syntax.
3121	**Text:** <OATENTRY> tag not valid outside of <OAT_TABLE> section. **User Action:** Correct Syntax.
3122	**Text:** <OAT_TABLE> section maximum limit reached. (240 maximum) **User Action:** Correct Syntax.
3123	**Text:** <OATENTRY> must be closed by a </OATENTRY> tag. **User Action:** Correct Syntax.
3124	**Text:** </OATENTRY tag incomplete, missing '>' should be </OATENTRY>. **User Action:**
3125	**Text:** </OATENTRY> section must be opened with a <OATENTRY> tag. **User Action:** Correct Syntax.
3126	**Text:** At least one <OATENTRY> tag must be defined in <OAT_Table> section. **User Action:** Correct Syntax.
3127	**Text:** <OATENTRY> tag not valid outside <CSS_IID> section. **User Action:** Correct Syntax.
3128	**Text:** Missing keyword (RECORD_TYPE, PORT_NUM, or UNIT_ADDR) in <OATENTRY> section. **User Action:** Correct Syntax.
3129	**Text:** Missing </OATENTRY> tag in <OATENTRY> section. **User Action:** Correct Syntax.
3130	**Text:** CSS keyword not valid outside <OAT_TABLE> section. **User Action:** Correct Syntax.
3131	**Text:** CSS keyword not valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3132	**Text:** Incorrect CSS keyword value. Range is [0 - 3]. **User Action:** Correct Syntax.
3133	**Text:** CSS keyword not present. **User Action:** Correct Syntax.
3134	**Text:** Only 1 CSS keyword allowed in <CSS_IID> section. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3135	**Text:** CSS keyword not valid outside of <CSS_IID> section. **User Action:** Correct Syntax.
3136	**Text:** <CSS_IID> sections need to be ordered in ascending order of CSS. **User Action:** Correct Syntax.
3140	**Text:** IID keyword not valid outside of <OAT_TABLE> section. **User Action:** Correct Syntax.
3141	**Text:** IID keyword not valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3142	**Text:** Incorrect IID keyword value. Range is [0 - F]. **User Action:** Correct Syntax.
3143	**Text:** Missing IID keyword value. **User Action:** Correct Syntax.
3144	**Text:** Only 1 IID keyword allowed in <CSS_IID> section. **User Action:** Correct Syntax.
3145	**Text:** IID keyword not valid outside <CSS_IID> section. **User Action:** Correct Syntax.
3146	**Text:** <CSS_IID> sections not in proper ascending order of IID. **User Action:** Correct Syntax.
3147	**Text:** IID keyword should follow CSS keyword in <CSS_IID> section. **User Action:** Correct Syntax.
3150	**Text:** UNIT_ADDR keyword not valid outside <OAT_TABLE> section. **User Action:** Correct Syntax.
3151	**Text:** UNIT_ADDR keyword only valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3152	**Text:** Incorrect UNIT_ADDR keyword value. Range is [00 - FD]. **User Action:** Correct Syntax.
3153	**Text:** Missing UNIT_ADDR keyword value. **User Action:** Correct Syntax.
3154	**Text:** Only 1 UNIT_ADDR keyword allowed in <OATENTRY> section. **User Action:** Correct Syntax.
3155	**Text:** UNIT_ADDR keyword value must be even for a TCP/IP record entry. **User Action:** Correct Syntax.
3156	**Text:** RECORD_TYPE keyword must be specified before UNIT_ADDR keyword. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3157	**Text:** RECORD_TYPE keyword must be specified before ROUTER_PARM keyword. **User Action:** Correct Syntax.
3158	**Text:** RECORD_TYPE keyword must be specified before IP_ADDRESS keyword. **User Action:** Correct Syntax.
3159	**Text:** PORT_NUM keyword must be specified before IP_ADDRESS keyword. **User Action:** Correct Syntax.
3160	**Text:** PORT_NUM keyword must be specified before ROUTER_PARM keyword. **User Action:** Correct Syntax.
3170	**Text:** IP_ADDRESS keyword not valid outside of <OAT_TABLE> section. **User Action:** Correct Syntax.
3171	**Text:** IP_ADDRESS keyword only valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3172	**Text:** IP address is not valid. Must be n.n.n.n where 0 >= n <= 255 and not equal to 0.0.0.0 and 255.255.255.255. **User Action:** Correct Syntax.
3173	**Text:** Missing IP_ADDRESS keyword value. **User Action:** Correct Syntax.
3174	**Text:** Only 8 IP_ADDRESS keywords may be specified per <OATENTRY> section. **User Action:** Correct Syntax.
3175	**Text:** Router keyword value cannot be PRIMARY/SECONDARY since no IP_ADDRESS tag is defined. **User Action:** Correct Syntax.
3176	**Text:** More than 512 IP ADDRESS keyword specified for a single port. **User Action:** Correct Syntax.
3177	**Text:** Duplicate IP_ADDRESS keyword value within the <OATENTRY> section. **User Action:** Correct Syntax.
3178	**Text:** TCP <OATENTRY> section has invalid group size. **User Action:** Correct Syntax.
3179	**Text:** SNA <OATENTRY> section has invalid group size. **User Action:** Correct Syntax.
3180	**Text:** RECORD_TYPE keyword not valid outside <OATENTRY> section. **User Action:** Correct Syntax.
3181	**Text:** RECORD_TYPE keyword only valid inside <OATENTRY> section. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3182	**Text:** Incorrect RECORD_TYPE keyword value. **User Action:** Correct Syntax.
