IBM Z

CHPID Mapping Tool User's Guide



GC28-6984-02

Note:

Before you use this information and the product it supports, read the information in <u>"Safety" on page</u> <u>xv</u>, <u>Appendix B</u>, "Notices," on page <u>115</u>, and IBM[®] Systems Environmental Notices and User Guide, <u>Z125–5823</u>.

This edition, GC28-6984-02, applies to IBM Z and IBM LinuxONE. This edition replaces GC28-6984-01.

There might be a newer version of this document in a **PDF** file available on **Resource Link**. Go to <u>http://www.ibm.com/</u> <u>servers/resourcelink</u> and click **Library** on the navigation bar.

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Safety notices

Safety notices may be printed throughout this guide. **DANGER** notices warn you of conditions or procedures that can result in death or severe personal injury. **CAUTION** notices warn you of conditions or procedures that can cause personal injury that is neither lethal nor extremely hazardous. **Attention** notices warn you of conditions or procedures that can cause damage to machines, equipment, or programs.

World trade safety information

Several countries require the safety information contained in product publications to be presented in their translation. If this requirement applies to your country, a safety information booklet is included in the publications package shipped with the product. The booklet contains the translated safety information with references to the US English source. Before using a US English publication to install, operate, or service this product, you must first become familiar with the related safety information in the *Systems Safety Notices*, G229-9054. You should also refer to the booklet any time you do not clearly understand any safety information in the US English publications.

Laser safety information

All IBM Z[®] (Z) and IBM LinuxONE[™] (LinuxONE) models can use I/O cards such as FICON[®], Open Systems Adapter (OSA), InterSystem Channel-3 (ISC-3), RoCE Express, Integrated Coupling Adapter (ICA SR), zHyperLink Express, or other I/O features which are fiber optic based and utilize lasers (short wavelength or long wavelength lasers).

Laser compliance

All lasers are certified in the US to conform to the requirements of DHHS 21 CFR Subchapter J for Class 1 or Class 1M laser products. Outside the US, they are certified to be in compliance with IEC 60825 as a Class 1 or Class 1M laser product. Consult the label on each part for laser certification numbers and approval information.

Laser Notice: U.S. FDA CDRH NOTICE if low power lasers are utilized, integrated, or offered with end product systems as applicable. Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

CAUTION: Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)

CAUTION: This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

About this publication

This guide is intended to help users of the CHPID Mapping Tool to obtain the tool and learn to use it for mapping available CHPIDs to PCHIDs.

This guide is available in portable document format (PDF) to view or print from Resource Link[®] (at <u>http://</u><u>www.ibm.com/servers/resourcelink</u>). This guide is also available in HTML format within the CHPID Mapping Tool itself under the **Help** menu. For more information about this, see <u>"The Help menu" on page</u> <u>18</u>.

How to use this guide

This guide includes the following:

- <u>Chapter 1, "Overview," on page 1</u> describes the uses of the CHPID Mapping Tool and explains its requirements.
- <u>Chapter 2, "Obtaining the CHPID Mapping Tool and CFReport file," on page 5</u> lists the steps for downloading from Resource Link:
 - The CHPID Mapping Tool (or an update)
 - The CFReport file.

Note: You need a valid Configuration Control Number (CCN) to download the CFReport file.

- <u>Chapter 3, "Getting started ," on page 7</u> explains how to start the CHPID Mapping Tool and import your CFReport file and IOCP file. It also provides a tour of the GUI controls of the tool.
- <u>Chapter 4, "Performing hardware resolution," on page 29</u> explains why hardware resolution is needed, describes the Hardware Resolution view (both formats), and provides the steps for performing hardware resolution.
- <u>Chapter 5, "Miscellaneous tasks," on page 43</u> describes how to perform tasks including saving and restoring session information, loading an IOCP file (if not loaded at project creation), importing and exporting sessions, and changing preferences.
- <u>Chapter 8, "Manual mapping," on page 85</u> explains the Manual Mapping view and provides the steps for performing manual mapping method.
- Chapter 6, "Strategies and Guidelines for Assigning Priorities," on page 59 explains how to determine priorities for automatic mapping.
- Chapter 7, "Assigning priorities, automatic mapping, and processing intersections," on page 63 lists steps for assigning priorities, making automatic mapping available, and processing intersections
- Chapter 9, "Reports," on page 99 lists the steps to create and save reports.
- <u>Chapter 10, "Troubleshooting and support," on page 109</u> provides troubleshooting information and the answers to frequently asked questions.

Figures included in this document illustrate concepts and are not necessarily accurate in content, appearance, or specific behavior.

Revisions

A technical change from the previous edition of this document is indicated by a vertical line (|) to the left of the change.

Accessibility

Accessible publications for this product are offered in EPUB format and can be downloaded from Resource Link at http://www.ibm.com/servers/resourcelink.

If you experience any difficulty with the accessibility of any IBM Z[®] and IBM LinuxONE information, go to Resource Link at <u>http://www.ibm.com/servers/resourcelink</u> and click **Feedback** from the navigation bar on the left. In the **Comments** input area, state your question or comment, the publication title and number, choose **General comment** as the category and click **Submit**. You can also send an email to reslink@us.ibm.com providing the same information.

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Accessibility features

The following list includes the major accessibility features in IBM Z and IBM LinuxONE documentation, and on the Hardware Management Console and Support Element console:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers
- · Customizable display attributes such as color, contrast, and font size
- · Communication of information independent of color
- Interfaces commonly used by screen magnifiers
- Interfaces that are free of flashing lights that could induce seizures due to photo-sensitivity.

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

Consult assistive technologies

Assistive technology products such as screen readers function with our publications, the Hardware Management Console, and the Support Element console. Consult the product information for the specific assistive technology product that is used to access the EPUB format publication or console.

IBM and accessibility

See http://www.ibm.com/able for more information about the commitment that IBM has to accessibility.

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. Send your comments by using Resource Link at <u>http://www.ibm.com/servers/resourcelink</u>. Select **Feedback** on the Navigation bar on the left. You can also send an email to reslink@us.ibm.com. Be sure to include the name of the book, the form number of the book, the version of the book, if applicable, and the specific location of the text you are commenting on (for example, a page number, table number, or a heading).

Chapter 1. Overview

This chapter describes the CHPID Mapping Tool and its requirements.

Overview of the CHPID Mapping Tool

The CHPID Mapping Tool maps the I/O ports of your hardware to the CHPID definitions in your IOCP source statements. Such mapping helps to avoid connecting critical paths to single-points-of-failure. The CHPID mapping tool can save you time by minimizing or eliminating changes when you get new hardware or upgrade existing hardware.

The CHPID Mapping Tool supports the following:

- IBM z15[™] (z15) / IBM LinuxONE III
- IBM z14[®] (z14) / IBM LinuxONE Rockopper II (Rockhopper II)
- IBM z14 (z14) / IBM LinuxONE Emperor II (Emperor II)
- IBM z13s[®] (z13s[®]) / IBM LinuxONE Rockhopper (Rockhopper)
- IBM z13[®] (z13[®]) / IBM LinuxONE Emperor (Emperor)
- IBM zEnterprise® BC12 (zBC12).
- IBM zEnterprise EC12 (zEC12).
- IBM zEnterprise 196 (z196) and IBM zEnterprise z114 (z114).
- IBM System z10[®] Enterprise Class (z10 EC) and IBM System z10 Business Class (z10 BC)
- IBM System z9[®] Enterprise Class (z9[®] EC) and IBM System z9 Business Class (z9 BC)

You can use the CHPID Mapping Tool for a new build, an upgrade to, or an MES for any supported processor. You can also use it to change an already installed machine after hardware upgrades increase the number of STI or InfiniBand links or channels.

No default CHPIDs are assigned to ports of z10 EC, z10 BC, z9 EC, or z9 BC processors. CHPIDs are assigned in the IOCP source file and mapped to the physical channel paths (PCHIDs). Using the CHPID mapping tool helps with these assignments. When the resulting IOCDS is loaded during activation of the CPC hardware, the CHPID to PCHID assignments become part of the configuration.

Using the CHPID Mapping Tool:

- You can maintain the existing IOCP definitions for CHPID assignments to control units. Using the tool minimizes any changes that you might need to make to in-house documentation, cable labels, and the hardware configuration definitions (HCDs).
- You can implement a numbering scheme for associating different device types to ranges of CHPID addresses. For example, you might want to have all DASD devices within a certain CHPID range.
- You do not need to change the existing control units and wiring.

For purposes of this document, consider a CHPID assignment as a logical value that is associated with a physical entity that is called a PCHID. A PCHID can be a specific port on an ESCON card, OSA-Express[®] card, FICON card, ICB, ISC link, and so on. A CHPID is merely an arbitrary number defined within the IOCP. The mapping tool relates that logical assignment to a PCHID location in the machine.

Requirements

Before using the tool, there are certain requirements that must be satisfied.

• Resource Link ID

Before using the tool, the user must have a valid user ID and password for Resource Link. The web address for Resource Link is:

www.ibm.com/servers/resourcelink

An option on the Resource Link Sign-in window allows you to obtain a user ID and password.

After you obtain a Resource Link ID, you can download the CHPID Mapping Tool (or upgrades to the tool).

- To use the CHPID Mapping Tool, you need a CFReport file. You can obtain the CFReport file in several ways:
 - Your IBM representative can provide you with the CFReport that is generated by e-config and can be used by the CHPID Mapping Tool.
 - You can download your CFReport file from the Resource Link website by identifying your order with the Configuration Control Number (CCN) for the new processor. When the machine to be mapped is configured and sent to the manufacturing database from the IBM (e-config), a CCN is associated with the configuration. You can obtain the CCN:
 - From the output listing of the configurator
 - From the PCHID Report created by the configurator. Figure 1 on page 2 shows a sample PCHID Report for the z10 EC. In this example, the CCN is 34549311.

6 SN1	PCHID	REPORT	Dec 11,2007	
Cage Slot A25B D506	F/C 0163	PCHID/Ports or AID AID=0A	Comment	
A25B D606	0163	AID=0B		
A25B D706	0163	AID=0C		
A25B D806	0163	AID=0D		
A25B D515	0163	AID=1A		
A25B D615	0163	AID=1B		
A25B D715	0163	AID=1C		
A25B D815	0163	AID=1D		
A25B D510	0163	AID=12		• ±
A25B D610	0163	AID=13		0 ¥
	6 SN1 Cage Slot A25B D506 A25B D606 A25B D706 A25B D806 A25B D515 A25B D615 A25B D715 A25B D815 A25B D510 A25B D815 A25B D510 A25B D510	PCHID <u>Cage Slot</u> F/C <u>A25B D506</u> 0163 <u>A25B D606</u> 0163 <u>A25B D806</u> 0163 <u>A25B D806</u> 0163 <u>A25B D515</u> 0163 <u>A25B D615</u> 0163 <u>A25B D715</u> 0163	PCHID REPORT 6 SN1 Cage Slot F/C PCHID/Ports or AID A25B D506 0163 AID=0A A25B D606 0163 AID=0B A25B D706 0163 AID=0C A25B D515 0163 AID=0D A25B D515 0163 AID=1A A25B D615 0163 AID=1B A25B D715 0163 AID=1C A25B D815 0163 AID=1D A25B D510 0163 AID=12 A25B D510 0163 AID=13	PCHID REPORT Dec 11,2007 6 SN1 PCHID/Ports or AID Comment A25E D506 0163 AID=0A Comment A25E D606 0163 AID=0B Comment A25E D706 0163 AID=0C Comment A25E D806 0163 AID=0D Comment A25E D615 0163 AID=1A Comment A25E D615 0163 AID=1E Comment A25E D715 0163 AID=1C Comment A25E D515 0163 AID=1D Comment A25E D510 0163 AID=12 Comment A25E D510 0163 AID=13 Comment

Figure 1. Sample PCHID Report

Ask your IBM representative to verify that you have the latest CCN associated with the machine order.