3183	**Text:** Missing RECORD_TYPE keyword value. **User Action:** Correct Syntax.
3184	**Text:** Only 1 RECORD_TYPE keyword allowed in <OATENTRY> section. **User Action:** Correct Syntax.
3190	**Text:** PORT_NUM keyword not valid outside <OAT_TABLE> section. **User Action:** Correct Syntax.
3191	**Text:** PORT_NUM keyword only valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3192	**Text:** PORT_NUM keyword value must be 0 or 1. **User Action:** Correct Syntax.
3193	**Text:** Missing PORT_NUM keyword. **User Action:** Correct Syntax.
3194	**Text:** Only 1 PORT_NUM keyword allowed in <OATENTRY> section. **User Action:** Correct Syntax.
3210	**Text:** INACTIVITY_TIMER keyword not valid outside of <OSE> section. **User Action:** Correct Syntax.
3211	**Text:** INACTIVITY_TIMER keyword only valid outside of <OSE> section. **User Action:** Correct Syntax.
3212	**Text:** INACTIVITY_TIMER keyword value must be in the range of [.24 - 90 seconds] - set to 0 to disable. **User Action:** Correct Syntax.
3213	**Text:** Missing INACTIVIT_TIMER keyword value. **User Action:** Correct Syntax.
3214	**Text:** Only 1 INACTIVITY_TIMER keyword allowed in <OSE_PORT#> section. **User Action:** Correct Syntax.
3220	**Text:** RESPONSE_TIMER keyword not valid outside <OSE> section. **User Action:** Correct Syntax.
3221	**Text:** RESPONSE_TIMER keyword only valid outside <OSE_PORT#> section. **User Action:** Correct Syntax.
3222	**Text:** RESPONSE_TIMER keyword value must be in the range of [.20 - 51 seconds]. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3223	**Text:** RESPONSE_TIMER keyword value not present. **User Action:** Correct Syntax.
3224	**Text:** Only 1 RESPONSE_TIMER keyword in <OSE_PORT#> section. **User Action:** Correct Syntax.
3230	**Text:** ACK_TIMER not valid outside <OSE> section. **User Action:** Correct Syntax.
3231	**Text:** ACK_TIMER only valid in </OSE_PORT#> section. **User Action:** Correct Syntax.
3232	**Text:** ACK_TIMER keyword value must be in the range of [.08 - 20.40 seconds]. **User Action:** Correct Syntax.
3233	**Text:** Missing ACK_TIMER keyword. **User Action:** Correct Syntax.
3234	**Text:** Only 1 ACK_TIMER keyword allowed in <OSE_PORT#> section. **User Action:** Correct Syntax.
3240	**Text:** MAX_I_FRAME keyword not valid outside <OSE> section. **User Action:** Correct Syntax.
3241	**Text:** MAX_I_FRAME keyword only valid inside <OSE_PORT#> section. **User Action:** Correct Syntax.
3242	**Text:** MAX_I_FRAME keyword value must be in the range of [1 - 4]. **User Action:** Correct Syntax.
3243	**Text:** Missing MAX_I_FRAME keyword value. **User Action:** Correct Syntax.
3244	**Text:** Only 1 MAX_I_FRAME keyword in <OSE_PORT#> section. **User Action:** Correct Syntax.
3250	**Text:** MAX_XMIT_WIN keyword not valid outside <OSE> section. **User Action:** Correct Syntax.
3251	**Text:** MAX_XMIT_WIN keyword only valid inside <OSE_PORT#> section. **User Action:** Correct Syntax.
3252	**Text:** MAX_XMIT_WIN keyword value must be in the range of [1 - 16]. **User Action:** Correct Syntax.
3253	**Text:** Missing MAX_XMIT_WIN keyword value. **User Action:** Correct Syntax.
3254	**Text:** Only 1 MAX_XMIT_WIN keyword allowed in <OSE_PORT#> section. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3260	**Text:** ROUTER_PARM keyword not valid outside of <OAT_TABLE> section. **User Action:** Correct Syntax.
3261	**Text:** ROUTER_PARM keyword only valid inside <OATENTRY> section. **User Action:** Correct Syntax.
3262	**Text:** Incorrect ROUTER_PARM keyword value. Valid values are NONE/PRIMARY/SECONDARY. **User Action:** Correct Syntax.
3263	**Text:** Missing ROUTER_PARM keyword value. **User Action:** Correct Syntax.
3264	**Text:** Only 1 ROUTER_PARM keyword allowed in <OATENTRY>. **User Action:** Correct Syntax.
3265	**Text:** Duplicate PRIMARY Router defined for a single port. **User Action:** Correct Syntax.
3266	**Text:** Duplicate SECONDARY Router defined for a single port. **User Action:** Correct Syntax.
3270	**Text:** ROUTER_PARM keyword is not valid in a SNA OAT entry. **User Action:** Correct Syntax.
3271	**Text:** IP_ADDRESS keyword is not valid in a SNA OAT entry. **User Action:** Correct Syntax.
3310	**Text:** </OSE_PORT tag incomplete <OSE_PORT#>. **User Action:** Correct Syntax.
3311	**Text:** <OSE_PORT#> tag not valid outside <OSE> section. **User Action:** Correct Syntax.
3312	**Text:** Incorrect <OSE_PORT#> section value. Must be 0 or 1. **User Action:** Correct Syntax.
3313	**Text:** <OSE_PORT#> sections not ended with </OSE_PORT#>. **User Action:** Correct Syntax.
3314	**Text:** </OSE_PORT# tag incomplete. It should be </OSE_PORT#>. **User Action:** Correct Syntax.
3315	**Text:** Incorrect </OSE_PORT#> section value. Must match value in </OSE_PORT#>. **User Action:** Correct Syntax.
3316	**Text:** Only one instance of a specific <OSE_PORT#> tag may appear in the configuration. **User Action:** Correct Syntax.