• IOCP Source Input

A validated IOCP source input must be provided. There are two ways to get a validated IOCP source input.

Use the function in hardware configuration definition (HCD) to generate IOCP source from a validated work IODF. Validated work IODF is the stage of IODF where all logical definitions are in place except PCHID definitions. (Logical definitions are in place for channel subsystems, logical partitions, CHPIDs, control units, and devices.) At this stage HCD allows you to generate IOCP statements. You can transfer these statements to a PC as an ASCII text file. Then you can use them in the CHPID Mapping Tool. After PCHIDs have been mapped to the CHPIDs using the tool, the same IOCP source must be migrated back into HCD.

Attention: You cannot put the output of the CHPID Mapping Tool directly into IOCP. You must migrate it back into HCD.

If you generate IOCP statements from HCD, do not manually edit the file. Editing this file might prevent it from being imported back into the "validated work" IODF.

- Create an IOCP source manually and validate it using:
 - The ICP IOCP with an execution parameter of WRTCDS=NO
 - The correct SYSTEM=value for the target machine.

For example, use SYSTEM=2094 for a z9 EC.

Some factors must be considered regarding this IOCP source file:

- This file must represent the configuration of the machine that is on order. For example, suppose the current machine has parallel channels and the new machine does not. The IOCP needs to be changed to remove the parallel channel definitions.
- The IOCP input must be generated by a level of HCD that supports the target machine. All of the channels to use on the target machine must be defined. The associated control unit statements must be included and CHPID types accurately defined. (For example, OSA-Express can have different CHPID types.
- HCD or IOCP must validate the IOCP source input for the correct target machine. A manually
 generated source file might have errors associated with it that would be invalidated by IOCP. The
 mapping tool does not do any extensive validation of the source file. The file is presumed to be
 correct by IOCP standards.
- The tool does not consider:
 - Logical partitions (LPs). (That is, it does not consider which CHPIDs are assigned to which LPs.)
 - Switch configurations
 - Control unit availability characteristics.

Accordingly, the tool results might not be acceptable for all users. While helpful for many, it cannot replace an expert system programmer.

You map CHPIDs and export the updated IOCP file from the CHPID Mapping Tool. Then you import the file back into the same "validated work IODF" from which it was generated.

• The table that follows lists stand-alone application and system requirements:

Table 1. Stand-alone application and system requirements		
Category	Requirement	
Operating system	Microsoft Windows (32-bit versions)	
System memory	150 MB	
Hard disk space	220 MB	
Display resolution setting	At least 1024 by 768	

Overview of tasks for using the CHPID Mapping Tool

The graphical user interface (GUI) of the CHPID Mapping Tool is extensively redesigned. The following flow chart provides a graphical overview. It shows the tasks you need to perform from downloading the tool, through mapping, and optionally creating and saving reports.

Chapter 2. Obtaining the CHPID Mapping Tool and CFReport file

This chapter explains how to download the CHPID Mapping Tool and the CFReport file. You need to have the correct Configuration Control Number (CCN) to download this file. For other requirements, see "Requirements" on page 1.

Download the CHPID Mapping Tool (or an upgraded version)

Perform the following steps to download the CHPID Mapping Tool (or an upgraded version).

Note: If you plan to use a saved session from an earlier version of the tool, export your IOCP file before upgrading to Version 6.0 or later. You need this IOCP file because the CHPID Mapping Tool does not restore saved sessions from earlier versions.

- 1. Log on to Resource Link.
- 2. Click **Tools** on the left navigation bar.
- 3. In the list of tools in the next (Tools) window, click **CHPID Mapping Tool**. Clicking this link displays the CHPID Mapping Tool window. From this window, you can perform the following actions:
 - Download the CHPID Mapping Tool
 - Download the CFReport file (if you have a valid CCN)
 - Access an education module
 - View the frequently asked questions (FAQ).
- 4. Click **CHPID Mapping Tool Version 6.xx**. Resource Link displays the Download the CHPID Tool window. From this window you can:
 - Obtain the installer for the tool
- 5. Click the link to download the tool for the first time or upgrade your version.
- 6. The next window provides the information. If you want to use a saved session from an earlier version, export your IOCP file before upgrading to Version 6.0 or later. You need to do this because the CHPID Mapping Tool does not restore saved sessions from earlier versions. If you have satisfied this requirement, click **OK**.
- 7. A license window is displayed. Review the terms of the license, and click **I agree** to continue (or **I disagree** to end the process). Clicking **I agree** begins the process of downloading the CHPID Mapping Tool.

Note: You may subscribe to this page by clicking the "subscribe to this page" link at the top right hand corner of the Download the CHPID Mapping Tool window. Once you subscribe you will be notified when a new version of the tool is available for download.

Obtaining the CFReport file

The CHPID Mapping Tool uses the CFReport file. Your service representative can provide you with a softcopy of this file, which e-config generates. Alternately, you can download a copy of your CFReport file on Resource Link.

Before you begin: To obtain the CFReport file, you need to know your CCN. The CCN is an 8-digit number that is the unique identifier for the ordered machine. It is critical that you verify with the service representative that you have the correct number.

Perform the following steps to obtain the CFReport file:

- 1. Log on to Resource Link if you are not already logged on to it.
- 2. Click **Tools** in the navigation bar on the left.
- 3. In the list of tools in the Tools window, click **CHPID Mapping Tool**. Resource Link displays the CHPID Mapping Tool window.
- 4. Click **CFReport (I/O Configuration Data)**. Resource Link displays the **CFReport Download** window. Figure 2 on page 6 displays this window.

IBM	Industrie	es & solutions Se	rvices Products	Support & downloads	My IBM	Search	
Resource Link	>	IBM Systems > System	z > Resource Link > Took	• > CHPID Mapping Tool > Oad			=
Planning	>	To search for a CFR	eport, enter its 8 charact	er control number, then click	Submit.	Help	
Education	\rightarrow					Help about CFReport download	
Library	>	Control number:*					
Fixes	>	Submit					
Problem solving	>	Subinit					
Services	>						
Tools							~

Figure 2. CFReport Download window

- 5. Enter the CCN in the Control number field, and click Submit.
- 6. If there are no problems, downloading begins.

A File Download window is displayed, followed by a Save As window. These windows allow you to specify the location to save the file and on. You are recommended to always use .cfr as the extension for this file. You can use any name you want for the high-order name but are recommended not to change it. When the file is downloaded from Resource Link, the name is *<CCN*>.cfr.

7. If there are problems with the CCN, an error message is displayed on the CFReport Download window under the **Control number** field:

Control number: control_number not found

One reason the CCN could be incorrect is that the processing of the order from the IBM configurator might not have completed running. As part of the configuration process, the service representative running the configurator must send the order to the manufacturing database. You can click the **Help about CFReport download** link to display a window listing additional information.

If you cannot readily figure out the problem, contact your service representative as soon as possible, or click **Feedback** in the navigation bar on the left on Resource Link.

Chapter 3. Getting started

This chapter provides:

- Information about starting the CHPID Mapping Tool. (See "Starting the tool" on page 7.)
- Directions for creating a project, including importing the CFReport file and IOCP input file. (See "Creating a project" on page 9.)
- Descriptions of the elements of the IBM Channel Path ID Availability and Mapping Tool window and how to manipulate them. These elements include:
 - Views (This chapter shows the Hardware Resolution view as an example because the tool displays this view after you create a project. The chapter references other views whose detailed descriptions are in other chapters.)
 - Panes
 - Columns of information
- Graphical user interface (GUI) elements:
 - Menus (see "Menus" on page 16)
 - Buttons (see "Buttons" on page 20)
 - Other controls (see "Using other GUI controls to control the panes" on page 23)

Starting the tool

Before you begin: You must have already downloaded the CHPID Mapping Tool from Resource Link and obtained the CFReport file.

If you are updating the CHPID Mapping Tool, see <u>"Updating the tool" on page 52</u>.

After you download and install the CHPID Mapping Tool, its icon is available on your desktop. Figure 3 on page 7 shows the icon.

Perform the following steps to start the tool:

1. Double-click the CHPID Mapping Tool icon to open the tool. Figure 3 on page 7 shows this icon.



Figure 3. CHPID Mapping Tool icon

A splash screen window that identifies the tool is displayed and closes itself. shows this window. The window displays:

- a. The full name of the CHPID Mapping Tool
- b. The current version of the CHPID Mapping Tool, in this case Version 6.20. The version of the tool is incremental when functionality is added.
- c. A licensing statement

The first time you open the CHPID Mapping Tool, the IBM CHPID Mapping Tool Welcome window opens. The tool displays this window after the blue wave window closes. Figure 4 on page 8 shows this window.



IEM

IBM Channel Path ID Availability and Mapping Tool 6.21

Welcome to the IBM Channel Path ID Availability and Mapping Tool, otherwise known as the CHPID Mapping Tool!

The IBM Channel Path ID Availability and Mapping Tool (short: CHPID Mapping Tool) allows you to assign CHPID numbers to the channels on your IBM Z processor. You can assign CHPID numbers by using either of two methods:

* Manual Mapping - You enter the new CHPID values individually. The CHPID Mapping tool checks your input for errors.

* Availability Mapping - The CHPID Mapping tool assigns CHPIDs for maximum system availability.

In either case, the CHPID Mapping tool provides the necessary output and reports. Please refer to the links below for details.

Launch README

Display the README file of the CHPID Mapping Tool 6.21

Documentation

Read the CHPID Mapping Tool documentation

Figure 4. IBM CHPID Mapping Tool Welcome window

2. Click **Start Session**, a link in red near the bottom of the window. (Or you can click the X on the Welcome tab.)

The Welcome window closes, and the IBM CHPID Mapping Tool window opens. Figure 5 on page 9 shows this window. (See page <u>"Welcome Window" on page 18</u> for a detailed description of the Welcome Window.)

Note: The tool opens the Welcome window in the following situations:

- The first time you open the tool
- If you used the tool before but did not save session information.

H CHPID Mapping Tool Product Plug-in - Default Perspective	_ 🗆 🖂
Eile Window Help	
Hardware Resolution 🛞 CU Priorities 🕥 Manual Mapping -	
Automatic Mapping Report Process Intersections Save Report Save Report	άř.
Projects V III	
0 items selected	

Figure 5. IBM CHPID Mapping Tool window with Projects pane

Creating a project

The CHPID Mapping Tool allows you to specify the CFReport file and IOCP input file when creating a project. You cannot rename or replace these files within the tool after project creation. Do not work outside the tool to access these or any other files or directories the CHPID Mapping Tool uses; doing so might make the project files unusable.

Before you create a project, the IBM CHPID Mapping Tool window displays the following panes:

- The Projects pane on the left
- A blank pane on the left.

Figure 5 on page 9 shows the window containing these panes.

Perform the following steps to create a new project:

1. Right-click in the Projects pane (by default the leftmost pane), and click **New** > **Standard CMT Project**. Figure 6 on page 10 shows this sequence.

+ CHPID Mapping	g Tool Product Plug-in - Default Perspective
File Window Help	
Hardware Re	esolution 🛞 CU Priorities 🕥 Manual Mapping 🔹 🕜 Automatic Mapping 🕥 Process Intersections
Preview Rep	port 👻 🛞 Save Report 👻
Projects	
	New 🎦 Project
	Import session from archive Ctrl+M Standard MT Project
	Ctrl+N
0 items selected	

Figure 6. Creating a new project

The New CHPID Mapping Tool Project window opens. You use this window to specify a project name. Figure 7 on page 10 shows this window.

New CHPID Mapping Tool Project	_ 0
ew CHPID Mapping Tool Project Create a new CHPID Mapping Tool Project	
Project name:	
Use default location	
Locacion: C: Program Files (CHPID_Mapping_Tool (cmt (workspace)	Browse
< Back Next > Finish	Cancel

Figure 7. New CHPID Mapping Tool Project window

2. Type the name of your project in the **Project name** field.

Note: There is no facility within the CHPID Mapping Tool for renaming a project. Do not attempt to do so by directly accessing the project folder outside the tool. To do so might make the project files unusable.

(You can optionally change the default location where the project information is stored. To do so, clear **Use default location**, and browse to the location you want.)

After you type in the name, **Next** becomes available. Click **Next**.

The New CHPID Mapping Tool Project window displays fields where you specify the source CFReport and IOCP input files. Figure 8 on page 11 shows this.

Hew CHPID Ma	pping Tool Pr	oject		_ 🗆 🔀
Select files for C	XFR and IOCP in CFReport file.	input file		
	-			
Specify the CFRepor	t file to load.			
CFReport file:				Browse
Specify the IOCP inp	ut file to load.			
IOCP input file:				Browse
	< Back	Next >	Finish	Cancel

Figure 8. New CHPID Mapping Tool Project window

3. Specify the name of the CFReport file in the **CFReport File** field.

Note:

- a. Specifying a CFReport file is required.
- b. The tool copies the CFReport file you specify into a subfolder of the Workspace/*Project* folder. (The path is: Workspace/*Project*/Input/CFR.
- c. You cannot change or rename the CFReport file after creating a project. If you create a project and need a different CFReport file, you need to create a new project.

One way to do this is to browse to the file. Perform the following steps:

a. Click **Browse** beside the **CFReport file** field. The Open window opens.



Figure 9. Open window (for CFReport file)

b. Select a CFReport file. After you click the file to select it, the **File name** field at the bottom of the window is completed. Click **Open**. The tool returns you to the New CHPID Mapping Tool Project window. The name of the CFReport file is displayed in the **CFReport file** field.

Another way to specify the CFReport file is to type the path and file name in the CFReport file field.

4. If the Select Machine window opens, this means your CFReport file references multiple systems. You need to select the appropriate system. Figure 10 on page 12 shows the Select machine window.



Figure 10. Select Machine window

Select a machine from the list and click **OK**.

5. Optionally, specify the IOCP input file.

Note:

- a. If you do not import the IOCP input file at this point, you can do this later. See <u>"Importing the IOCP</u> file" on page 45.
- b. The tool copies the IOCP input file you specify into a subfolder of the Workspace/*Project* folder. (The path is: Workspace/*Project*/Input/IOCP.)
- c. If you do not import an IOCP input file, you can still use the tool to create most reports but cannot perform any mapping. (You can create all reports except the Control Unit Report and the CHPID to Control Unit Report. See Chapter 9, "Reports," on page 99 for details about reports.)
- d. You cannot change or rename the IOCP input file after creating a project. If you create a project and need a different IOCP input file, you need to create a new project.
- 6. Click Browse beside the IOCP input file field. The Open window opens.

Click an IOCP input file to select it, and click **Open**. The tool returns you to the New CHPID Mapping Tool Project window. The name of the IOCP input file you selected is displayed in the **IOCP input file** field.

7. Click Finish.

Note: If you click **Finish** but have not selected an IOCP input file, you receive the following message:

#	N 1997
2	You did not specify an IOCP input file for the project. When you load only the CFReport file, the tool allows reports to be viewed relating to the CFReport. However, to perform manual or automatic mapping, please specify both the CFReport and IOCP input files. Click OK to continue loading the CFReport.
	OK Cancel

Figure 11. Message that you did not specify the IOCP file

You can click **OK** to continue without selecting an IOCP input file or click **Cancel** for another opportunity to select an IOCP input file (return to Step "5" on page 12).

After you click **Finish**, the tool displays a window depicting the progress of reading the CFReport file. Figure 12 on page 13 shows this window.

C Reading CFReport	_ 0 🛛
(i) Reading CFReport	
Interpreting CFReport file (new	configuration)
Always run in background	
	Run in Background Cancel Details >>

Figure 12. Reading CFReport window

The tool also displays the name of the project in the lower-left corner of the main window and the progress of the project creation in the lower-right corner. Figure 13 on page 13 shows these indicators.



Figure 13. Project name and progress bar

8. If your CFReport file describes a miscellaneous equipment specification (MES), the Select IOCP Input File Source window opens. The purpose of this window is to specify whether the selected IOCP input file represents the old or the proposed configuration.

H Select IOCP input file Source	- 🗆 🗙
Your IOCP input file has PCHIDs already assigned, and the CFReport config file MES (upgrade or change to an existing system). If the IOCP input file represent current configuration (before change), the tool can try to follow the PCHIDs into the proposed locations. Otherwise the tool can apply them directly to the new configuration(the PCHIDs are specified for the new or proposed system in IOCP	specifies an ts the o P input file).
Please make a selection below.	
IOCP file represents current configuration IOCP file represents proposed configuration	
	ОК

Figure 14. Select IOCP Input File Source

Choices are:

IOCP input file represents current configuration

Select this choice if the loaded IOCP input file represents the old system (you have not changed the IOCP input file before loading it into the CHPID Mapping Tool). This situation is the most common.

IOCP input file represents proposed configuration

Select this choice if the IOCP input file represents the new system (you manually changed the IOCP input file before loading it into the CHPID Mapping Tool).

9. If the CFReport file has AID values that cannot be determined, the tool assigns temporary values and displays the following window:

Temporary AID Values Assigned										
This CFReport has ports where the AID value could not be determined. In order to let you use the tool anyway, temporary values have been generated. If these AID values are assigned to a CHPID, the IOCP input file must be updated manually before using.										
F/C	Туре	Location	Temporary AID							
0163	IFB link	A 258 LG06 D506 J.01	AID=T1							
0163	IFB link	A 258 LG06 D506 J.02	AID=T1							
To find o	but the generate	d AID values later, please ch	eck report Temporary AID.							

Figure 15. Temporary AID Values Assigned window

Figure 16 on page 15. shows the IBM CHPID Mapping Tool window after you have created a project.

IBM CHPID Mapping T	ool - XY	Z Project	Hardware	Resolution								-	. 🗆 🗙
File Window Help													
Hardware Resolution		CU Priorities	Manu	al Mapping 💎	Automat	ic Mapping	Process In	tersections	٢	Preview Report 🔹 🌘	Sav Sav	ve Report	-
Projects 🗖 🗖	🔲 Hard	dware Resolut	ion		Assign Adapter Type	e 💿 Rerun I	Hardware Resol	ution 🗸 🗖 🗖		Adapter Type Summary			- 8)
$\overline{\nabla}$	Search :									Adapter Type	Used	Available	Device C
C C VYZ Project		·								zEDC Express	0	16	1
		CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status			FICON EXP8S SX	0	2	1
🖽 🦢 Input	🚫 🏹	0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hard	ware found for P		Y4 Cry-Exp4S	0	0	2
- Reports	🕺 🔇	0.80(S)	FC				Error: Select a	t least one adapt		RoCE 10 GbE SR	0	4	2
session.cmt.dat	🕺 🔇	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	ware found for P		OSA-EXP4S 1000BASET	0	4	4
	🛛 🚫 🔰	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	ware found for P		OSA-EXP4S 10 GbE SR	0	4	4
	🕺 🔇	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	ware found for P		HCA3-O FANOUT	7	160	10
	🛛 🔇 🗧	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	ware found for P		OSA-EXP4S GbE SX	0	18	18
	🛛 😣 🏹	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	ware found for P		FICON EXP8S 10KM LX	0	116	58
	🛛 🔇 🏅	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	wase found for PC	HID:	AID=0F			
	🛛 🔇 🏅	FID 01-1	FID				Error: Select a	t least one adapt					
	🛛 🚫 🏅	FID 02-2	FID				Error: Select a	t least one adapt	_				
	🕺 🏹	FID 15	FID				Error: Select a	t least one adapt	_				
<	<				1111	1	1	>	<				>
🔁 XYZ Project													

Figure 16. CHPID Mapping Tool window after project creation

The Hardware Resolution view is one of several different views the tool can display in the CHPID Mapping Tool window. In this view, the Hardware Resolution tabbed pane is the central pane. You can switch views by clicking (**Hardware Resolution, Preview Report** and so on) near the top of the window. For more information, see "Views" on page 22 and "Buttons" on page 20.

Note: The Hardware Configuration Manager (HCM) can use the CHPID Mapping Tool to create or update a project. (It can also use the tool to update an IOCP file.) When HCM opens the CHPID Mapping Tool, you specify whether to create a new project or use an existing project. If you are creating a new project, the tool prompts you for the CFReport file; see Figure 8 on page 11. The tool fills in the **IOCP file** field.

The Projects pane

The Projects pane is present in all views. By default, it is the leftmost pane, and, if there is more than one pane is on the left, it is the top pane. You have already used the Projects pane to create a project (see "Creating a project" on page 9). Figure 17 on page 16 shows an example of the Projects pane.



Figure 17. Projects pane

The Projects pane is present in the Hardware Resolution view and in other views. It allows you to create or delete a project. After you create a project, this pane displays information about projects in a tree-style format. You can click to expand the project and the items under it.

Input

This folder contains input folders. It expands to show two subfolders:

CFR

This folder contains the CFReport file or files.

IOCP

This folder contains the IOCP input file or files.

Reports

This folder contains any generated reports.

Note: Most reports are available (after loading the CFReport) even before loading the IOCP input file. Only the Control Unit Report and the CHPID to Control Unit Report require loading the IOCP input file. You can generate any report (for example, the CHPID Report) before assigning CHPIDs, but the CHPID field is empty in this case.

session.cmt.dat

This is a session file. It saves all the data you have worked on during the session and enables you to switch between projects. Double-click if you have multiple projects. This action loads the contents of the file into the mapping session.

You can perform various tasks relating to projects in the Projects pane. For details, see <u>"Tasks accessed</u> in the Projects pane " on page 43.

Menus

Menu items at the top of the CHPID window include:

- File
- Window
- Help.

The File menu

Figure 18 on page 17 shows the selections under the File menu.

Eile Window Help	
T New	Ctrl+N
Save Session	Ctrl+S
Import Session Export Session	Ctrl+M Ctrl+E
Export IOCP input file	Ctrl+I
Exit Application	Ctrl+X



The File menu includes the following selections:

Save Session

This option saves information including:

- CFReport file
- IOCP input file
- Hardware resolution, CHPID assignment, or any other changes you have made during the session.