Table 4. Warning and error codes (continued)

Code	Text/User Action
3317	**Text:** Incorrect format for <OSE_PORT#> tag port identifier. Needs to be decimal number. **User Action:** Correct Syntax.
3319	**Text:** Missing </OSE_PORT#> tag. **User Action:** Correct Syntax.
3320	**Text:** </OSE_PORT#> tag must be closed by the <OSE_PORT#> tag. **User Action:** Correct Syntax.
3321	**Text:** Missing <OSE_PORT#> section and/or <OATENTRY> section in configuration file. **User Action:** Correct Syntax.
3323	**Text:** <OSE_PORT#> tag not valid inside <OAT_TABLE> section. **User Action:** Correct Syntax.
3324	**Text:** <OSE_PORT#> tag incorrectly repeated. **User Action:** Correct Syntax.
3325	**Text:** Missing values in <OSE_PORT#> section. **User Action:** Correct Syntax.
3490	**Text:** Unrecognized configuration parameter. **User Action:** Correct Syntax.

Appendix A. Migration steps

Migrating the OAT data from configurations that existed for OSE features involves three steps:

1. Saving the configuration
2. Restoring the configuration
3. Renaming the configuration

The rest of this section describes these steps.

Note: These migration steps only work for customer-ordered MES of the processors. The PCHID MIGRATION CD provided by the manufacturer contains the PCHID moving record. These steps copy the OSA configuration only if the OSA feature was physically moved from the old processor to the new processor. The system support representative (SSR) performs these migration steps during processor installation.

For a non-MES system upgrade from zEC12 to z13, it is the customer's responsibility to use an export source file (see "Manual Configuration - Export Source File" on page 21) and an import source file (see "Manual Configuration - Import Source File" on page 21) to migrate their OSE configuration.

Step 1: Saving the configuration

In this first step, you save upgrade data from the SE. All of the channel's configuration files will be saved.

1. From the HMC Service panel, select Systems Management.
2. From the Systems Management panel, select Systems.
3. From the Systems panel, select the CPC to be worked on.
4. Select Change Management.
5. Select Save Legacy Upgrade Data.
6. Insert the SE Upgrade USB flash memory drive (part 45D8943) into the first available USB drive. A new device added message is displayed.
7. When the new device added message is no longer visible, click **OK**.
8. When the Save Legacy Upgrade Data Success window appears, click **OK**.
9. Remove the SE Upgrade USB flash memory drive.