Note: The current version of the CHPID Mapping Tool (Version 6.xx) does not restore sessions saved from earlier versions. If you want to use a session from an earlier version, export your IOCP file before upgrading to Version 6.xx.

Import Session

Imports a saved session.

Export Session

This option opens a window to allow you to save any changes you have made and specify a new name.

Export IOCP Input File

This option allows you to save an updated IOCP input file. The statements in the IOCP input file include the assignments you have made with the CHPID Mapping Tool.

Exit Application

Closes the tool and exits the program.

If you have changed or updated CHPID assignments, the tool prompts you to save your session. However, you are recommended to click **Save Session** or **Export Session** before exiting any program. The change or update of CHPID assignments could be: change the IOCP type of CHPIDs, change of CHPID groups, or change the mapping between CHPID and PCHID.

The Window menu

Figure 19 on page 17 shows the selections under the Window menu.

Window	
Preferences	
Reset to Default Layout	

Figure 19. Window menu

The Window menu includes the following selections:

Preferences

Allows you to specify general preferences, manual mapping availability view preferences, report preferences, and hardware resolution message preferences. General preferences include the autosave interval and preferred temporary file location. Availability preferences allow selection of the default manual mapping view. Report preferences include formatting items; such as page size and margins. Hardware resolution preferences include an option to disable adapter insufficient hardware pop-up messages.

Reset to Default Layout

After you have closed or minimized one or more of the tabbed areas (in the Hardware Resolution view, these are: Projects, Hardware Resolution, and Channel Type Summary), this restores the Channel Path ID Availability and Mapping Tool window to its original format. (For the Hardware Resolution view, this is a three-pane format with Projects, Hardware Resolution, and Channel Type Summary. For other views, there may be more panes present.)

The Help menu

Figure 20 on page 18 shows the selections under the Help menu.

Help	
Help Contents	
Welcome Window	
Ke	ey Assist
Instal or Update Features	
Ab	out

Figure 20. Help menu

The Help menu includes the following selections:

Help Contents

This opens the Help window, which contains HTML documentation of the *CHPID Mapping Tool User's Guide*. The left pane contains a navigation tree. The right pane displays the documentation.

The left pane displays one of the following:

- Table of Contents (the default)
- Index
- Search Results
- Bookmarks

You can select what is displayed by clicking the buttons at the bottom of the pane.

The right pane displays the topic information.

Welcome Window

This selection displays the Welcome window. The Welcome window provides links to the following:

- Information about what is new in this version of the tool
- Documentation
- Frequently Asked Questions (FAQs).
- Starting a session to use the tool.

Key Assist

This selection displays a list of all the keyboard shortcut keys.
File>Exit	Ctrl+X
File>ExportSession	Ctrl+E
File>ImportSession	Ctrl+M
File>Save IOCP	Ctrl+I
File>SaveSession	Ctrl+S
Help>KeyAssist	Ctrl+L
New	Ctrl+N
Next View	Ctrl+F7

Figure 21. Key assist

Install or Update Features

This selection opens the Updates window. Figure 22 on page 19 shows this. Information regarding updates is discussed in Chapter 5, "Miscellaneous tasks," on page 43



Figure 22. Updates window

About

This selection opens the About IBM Channel Path Availability and Mapping Tool window.

This window specifies the copyright information for the CHPID Mapping Tool. It also provides the following buttons:

Installation Details

The tool opens a window with tabs:

Features

Displays the feature providers, versions, and feature IDs.

Plug-ins

Displays a table listing plug-in providers, versions, and IDs.

Configuration

Displays a text file containing configuration information. To save the text file, click **Click to Clipboard** and paste it into a text editor.

OK

The tool closes the About... window.

Buttons

After you create a project in the CHPID Mapping Tool, the tool displays the Hardware Resolution view. Figure 23 on page 20 shows this view.

🕀 IBM CHPID Mapping T	ool - XYZ P	roject -	Hardware	Resolution								-	
File Window Help													
Hardware Resolution		Priorities	Manu	al Mapping 🔹	Automat	ic Mapping	Process In	ntersections	٢	Preview Report 🔹 🌘	Sav Sav	/e Report	•
Projects 🗖 🗖	Hardware	e Resolutio	on	,	Assign Adapter Type	e 💿 Rerun I	Hardware Resol	lution 🗸 🗖 🗖		Adapter Type Summary			- 0)
$\overline{\nabla}$	Search :									Adapter Type	Used	Available	Device C
E 1 VYZ Project										zEDC Express	0	16	1
	CHP	ID 🔺 🛛	IOCP Type	Assigned By	Adapter Type	PCHID	Status			FICON EXP8S SX	0	2	1
🗄 🦢 Input	🚫 🏹 0.	14	CIB		HCA3-O FANOUT	AID=0C	Error: No hard	dware found for P		Y4 Cry-Exp4S	0	0	2
- Reports	🚫 💐 0.4	80(S)	FC				Error: Select a	at least one adapt		RoCE 10 GbE SR	0	4	2
session.cmt.dat	🛛 🔇 🏹 0.1	F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for P		OSA-EXP4S 1000BASET	0	4	4
	🛛 🔇 🏹 0.1	F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for P		OSA-EXP4S 10 GbE SR	0	4	4
	🛛 🔇 🏹 0.1	F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for P		HCA3-O FANOUT	7	160	10
	🛛 🔇 🏹 0.1	F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for P		OSA-EXP4S GbE SX	0	18	18
	🛛 🔇 🏹 0.1	F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for P		FICON EXP8S 10KM LX	0	116	58
	🛛 🔇 🏹 0.1	F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hard	dware found for PC	HID:	AID=0F			
	🛛 🔇 🏹 FI	D 01-1	FID				Error: Select a	at least one adapt					
	🛛 🔇 🏹 FI	D 02-2	FID				Error: Select a	at least one adapt					
	🛛 🔇 🏹 FI	D 15	FID				Error: Select a	at least one adapt					
< >	<				1111	1	1	>	<				>
🗁 XYZ Project													

Figure 23. IBM CHPID Mapping Tool window – Hardware Resolution view

The Hardware Resolution view is one of several views. You can use some of the buttons near the top of the window to change the view; other buttons perform processing. Figure 24 on page 20 shows the buttons near the top of the IBM Channel Path ID Availability and Mapping Tool window.



Figure 24. CHPID Mapping Tool - Top row of buttons

The buttons that are associated with changing the view are:

- Hardware Resolution
- Manual Mapping
- CU Priorities
- Preview Report
- Save Report

The following table lists the buttons and their actions and references the detailed descriptions of any associated views.

Table 2. Buttons and their actions							
Button	Explanation						
Hardware Resolution	After you create a project, the CHPID Mapping Tool displays the Hardware Resolution version of the CHPID Mapping Tool window. For convenience, this book calls this the Hardware Resolution view. You can use this button to restore the Hardware Resolution view after you have switched to a different view.						
	For an introduction to the Hardware Resolution view, see <u>Chapter 4</u> , <u>"Performing hardware resolution," on page 29</u> . For detailed information about the Hardware Resolution view, see <u>"Performing</u> hardware resolution" on page 33.						
CU Priorities	This button displays the Priority Editing (CU) version of the CHPID Mapping Tool window, which, for convenience, this book calls the CU Priorities.						
	You need to assign priorities only in the following cases:						
	• If you have two (or more) control units you want the tool to process at the same time						
	• If you want to prioritize the most important control units.						
	For more detailed information, see <u>"The CU Priorities view" on page</u> 63.						
Manual Mapping	By default this button displays the Connection Mapping (Hardware) version of the CHPID Mapping Tool window, which, for convenience, this book calls the Manual Mapping view. The Manual Mapping view has two formats:						
	 The Hardware > I/O format 						
	 The I/O > Hardware format. 						
	Clicking the button displays the Hardware > I/O format. Clicking the down-arrow beside the button allows you to choose your preferred format.						
	For detailed information about the Manual Mapping view, see <u>"The</u> Manual Mapping view" on page 85.						
Automatic Mapping	This button performs processing for automatic mapping (and also for processing intersections), but it but does not display a different view. For detailed information about Automatic Mapping, see <u>"Performing Automatic Mapping" on page 75</u>						
Process Intersections	This button performs processing, but it does not display a different view. It displays information about intersection in the CHPID Groups pane of the CU Priorities view or Manual Mapping view (either format). For more detailed information, see <u>"Optionally using Process</u> Intersections" on page 83.						
Preview Report	You need to click the down arrow beside either of these buttons to						
Save Report	performs processing, then displays the Reports version of the CHPID Mapping Tool window, which, for convenience, this book calls Report view. For detailed information, see <u>"The Report view" on page 102</u> .						

Views

After you create a project, the CHPID Mapping Tool displays the Hardware Resolution view. <u>Figure 25 on</u> page 22 shows this view.

🕀 IBM CHPID Mapping T	ool - X	YZ Project	Hardware	Resolution							-	. 🗆 🗙
File Window Help												
Hardware Resolution		CU Priorities	Manu	al Mapping 👘	Automat	ic Mapping	Process Intersections	٢	Preview Report 🔹 🌔	🛞 Sa	ve Report	•
Projects 🗖 🗆	Hard	dware Resolut	ion		Assign Adapter Type	e 💿 Rerun	Hardware Resolution 🛛 🗖 🗖		Adapter Type Summary			- 8
	Search	:							Adapter Type	Used	Available	Device C
🖃 🚔 XVZ Project									zEDC Express	0	16	1
A C Innut		CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status		FICON EXP8S SX	0	2	1
Input	🕺 🕺 💈	0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for P		Y4 Cry-Exp4S	0	0	2
Reports	🕺 🕺 💈	0.80(S)	FC				Error: Select at least one adapt		RoCE 10 GbE SR	0	4	2
session.cmt.dat	🛛 🚫 🔰	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S 1000BASET	0	4	4
	🛛 🚫 🎽	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S 10 GbE SR	0	4	4
	🛛 🚫 🎽	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		HCA3-O FANOUT	7	160	10
	🛛 🚫 🎽	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S GbE SX	0	18	18
	🛛 🚫 🎽	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		FICON EXP8S 10KM LX	0	116	58
	🛛 🚫 🎽	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P	CHID:	AID=0F			
	N 🕺 🕈	FID 01-1	FID				Error: Select at least one adapt					
	N 🕺 🕈	FID 02-2	FID				Error: Select at least one adapt					
	🕺 🕺	FID 15	FID				Error: Select at least one adapt					
< >	<				IIII			<				>
🗁 XYZ Project												

Figure 25. IBM CHPID Mapping Tool window – Hardware Resolution view

The CHPID Mapping Tool includes the following views:

- Hardware Resolution view pictured in the preceding; see <u>Chapter 4</u>, "Performing hardware resolution," on page 29 for more information.
- Manual Mapping view see Chapter 8, "Manual mapping," on page 85.
- CU Priorities view see "The CU Priorities view" on page 63.
- Reports view see "The Report view" on page 102.

You can switch views by clicking some of the buttons (**Preview Report**, and so forth) near the top of the window; see "Buttons" on page 20 for details.

The sections that follow describe the tabbed panes within the views and the columns within some panes. These sections tell you how to control what the tool displays.

Tabbed Panes

Each view is composed of multiple tabbed panes. For example, as shown in Figure 25 on page 22, the Hardware Resolution view contains three tabbed panes:

- Projects pane by default on the left. The CHPID Mapping Tool displays the Projects pane in all views. For detailed information, see "The Projects pane" on page 15.
- Hardware Resolution pane by default in the middle. For detailed information, see <u>"The Hardware</u> Resolution pane" on page 29 and <u>"Performing hardware resolution" on page 33.</u>
- Adapter Type Summary pane by default on the right. See <u>"The Adapter Type Summary Pane " on page</u> 32 for detailed information.

The tool displays various panes in other views; this book describes these panes in the descriptions of those views. The following table summarizes which views share a particular pane:

Table 3. Panes present in various views									
Pane	Hardware Resolution view	Manual Mapping view (both formats)	CU Priorities view	Reports view					
Projects	X	Х	Х	Х					

Table 3. Panes present in various views (continued)								
Pane	Hardware Resolution view	Manual Mapping view (both formats)	CU Priorities view	Reports view				
Hardware Resolution	Х							
Adapter Type Summary	Х							
Columns		Х						
I/O Config		Х						
Hardware		Х						
CHPID Groups		Х	Х					
CU Priorities			Х					
CU Details			Х					
Report				X				

Resizing width of panes

To change the respective widths of the panes, perform the following steps:

1. Placing your cursor on the boundary between two tabbed panes until a double-headed arrow appear. Figure 26 on page 23 shows this.

🗖 Projects 🗸 🗸	" 🗖 🗖 Hard	ware Resolution
🖃 彦 XYZ Project ⊕∵ 🥭 Input	Search	:

Figure 26. Double-headed arrow indicates you can resize width of s

2. Hold the left mouse button and slide the pane left or right until the respective widths are satisfactory. Then release the mouse button.

Note: When you are displaying views with upper and lower panes, you can use the same process to resize the height of the panes. An example of such a view is the Manual Mapping view.

Moving panes by dragging the tabs

To rearrange the panes, click a tab and hold the left mouse button to drag the pane where you want it.

Note: To return the panes to their original view, click **Window** > **Reset to Default Layout** and **OK** in the Reset to Default Layout window that opens.

Using other GUI controls to control the panes

You can use the small icons near the top of the Projects, Hardware Resolution, and Channel Type Summary tabbed panes to perform the following tasks:

- Open a menu of actions
- Minimize a pane
- Maximize a pane.

Every pane does not have every icon. Figure 27 on page 24 shows all of the icons.



Figure 27. Additional GUI controls in the IBM CHPID Mapping Tool window

View Menu

This arrow icon opens an actions menu.

For information about the View Menu on the Hardware Resolution pane, see the Note in <u>"Removing</u> one or more PCHIDs - Action list method " on page 36.

Minimize icon

This icon looks like a minus sign. It minimizes the pane, removing the particular pane from view.

Maximize icon

This icon looks similar to the Windows Explorer Maximizes icon. It maximizes the pane, removing the other pane or panes from view.

Informational icons in tables

After you create a project, the tool shows the Hardware Resolution view. <u>Figure 28 on page 24</u> shows the Hardware Resolution pane in this view. The CHPID column contains an icon in front of each CHPID number. The bidirectional arrows icon is the I/O icon. It is a non-functional icon; clicking it does not perform any action. It is informational, indicating I/O.

🗖 Ha	Hardware Resolution					Assign Adapter Type 🛛 Rerun Hardware Resolution 🗸 🗖 🗋				
Searc	Search :									
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status				
8	2 0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for PCHID: AID=0C				
8	2 0.80(S)	FC				Error: Select at least one adapter type.				
8	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	2 0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	2 0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	2 0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F				
8	FID 01-1	FID				Error: Select at least one adapter type.				
8	FID 02-2	FID				Error: Select at least one adapter type.				
8	FID 15	FID				Error: Select at least one adapter type.				

Figure 28. Hardware Resolution pane with Xs in first column

Figure 28 on page 24 also shows that the PCHID column contains an icon front of each PCHID or AID number. The tilted square icon is the Hardware icon. It is a non-functional icon; clicking it does not perform any action. It is informational, indicating hardware.

Restoring minimized panes

If you minimize a pane (or maximize a pane so that the other panes are automatically minimized), a set of two icons is displayed for each minimized pane. Figure 29 on page 24 shows this.



Figure 29. The Restore icon and the tab-name icon

The top icon is the Restore icon. (It looks like two small diagonally positioned rectangles, and it resembles the Internet Explorer Restore Down icon.) It restores a pane you have minimized. To restore a pane you have previously minimized, click the Restore icon.

The bottom icon is the *tab-name* icon; for example, if you minimize Projects, it is the Projects icon. (This icon resembles the Internet Explorer Maximize icon.) The *tab-name* icon temporarily displays a minimized pane on top of a currently displayed pane. It provides a *quick view* of a minimized pane but the pane is displayed only until you click elsewhere in the tool or click **Esc**.

Note: The set of two icons is displayed for *each* pane you minimize. So if you minimize both Projects and Channel Type Summary tabbed panes, two sets of two icons are displayed. If you additionally minimize Hardware Resolution, three sets of two are displayed.

Perform one of the following steps to restore a pane that has been minimized.

- To restore a minimized pane (so that it persists), click the Restore icon (the top icon in Figure 29 on page 24).
- To temporarily display a previously minimized pane on top of another pane, click the *tab-name* icon (the bottom icon in Figure 29 on page 24).

Restoring the default view after closing a pane

If you close a pane or panes in a view, such as the Hardware Resolution View, you can restore the original view by clicking **Window** > **Reset to Default Layout**.

Note: If you change to another view, such as the CU Priority view or the Manual Mapping view, you can restore the Hardware Resolution view by clicking the Hardware Resolution button.

Search field

Only two views (Manual Mapping and CU Priorities) include the search field. See Figure 85 on page 69.

Columns

In panes with columns of information, such as the Hardware Resolution pane of the Hardware Resolution frame, you can:

- Sort the information in a column see "Sorting information" on page 25.
- Reorder the columns see "Reordering columns within a pane" on page 27.
- (In some views) specify the columns to display.

Sorting information

For panes that contain information in tables, you can sort the columns. To sort the information in a column, click a column heading.

By default, one column heading in each table includes an arrow. By default, the tool sorts each pane by the column with the arrow. The arrow points up indicating the sort is in ascending order by default. For example, in the Hardware Resolution view, by default the Hardware Resolution pane contains an arrow in the CHPID column. This column is sorted in ascending order. Figure 30 on page 26 shows this:

rdware Resoluti	ion			Assig	gn Adapter Type 🛛 🛞 Rerun Hardware Resolution	~ - 8
h:						
CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status	
0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for PCHID: AID=0C	
0.80(S)	FC				Error: Select at least one adapter type.	
0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F	
FID 01-1	FID				Error: Select at least one adapter type.	
FID 02-2	FID				Error: Select at least one adapter type.	
FID 15	FID				Error: Select at least one adapter type.	
	rdware Resolut n: CHPID CHPIS CH	rdware Resolution n: CHPID IOCP Type I 0.14 CIB I 0.80(S) FC I 0.F0(S) CIB I 0.F1(S) CIB I 0.F2(S) CIB I 0.F3(S) CIB I 0.F3(S) CIB I 0.F4(S) CIB I 0.F5(S) CIB I 0.F5(S) CIB I FID 01-1 FID I FID 02-2 FID I FID 15 FID I FID 15 FID I FID 15 FID I 0.500000000000000000000000000000000000	Image: CHPID IOCP Type Assigned By CHPID IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type Assigned By Image: One of the system IOCP Type III Image: One of the system IIII III Image: One of the system IIII IIII Image: One of the system IIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	rdware Resolution n: CHPID IDCP Type Assigned By Adapter Type I 0.14 CIB HCA3-O FANOUT I 0.80(S) FC I 0.F0(S) CIB HCA3-O FANOUT I 0.F1(S) CIB HCA3-O FANOUT I 0.F2(S) CIB HCA3-O FANOUT I 0.F3(S) CIB HCA3-O FANOUT I 0.F4(S) CIB HCA3-O FANOUT I 0.F4(S) CIB HCA3-O FANOUT I 0.F5(S) CIB HCA3-O FANOUT I 0.F5(S) CIB HCA3-O FANOUT I FID 01-1 FID I FID 02-2 FID I FID 15 FID	rdware Resolution Assigned By Adapter Type PCHID CHPID IOCP Type Assigned By Adapter Type PCHID I 0.14 CIB HCA3-O FANOUT AID=0C I 0.F0(S) CIB HCA3-O FANOUT AID=0F I 0.F0(S) CIB HCA3-O FANOUT AID=0F I 0.F2(S) CIB HCA3-O FANOUT AID=0F I 0.F3(S) CIB HCA3-O FANOUT AID=0F I 0.F3(S) CIB HCA3-O FANOUT AID=0F I 0.F4(S) CIB HCA3-O FANOUT AID=0F I 0.F5(S) CIB HCA3-O FANOUT AID=0F I 0.F5(S) CIB HCA3-O FANOUT AID=0F I FID 01-1 FID ID ID=0F I FID 02-2 FID ID ID=0F I FID 02-2 FID ID ID=0F	rdware Resolution Assign Adapter Type Rerun Hardware Resolution n : CHPID A IOCP Type Assigned By Adapter Type PCHID Status 21 0.14 CIB HCA3-O FANOUT AID=0C Error: No hardware found for PCHID: AID=0C 21 0.80(S) FC Error: Select at least one adapter type. 21 0.76(S) CIB HCA3-O FANOUT AID=0F 21 0.75(S) CIB

Figure 30. Sorting by CHPID column - in ascending order

If you click the column heading (or the arrow in the column containing it), the tool displays an arrow pointing in the opposite direction and sorts the information in descending order. Figure 31 on page 26 shows this:

Пн	ardware Resolutio	n			Assig	gn Adapter Type	🛞 Rerun Hardware Resolution			
Search :										
	CHPID 🔻 📐	IOCP Type	Assigned By	Adapter Type	PCHID	Status				
	💐 FID 15 📈	FID				Error: Select at	least one adapter type.			
	FID 02-2	FID				Error: Select at	least one adapter type.			
	FID 01-1	FID				Error: Select at	least one adapter type.			
	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardw	are found for PCHID: AID=0F			
	0.80(S)	FC				Error: Select at	least one adapter type.			
	0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardw	are found for PCHID: AID=0C			

Figure 31. Sorting by CHPID column - in descending order

You can toggle back and forth between ascending and descending order by clicking the column name or the arrow.

To change the column by which the tool sorts tabular information, click the column heading of a different column. Figure 32 on page 26 shows the Hardware Resolution pane after the user completed hardware resolution and then clicked the Channel Type heading. The tool displays an arrow in the Channel Type heading and sorts the column in ascending order.

🗖 н	ardware Resolut	tion			Assig	n Adapter Type 🛛 💿 Rerun Hardware Resolution						
Sear	Search :											
	CHPID	IOCP Type	Assigned By	Adapter Type 🔺	PCHID	Status						
	0.80(S)	FC				Error: Select at least one adapter type.						
	FID 01-1	FID				Error: Select at least one adapter type.						
	FID 02-2	FID				Error: Select at least one adapter type.						
	FID 15	FID				Error: Select at least one adapter type.						
	2 0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for PCHID: AID=0C						
	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
8	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
8	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
8	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						

Figure 32. Sorting by a different column

Clicking the column heading again or clicking the arrow sorts the information in descending order.