Step 2: Restoring the configuration

Power On with SE Upgrade Data from the Removable Media (all of the saved files are loaded to the SE)

1. Power on the machine.
2. When the Upgrade Data USB flash memory drive cannot be found screen appears, insert the SE UPGRADE DATA USB flash memory drive into the Primary (A99S) SE USB drive. Wait for the UFD flash memory drive detected message before continuing. Note that the acknowledgement message appears for only 10 seconds.
3. Click **OK**.

Note: The restore data is loaded and the SE reboots.

4. When the Primary SE logon screen appears, remove the Upgrade Data USB flash memory drive from the USB drive.
5. Insert the Upgrade Data USB flash memory into the first available USB drive of Alternate SE labeled A99B.
6. Wait for the UFD Flash memory drive detected message before continuing.
7. Click **OK**.
8. When the Logon screen appears on both the Primary and Alternate SEs, remove the SE UPGRADE Data USB flash memory drive from the USB drive.

Step 3: Renaming the configuration

Here are the steps for renaming the files during PCHID configuration file migration:

1. Logon SE in Service.
2. Select SE Management.
3. Select Migrate Channel Config Files.
4. Insert the PCHID MIGRATION CD found in B/M 12R9221 into the CD drive of the SE.
5. Click **OK**.
6. When the step is complete, Remove the CD and click **OK**.
7. Click **OK**.
8. When the Command Completed message appears, click **OK**.

The PCHID migration CD contains one utility that is used to migrate or move the OSA configuration data from one machine to another. It uses the file to rename the PCHID number. For example:

```
:CARDMOVE A06BLG02J.00 0180 A16BLG03J.00 0210
```

Appendix B. Summary of new HMC windows functions

The following is a summary of OSA/SF commands (IOACMD) and how they are handled with OSA/SF on the HMC. Note that not all OSA/SF commands are done on the HMC:

Table 5. New HMC window functions

OSA/SF command	**OSA/SF on the HMC**
IOACMD:0-End IOACMD	N/A
IOACMD:1-Clear Debug	The debug data cleared using the OSA/SF command is data that the OSA/SF operating system component created; that is, OSA/SF messages and traces, not the debug data referred to in the debug utilities (OSA CHPID specific debug information). This command is not represented in OSA/SF on the HMC.
IOACMD:2-Configure OSA CHPID	This is handled through the manual and windows configuration options described in Chapter 3, “HMC windows,” on page 7
IOACMD:3-Convert OAT	This specific function is not directly covered, but for more information, see the migration steps detailed in Appendix A, “Migration steps,” on page 37)
IOACMD:4-Get Configuration File	This information is contained in the windows configuration displays, the manual ASCII file, and the Display OAT output (see Chapter 3, “HMC windows,” on page 7).
IOACMD:5-Get Debug	N/A
IOACMD:6-Get OSA Address Table	This information is contained in the Display OAT Entries window (see “Display OAT Entries window” on page 24)
IOACMD:7-Install	This function is accomplished on the new OSA/SF through validate and activate (see “Validating your configuration” on page 23 and “Activating your configuration” on page 23).
IOACMD: 8 - Put OSA Address Table (OSA-2 only)	This function is accomplished on the new OSA/SF through validate and activate (see “Validating your configuration” on page 23 and “Activating your configuration” on page 23).

Table 5. New HMC window functions (continued)

OSA/SF command	OSA/SF on the HMC
IOACMD:9-Query	This function is accomplished using the following functions: 1. Query one OSA is a combination of Display OAT, Display port parameters 2. Query OSA/SF is N/A 3. Query host is a combination of multiple display OAT and display port parameters, as well as the Advanced Facilities command Service–-> Global OSA Status (see Chapter 3, “HMC windows,” on page 7) 4. SNA_info is N/A 5. ATM_info is N/A 6. IPX_info is N/A
IOACMD:10-Set Parameter	This function is accomplished through Advanced Facilities enable and disable port, as well as display or alter MAC address (see “Advanced Facilities card-specific window” on page 8).
IOACMD:11-Shutdown (VM only)	N/A
IOACMD:12-Start Managing	Requiring a user to manage a CHP to make a change is not part of OSA/SF on the HMC.
IOACMD:13-Stop Managing	Requiring a user to manage a CHP to make a change is not part of OSA/SF on the HMC.
IOACMD:14 - Synchronize (OSA-2 only)	N/A

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