Reordering columns within a pane

You can reorder the columns within a pane: Click the column header while holding down the left mouse button and without releasing it drag and drop the column where you want it. The following example shows the IOCP Type column moved to the right of the Adapter Type column. Figure 33 on page 27 shows this.

🗖 Hardware Resolution 🛛 Assign Adapter Type 💿 Rerun Hardware Resolution 🍸 🗖 🗖										
Sear	ch :									
	CHPID	Assigned By	Adapter Type 🔺	PCHID	IOCP Type	Status				
	0.80(S)				FC	Error: Select at least one adapter type.				
	FID 01-1	1			FID	Error: Select at least one adapter type.				
	FID 02-2	2			FID	Error: Select at least one adapter type.				
	🍣 FID 15				FID	Error: Select at least one adapter type.				
	2 0.14		HCA3-O FANOUT	AID=0C	CIB	Error: No hardware found for PCHID: AID=0C				
	0.F0(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				
	0.F1(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				
	0.F2(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				
	0.F3(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				
	0.F4(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				
	0.F5(S)		HCA3-O FANOUT	AID=0F	CIB	Error: No hardware found for PCHID: AID=0F				

Figure 33. Moving columns

See <u>"Using other GUI controls to control the panes" on page 23 and "Moving panes by dragging the tabs"</u> on page 23 for information about manipulating and moving panes.

Controlling the display of columns

Although it is not present in the Hardware Resolution view, some other views include a Columns pane. Figure 34 on page 27 shows this.



Figure 34. Columns pane showing available columns for Hardware pane

When you click within a pane in the view that contains columns of information, the Columns pane reflects the column headings. You can hide a column by clearing its check box and undo this by selecting it again.

Chapter 4. Performing hardware resolution

This chapter:

- Explains the need for hardware resolution
- Describes the Hardware Resolution view (two formats)
- Lists the steps for performing hardware resolution.

Why is hardware resolution needed?

Some CHPID types can be used for multiple card types. For example, a CHPID type OSD can be used on different card types -- Gigabit Ethernet or Fast Ethernet. If your project includes CHPID types that can be used for multiple card types, you need to choose the channel type in hardware resolution.

Hardware resolution might be needed for the following reasons:

- The PCHID channel type changed from your old system to your new system
- A defined PCHID is not compatible with the channel type at a particular location
- There are not enough ports (There is not sufficient hardware)
- There is a type mismatch between a CHPID and its associated channel type.

To resolve hardware resolution issues, you might need to obtain additional hardware or use a different IOCP file.

The Hardware Resolution view

After you load your CFReport file and IOCP input file in the CHPID Mapping Tool, the IBM CHPID Mapping Tool window displays the Hardware Resolution view. (You can switch to other views by clicking the buttons (Preview Report and so on) near the top of the window; see <u>"Buttons" on page 20</u> for more information.) The Hardware Resolution view includes three tabbed panes. Figure 35 on page 29 shows this view.

IBM CHPID Mapping T	Fool - X	(YZ Project	- Hardware	Resolution							-	. 🗆 🗙
File Window Help												
Hardware Resolution 🛞 CU Priorities 🔊 Manual Mapping 🔹 🕜 Automatic Mapping 🕥 Process Intersections 🚳 Preview Report 🔹 🌀 Save Report 🔹											•	
Projects	Har	rdware Resolut	tion		Assign Adapter Type	e 💿 Rerun I	Hardware Resolution 🛛 🗖 🗖		Adapter Type Summary			
	Search	n:							Adapter Type	Used	Available	Device C
🖃 🗁 XYZ Project	1	CHDID A	L TOCR Type	Assigned Ry	Adapter Type	DCHTD.	Ctable		zEDC Express	0	16	1
🖮 🧁 Input			10CP Type	Assigned by	Adapter Type	PCHID	Status		FICON EXP8S SX	0	2	1
- Ch Reports	N N	0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for P		14 Cry-Exp45	0	0	2
Keports	N N	< 0.80(S)	FC				Error: Select at least one adapt		ROCE 10 GDE SR	0	4	2
session.cmt.dat	N N	< 0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S 1000BASET	0	4	4
	V	< 0.F1(S)	CIB		HCA3-0 FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S 10 GDE SR	0	4	4
	1	< 0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		HCA3-O FANOUT	/	160	10
	1	< 0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for P		OSA-EXP4S GBE SX	0	18	18
	1	< 0.F4(S)	CIB		HCA3-0 FANOUT	AID=0F	Error: No hardware found for P		FICON EXP8S 10KM LX	0	116	58
	N 19 1	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PO	HID:	AID=0F			
	N 19 1	FID 01-1	FID				Error: Select at least one adapt					
	8	FID 02-2	FID				Error: Select at least one adapt					
	8	FID 15	FID				Error: Select at least one adapt					
<	<					1	>	<				>
🗁 XYZ Project												

Figure 35. IBM CHPID Mapping Tool window - Hardware Resolution

The Hardware Resolution pane

By default, the Hardware Resolution pane is the middle tabbed pane in the Hardware Resolution view. Figure 36 on page 30 shows this window.

٦ +	lardware Resoluti	on	Assign Ada	ipter Type 🛛 💿 Rerun H	ardware Resol	ution 🗸 🗖 🗖						
Search :												
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status						
\checkmark	2 0.14	CIB	IOCP	HCA3-O FANOUT	AID=0C							
\checkmark	0.80(S)	FC		FICON EXP8S 10KM LX								
\checkmark	0.F0(S)	CIB	IOCP	HCA3-O FANOUT	AID=04							
\checkmark	0.F1(S)	CIB	IOCP	HCA3-O FANOUT	AID=04							
\checkmark	0.F2(S)	CIB	IOCP	HCA3-O FANOUT	AID=05							
\checkmark	0.F3(S)	CIB	IOCP	HCA3-O FANOUT	AID=05							
\checkmark	0.F4(S)	CIB	IOCP	HCA3-O FANOUT	AID=06							
\checkmark	0.F5(S)	CIB	IOCP	HCA3-O FANOUT	AID=06							
\checkmark	FID 01-1	FID		RoCE 10 GbE SR								
\checkmark	FID 02-2	FID		RoCE 10 GbE SR								
\checkmark	🏹 FID 15	FID		zEDC Express								
<		1			1	>						

Figure 36. Hardware Resolution

Note: For information about sorting tabular information, see "Sorting information" on page 25.

The Hardware Resolution pane contains a table with the following columns:

(Check mark, exclamation point, or X)

This column contains either an X in a red circle, an exclamation point in a yellow circle, or a green check mark.

Figure 36 on page 30 shows the Hardware Resolution pane with green check marks in the first column of every row. A green check mark indicates the tool successfully resolved the specified Adapter Type. You can unassign the PCHID or change the adapter type, but you are not required to do so.

Hardw	are Resolutio	n		Assign Adapte	er Type 🛛 💿 Rerun Hardware Resolution 💙 🗖 🗄								
Search :													
0	HPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status							
🚫 🏹	0.14	CIB		HCA3-O FANOUT	AID=0C	Error: No hardware found for PCHID: AID=0C							
🕺 🏹	0.80(S)	FC				Error: Select at least one adapter type.							
🕺 🏹	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F							
🚫 🏹	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F							
🕺 🏹	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F							
N 🕺	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F							
N 🕺	0.F4(S)	CIB		HCA3-0 FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F							
🚺 🔇 🗶	0.F5(S)	CIB		HCA3-O FANOUT	🖉 AID=0F 🖉	Error: No hardware found for PCHID: AID=0F							
N 🕺	FID 01-1	FID				Error: Select at least one adapter type.							
N 🕺	FID 02-2	FID				Error: Select at least one adapter type.							
N 🕺	FID 15	FID				Error: Select at least one adapter type.							

Figure 37 on page 30 shows the pane with Xs in red circles in the first column. .

Figure 37. Hardware Resolution pane with Xs in first column

An X in a red circle indicates an error. The Status column provides information about the nature of this error. For example, if there are more CHPIDs, FIDs, or AIDs defined than available hardware, the Status column contains the message: Error: No hardware found.

An exclamation point in a yellow circle indicates a warning or informational information. The Status column provides information about the nature of the warning. For example, if there is only one channel type available, the Status column contains the message: Attention: Only available channel type FICON EXP8 10KM automatically selected.

Figure 38 on page 31 shows the Hardware Resolution pane with green check marks in the first column of every row. A green check mark indicates the tool successfully resolved the specified Channel Type.

🗖 Ha	ardware Resol	lution		Ass	ign Adapter Typ	e 💿 Rerun Hardware Resolution	~ - 8
Searc	:h :						
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status	
\checkmark	2 0.14	CIB	IOCP	HCA3-O FANOUT	AID=0D		
\checkmark	0.80(S)	FC		FICON EXP8S 10KM LX	(
\checkmark	0.F0(S)	CIB	IOCP	HCA3-O FANOUT	AID=04		
\checkmark	0.F1(S)	CIB	IOCP	HCA3-O FANOUT	AID=04		
\checkmark	0.F2(S)	CIB	IOCP	HCA3-O FANOUT	AID=05		
\checkmark	0.F3(S)	CIB	IOCP	HCA3-O FANOUT	AID=05		
\checkmark	0.F4(S)	CIB	IOCP	HCA3-O FANOUT	AID=06		
\checkmark	0.F5(S)	CIB	IOCP	HCA3-O FANOUT	AID=06		
\checkmark	FID 01-1	FID		RoCE 10 GbE SR		N	
\checkmark	FID 02-2	FID		RoCE 10 GbE SR		43	
\checkmark	FID 15	FID		zEDC Express			

Figure 38. Hardware Resolution pane - With green check marks in every row

The left- and right-facing arrow icons simply indicate input and output; they are not functional.

CHPID

This column specifies the CHPID number.

Note: The I/O icon (bidirectional arrows) in front of each CHPID number does not perform any action; it is for information purposes only.

IOCP Type

This column specifies the CHPID type.

Assigned By

This column specifies the source of the CHPID assignment. Values can include the following sources:

- Manual
- Automatic
- IOCP
- Config file
- Ignore
- Delete

For detailed information, see the Assigned By row in Table 6 on page 89.

Note: For a spanned CHPID, the value can be Multiple, and expanding the row displays individual values as in the preceding list.

Adapter Type

This column specifies the type of card containing the port.

PCHID

This column represents the CHPID that is mapped to a PCHID. It is blank if unmapped.

Note: The Hardware icon (tilted square) in front of each PCHID number in Figure 37 on page 30 does not perform any action; it is for information purposes only.

Status

If there is an X in a red circle in first column indicating a hardware error, the Status column provides information about the nature of the error, such as: No hardware found. If there is a green check mark in the first column, the Status column may be blank or it may contain information, for example for an MES. (See <u>Table 4 on page 34</u> for a list of status messages and suggestions about how to resolve errors.)

You do the work to perform hardware resolution in the Hardware Resolution pane. However, the rightmost tabbed pane, Adapter Type Summary, contains helpful information. It summarizes the number of used and available channels for the hardware adapter types.

The Adapter Type Summary Pane

By default, the Adapter Type Summary pane is the rightmost tabbed pane in the Hardware Resolution view. Figure 39 on page 32 shows this pane.

Adapter Type Summary				
Adapter Type	Used	Available	Device Count 🔺	
zEDC Express	1	16	1	
FICON EXP8S SX	0	2	1	
Y4 Cry-Exp4S	0	0	2	
RoCE 10 GbE SR	2	4	2	
OSA-EXP4S 1000BASET	0	4	4	
OSA-EXP4S 10 GbE SR	0	4	4	
HCA3-O FANOUT	7	160	10	
OSA-EXP4S GbE SX	0	18	18	
FICON EXP8S 10KM LX	1	116	58	

Figure 39. Channel Type Summary pane

Note: For information about sorting tabular information, see "Sorting information" on page 25.

The Adapter Type Summary pane displays a table with the following columns:

(Blank or X in red circle)

This column either is blank or contains an X in a red circle. An X indicates the value in the Used column is greater than the value in the Available column. This means there is not sufficient hardware to handle the CHPIDs assigned in the IOCP file. Figure 39 on page 32 shows an example in which the first column is blank. Figure 40 on page 32 shows an example in which the first column includes Xs:

	Adapter Type Summary				
	Adapter Type	Used	Available	Device Count 🔺	
	zEDC Express	0	16	1	
8	FICON EXP8S SX	3	2	1	
	Y4 Cry-Exp4S	0	0	2	
	RoCE 10 GbE SR	0	4	2	
	OSA-EXP4S 1000BASET	0	4	4	
	OSA-EXP4S 10 GbE SR	0	4	4	
	HCA3-O FANOUT	7	160	10	
	OSA-EXP4S GbE SX	0	18	18	
	FICON EXP8S 10KM LX	0	116	58	

Figure 40. Adapter Type Summary pane with row with Xs in first column

This picture shows the Adapter Type Summary pane with Xs in the first column.

An X indicates one of the following:

- An IOCP type that has no hardware defined for it or more attempted assignments than available. (If there is no hardware defined, the Available column contains 0. For more attempted assignments, the number in the Used column exceed that in the Available column.)
- A type named that is invalid for that configuration. (For example, if you have an IOCP that has FICON and OSA, but the hardware has only FICON, the tool flags each OSA type with an X.)

In the first case, there is not enough hardware to handle the CHPIDs assigned in the IOCP input file.

Adapter Type

This column indicates the adapter type whose information is listed in the next two columns.

Used

This column specifies how many of the particular adapter type are assigned (of the total available).

Available

This column specifies how many of the particular adapter type are available.

Clicking the column heading sorts the column in descending order. If you click again, the tool performs the sort and changes the direction of the arrow. You can click the arrow (which is pointing up) to sort the column in ascending order. For details about sorting, see <u>"Sorting information" on page</u> 25

Device Count

The column lists the number of cards for each particular adapter type.

Performing hardware resolution

An X in a red circle in the first column of the Hardware Resolution pane indicates a hardware resolution problem. <u>Table 4 on page 34</u> lists the possible Status messages, their explanations, and actions for resolution (if required).

Table 4. Status messages									
Status	Explanation	Resolution (if required)							
No hardware found	AID values or PCHID values are present that are not found in the hardware. This situation could occur when you are replacing hardware for an MES and the IOCP file contains a PCHID value for the old hardware. (The IOCP file contains a PCHID value for the hardware being removed.)	 If you have any CHPIDs of IOCP type CIB or CS5, the CHPID Mapping Tool cannot automatically assign these CHPIDs. If the AID assignment in the IOCP file is not valid, you can reset it during hardware resolution. You can then use manual mapping to assign the CHPIDs to AIDs. Perform the following steps for CIB and CS5 CHPIDs: 1. Remove the AID values. To do so, see <u>"Performing hardware resolution to remove PCHIDs" on page 35</u>. 2. Do one of the following: Inside the CHPID Mapping Tool, perform manual mapping to associate these CHPIDs with AIDs. See <u>"Performing manual mapping" on page 93</u>. 							
		 Assign the AID values outside the tool, for example, using hardware configuration definition (HCD). Replace the IOCP file; see Steps <u>"2" on page 45-"4" on page 46</u>. 							
	Used IOCP types or adapter types exceed the number available. If there are more IOCP types than available, the Adapter Type (in the Hardware Resolution pane) might be empty. If there are more used than available adapter types, the tool indicates this deficiency in the Adapter Type Summary pane, in the Used and Available columns.	 You need to do one of the following: Change the IOCP file Purchase additional hardware. Ignore the CHPID. To do so, see <u>"Performing hardware resolution for over defined CHPIDs"</u> on page 40 							
Select at least one adapter type.	A adapter type is not assigned to the current row.	Assign a adapter type to IOCP type. See <u>"Performing hardware resolution for a type</u> mismatch" on page 38.							
Adapter_type is not compatible with IOCP_type.	Adapter type assigned for the CHPID is not compatible with the IOCP type specified by the IOCP file.	See "Performing hardware resolution for a type mismatch" on page 38.							
Required hardware for type <i>IOCP_type</i> not available. Example: Required hardware for type FC not available.	The CHPID Mapping Tool found no hardware for the specified IOCP type.	You need to change the IOCP file or obtain additional hardware							

Table 4. Status messages (continued)									
Status	Explanation	Resolution (if required)							
PCHID_1 moved to new channel ID: <i>PCHID_2</i> Example: 520 moved to 1E2	You are replacing hardware for an MES, and the IOCP file contains a PCHID value for the old hardware, which is being removed. This PCHID value has moved from an old machine to the PCHID value for the new hardware . <i>PCHID_1</i> is the first PCHID value (for example, 520) and <i>PCHID_2</i> is the second PCHID value (for example, 1E2).	This status is an informational message; no hardware resolution is required. The message informs you of the new location so you can change this if you prefer a different assignment.							

Performing hardware resolution to remove PCHIDs

Removing a PCHID disassociates the PCHID from the CHPID.

Removing a single PCHID – PCHID column method

To remove the PCHID for a single CHPID: double click in the PCHID column of the target row. <u>Figure 41 on</u> page 35 shows the Hardware Resolution pane before double clicking in the PCHID column of the first row.

Hardware Resolution	Assign Adapter Type 🛛 Rerun Hardware Resolution 🗢 🗖											
Search :												
CHPID 🔺 🛛 IOCP Type 🛛 Assigned By 🔹 Adapter Type	PCHID Status											
🚫 💐 0.14 CIB HCA3-O FANOUT	AID=0C Error: No hardware found for PCHID: AID=0C											
🚫 💐 0.80(S) FC	Error: Select at least one adapter type.											
🚫 💐 0.F0(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 0.F1(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 0.F2(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 0.F3(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 0.F4(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 0.F5(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F											
🚫 💐 FID 01-1 🛛 FID	Error: Select at least one adapter type.											
🚫 💐 FID 02-2 FID	Error: Select at least one adapter type.											
🚫 💐 FID 15 🛛 FID	Error: Select at least one adapter type.											

Figure 41. Hardware Resolution pane before performing hardware resolution

Figure 42 on page 36 shows the results of clicking in the PCHID column of the first row. The tool makes the following changes:

- Changes the X in a red circle to a green check mark.
- Removes the information from the PCHID column.
- Removes the information describing the problem in the Status column.

	🗄 Hardware Resolution 🛛 Assign Adapter Type 💿 Rerun Hardware Resolution 🌣 🗖 🕻											
Sea	Search :											
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status						
	2 0.14	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be mapped using Manual Mapping prior to enabling Automatic Mapping.						
	0.80(S)	FC				Error: Select at least one adapter type.						
	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	FID 01-1	FID				Error: Select at least one adapter type.						
	FID 02-2	FID				Error: Select at least one adapter type.						
	FID 15	FID				Error: Select at least one adapter type.						
<												

Figure 42. PCHID is removed from PCHID column in target row

Note: If the IOCP file contains an error, for example a CHPID line contains FCX rather than FC, double clicking in the PCHID column of this row displays the following error message:

roblem

Figure 43. Hardware resolution error message

Removing one or more PCHIDs - Action list method

Perform the following steps to remove one or more PCHIDs:

- 1. If you are removing PCHIDs for one or more CHPIDs, click the row to select the CHPIDs to remove holding down the Ctrl key if you are selecting multiple CHPIDs.
- 2. Right-click in the Hardware Resolution tabbed pane (anywhere except in the Channel Type column). The tool displays an action menu. Figure 44 on page 36 shows an example of this menu.

Ignore CHPID Delete CHPID Reset Current Selection Reset "No hardware found" Entries

Reset All

Figure 44. Right-click displays list of actions

The list of actions is dynamic, depending on the context. The choices are explained in the information that follows.

Note: Alternately, you can click View Menu icon, which is the arrow across to the right of **Rerun Hardware Resolution**. The choices that the tool displays are the same as for right-clicking.

- 3. Do one of the following:
 - To remove the selected PCHIDs, select **Reset Current Selection**.

The tool performs the following actions:

- Replaces the X in a red circle with a green check mark.
- Removes the information from the PCHID column.
- Removes the information describing the problem in the Status column.

Figure 45 on page 37 shows these changes for the last row.

٦ +	lardware Resolut	tion		Assign Adapter Type	🛞 Rerun Hardware Resolution	~ - 8						
Search :												
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status						
	2 0.14	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be						
	0.80(S)	FC				Error: Select at least one adapter type.						
	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F						
	2 0.F5(S)	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be						
	FID 01-1	FID				Error: Select at least one adapter type.						
	FID 02-2	FID		N		Error: Select at least one adapter type.						
	FID 15	FID		N		Error: Select at least one adapter type.						
_												

Figure 45. Results of clicking Reset Current Selection

Note: This method works for an IOCP Type of CIB (the Channel Type is IFB link) and CS5 (the Channel Type is PCIe). However, if you click **Reset Current Selection** for an IOCP type of FC, you receive the following message:

Error: Select at least one adapter type.

Use the steps under <u>"Performing hardware resolution for a type mismatch" on page 38</u> to perform hardware resolution for this situation.

• For other methods to remove multiple PCHIDs, select one of the following choices:

Reset "No hardware found" Entries

Removes the PCHID values for only those rows with an X in a red circle in the first column and a value of Error: No hardware found in the Status column. (An X in a red circle indicates an error, and the Status column provides information about the nature of the error.) You are recommended to select this action.

Reset Incompatible (Hardware - I/O) Entries

Removes the PCHID values for rows whose channel type is not compatible with the IOCP type. The Status column provides specifics. Here are some examples of the types of messages the tool might display in the Status column:

Crypto Exp2 is not compatible with OSD

The Crypto Express2 channel type is not compatible with an IOCP type of OSD.

ESCON is not compatible with FC

The ESCON channel type is not compatible with an IOCP type of FC.

FICON EXP4 4KM LX is not compatible with FCV

The FICON Express4 4KM LX is not compatible with IOCP type of FCV.

OSA-E2 GbE SX is not compatible with FC

The OSA-E2 GbE SX channel type is not compatible with an IOCP type of FC.

OSA-E2 GbE SX is not compatible with FCV The OSA-E2 GbE SX channel type is not compatible with an IOCP type of FCV.

Reset All

Removes all PCHID values (in both rows with Xs in red circles *and* rows with green check marks). The action is the same as if you selected all of the three previously described choices. You are *not* recommended to select this action.

Note:

If you select **Reset All**, the tool displays the following message:



Figure 46. Message window

To confirm you want to continue, you need to click **OK**.

Performing hardware resolution for a type mismatch

A type mismatch occurs in two situations:

• When you are performing an MES and the channel type in the base does not match the type in the MES. In this case, the IOCP input file contains a PCHID value for the old hardware. For example, suppose you OSD CHPID assigned to a 1000BaseT PCHID in the old machine and that PCHID is now an OSA Express3 in the new machine. They are compatible but might not support the same functions. For this type of mismatch, you might receive the following message:

CHPID	IOCP Type	PCHID	Conflict
0.80	FC	110	OSA-E2 GbE SX <> FICON EXP4 4KM LX

Figure 47. CHPIDs with PCHID conflict

• When the associated channel type is not appropriate for a PCHID, you must resolve this by resetting the PCHID. For example, suppose the IOCP type is FC but the PCHID is associated with an ESCON card. You cannot assign the FC type to the ESCON card. For this kind of mismatch, you might receive the following message.

Adapter_type is not compatible with IOCP_type

Adapter_type

Is ESCON, FICON, and so on.

IOCP_type

Is FC, CIB, and so on.

(The information that follows concerns this kind of mismatch.)

A first optional step for resolving a type mismatch is to reset the PCHID by removing it. "Performing hardware resolution to remove PCHIDs" on page 35 describes how to reset the PCHID by removing it.

Perform the following steps to fix a type mismatch:

1. In the target row, click in the **Adapter Type** column.

The tool displays an arrow in the **Adapter Type** column of the target row. Figure 48 on page 39 shows a row with the arrow.

🔳 Ha	🗖 Hardware Resolution 🛛 Assign Adapter Type 🕟 Rerun Hardware Resolution 🗸 🖓 🗖								
Searc	n:								
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status			
() ₹	0.14	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be mapped using Manual Mapping prior to enabling A			
■ Q Z	0.80(S)	FC)	Error: Select at least one adapter type.			
_ ⊘ ≥	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
■ Q Z	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
_ ⊘ ≥	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
■ Q Z	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
_ ⊘ ≥	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
■ 20 ≥ 2	0.F5(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
■ Q Z	FID 01-1	FID				Error: Select at least one adapter type.			
■ Ø Z	FID 02-2	FID				Error: Select at least one adapter type.			
■ Q Z	FID 15	FID				Error: Select at least one adapter type.			
<					1111	*			

Figure 48. Arrow in Adapter Type column

2. Click the arrow. The tool displays a list of available card types for the CHPID. Figure 49 on page 39 shows a list. The tool displays only types that are compatible for the CHPID.

🗖 Ha	rdware Resolu	ution			Assign Ac	dapter Type	🚱 Rerun Hardware Resolution	
Search	h:							
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status		
	2 0.14	CIB		HCA3-O FANOUT	•	Attention:	The CHPID for this CIB must be	
N	0.80(S)	FC		[1	Error: Sele	ect at least one adapter type.	
ō.	0.F0(S)	CIB		HCA3-O FANOU7				
×.	0.F1(S)	CIB		HCA3-O FANOU	🕀 Adapter	r Type Sele	ection 🔤 🗖	X
	0.F2(S)	CIB		HCA3-O FANOU				
	0.F3(S)	CIB		HCA3-O FANOU	Please select	t an adapter i	type from the following list:	
	0.F4(S)	CIB		HCA3-O FANOU				
1	0.F5(S)	CIB		HCA3-O FANOU				
	FID 01-1	FID						
	FID 02-2	FID			FICONEXP	AS TORMEX		
	FID 15	FID			FICON EXP	'85 SX		
							OK Cancel	
				L				

Figure 49. Adapter types list

Note: There might be only one selection in the list – the selection that already appears in the Adapter Type column for that row. In this case you cannot change the assigned channel type to eliminate a problem. You need to purchase additional hardware.

3. Select the card type from the list.

The tool makes the following changes:

- Replaces the X in a red circle with a green check mark
- Displays the type you selected in the Adapter Type column
- Removes the message in the Status column.

🗖 Hardware Resolution 🛛 Assign Adapter Type 🔞 Rerun Hardware Resolution 💆 🗖 🗖									
Searc	Search :								
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Status			
	2 0.14	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be			
\checkmark	2 0.80(S)	FC		FICON EXP8S 10KM LX					
	0.F0(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
	0.F1(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
	0.F2(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
8	0.F3(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
	0.F4(S)	CIB		HCA3-O FANOUT	AID=0F	Error: No hardware found for PCHID: AID=0F			
	0.F5(S)	CIB		HCA3-O FANOUT		Attention: The CHPID for this CIB must be			
	FID 01-1	FID				Error: Select at least one adapter type.			
	FID 02-2	FID				Error: Select at least one adapter type.			
	FID 15	FID				Error: Select at least one adapter type.			

Figure 50. Results of selecting a channel type

Performing hardware resolution for over defined CHPIDs

Over defined CHPIDs occurs when the number of used IOCP type exceeds the number available.

An optimal step for handling this case is to make the CHPIDs as Ignore.

Perform the following steps to accomplish this:

- 1. Select the CHPID rows you would like to ignore holding down the Ctrl key if you are selecting multiple CHPIDs.
- 2. Right-click in the Hardware Resolution tabbed pane (anywhere except in the Adapter Type column). The tool displays an action menu. Figure 51 on page 40 shows an example of this menu.

```
Ignore CHPID
Delete CHPID
Reset Current Selection
Reset "No hardware found" Entries
Reset All
```

Figure 51. Right-click displays list of actions

3. Select Ignore CHPID or Delete CHPID.

Note: The Delete CHPID will delete the CHPID from the Export IOCP files.

Resetting hardware resolution changes

After you successfully perform hardware resolution, all the rows in the table in the Hardware Resolution pane have green check marks in the first column or exclamation points in yellow circles in the first column. Figure 52 on page 41 shows this.

н	ardware Resolutio	on			Assign Adapte	er Type	🛞 Rerun Hardware Resolution	□ □ □	3
Searc	:h :]
	CHPID 🔺	IOCP Type	Assigned By	Adapter Type	PCHID	Stat	us		
\checkmark	2 0.14	CIB	IOCP	HCA3-O FANOUT	AID=0D				1
\checkmark	0.80(S)	FC		FICON EXP8S 10KM LX					
\checkmark	0.F0(S)	CIB	IOCP	HCA3-O FANOUT	AID=04				
\checkmark	0.F1(S)	CIB	IOCP	HCA3-O FANOUT	AID=04				
\checkmark	0.F2(S)	CIB	IOCP	HCA3-O FANOUT	AID=05				
\checkmark	0.F3(S)	CIB	IOCP	HCA3-O FANOUT	AID=05				
\checkmark	0.F4(S)	CIB	IOCP	HCA3-O FANOUT	AID=06				
\checkmark	0.F5(S)	CIB	IOCP	HCA3-O FANOUT	AID=06				
\checkmark	FID 01-1	FID		RoCE 10 GbE SR					
\checkmark	FID 02-2	FID		RoCE 10 GbE SR					
\checkmark	FID 15	FID		zEDC Express					

Figure 52. Hardware Resolution pane after hardware resolution

If you need to reset your hardware resolution changes, perform the following steps:

1. Click **Rerun Hardware Resolution**, which is across from the Hardware Resolution tab.

The Hardware Resolution window opens: This window indicates that continuing resets the changes.

2. If you want to change back the values in the Adapter Types column, click **Yes**. This resets the values as if you had reloaded the IOCP file.

Figure 53 on page 41 shows this.

Hardware Resolution	Assign Adapter Type 🛛 🕤 Rerun Hardware Resolution 🗸 🗂 🗍						
Search :							
CHPID 🔺 🛛 IOCP Type 🛛 Assigned By 🔹 Adapter Type	PCHID Status						
🔇 🔰 0.14 CIB HCA3-O FANOUT	AID=0C Error: No hardware found for PCHID: AID=0C						
🚫 💐 0.80(S) FC	Error: Select at least one adapter type.						
🚫 💐 0.F0(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 0.F1(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 0.F2(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 0.F3(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 0.F4(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 0.F5(S) CIB HCA3-O FANOUT	AID=0F Error: No hardware found for PCHID: AID=0F						
🚫 💐 FID 01-1 🛛 FID	Error: Select at least one adapter type.						
🚫 💐 FID 02-2 FID	Error: Select at least one adapter type.						
🚫 💐 FID 15 🛛 FID	Error: Select at least one adapter type.						

Figure 53. Hardware resolution is reset

Hardware resolution problems and solutions

The following table lists some hardware resolution problems and possible solutions:

Table 5. Hardware resolution problems and actions				
Problem	Actions			
Insufficient hardware	Buy additional hardware or load a different IOCP input file.			
The IOCP input file could contain channel definitions for adapter types that are not part of the new machine configuration.	Modify or remove those definitions in the IOCP.			

Table 5. Hardware resolution problems and actions (continued)				
Problem	Actions			
There might be more adapter defined or implied than the machine can support. For example, if a machine is fully configured with the maximum number of CHPIDs, any definitions in the IOCP for internal coupling links cause the input to fail.	Remove adapters that are higher in number than the total number that the machine supports. You can see this information in the Adapter Type Summary pane of the Hardware Resolution view.			
The IOCP input file could contain errors. For example, someone could edit a file to remove some of the channel definitions but fail to delete the control unit definitions referencing those channels. The source input must be accurate, and HCD must generate it or IOCP must verify it.	Replace the IOCP input file. Ensure that the IOCP input file is accurate by using an IOCP file that hardware configuration definition (HCD) generated or that IOCP verified. Note: The IOCP input file you provide to the tool by the direct output of HCD or IOCP must verify the input. The IOCP definitions must be output directly from a version of HCD/HCM that supports the system, or the appropriate level of ICP IOCP must verify it before you load it into the tool.			
The IOCP input file might have become corrupted during editing or during a file transfer. Some characters could be dropped or the asterisks (*) used for continuation indicators could be in the wrong column. The source file must be accurate and adhere to the syntax rules of IOCP.	Replace the IOCP input file. Ensure that the IOCP input file is accurate by using an IOCP file that hardware configuration definition (HCD) generated or that IOCP verified. Note: The IOCP input file you provide to the tool by the direct output of HCD or IOCP must verify the input. The IOCP definitions must be output directly from a version of HCD/HCM that supports the system, or the appropriate level of ICP IOCP must verify it before you load it into the tool.			

Chapter 5. Miscellaneous tasks

This chapter includes information about how to perform various tasks. The tasks are mainly grouped according to how you access them.

- Performing tasks in the projects pane:
 - Creating a new project. See "Creating and working with multiple projects " on page 43.
 - Importing a deleted project. See "Importing a deleted project" on page 45.
 - Importing a different IOCP file. See "Importing the IOCP file" on page 45
- Setting Preferences. See "Setting Preferences" on page 46.
- Saving session information.
 - Saving an unnamed session. See <u>"Saving a session" on page 48</u>.
 - Exporting a named session. See "Exporting an IOCP input file" on page 51.
- Restoring a saved session. See "Importing a saved session" on page 49.
- Exporting an updated IOCP file. See "Exporting an IOCP input file" on page 51.

Tasks accessed in the Projects pane

You have already used the Projects pane to create a project. See <u>"Creating a project" on page 9</u> for details. You can perform additional tasks in the Projects pane.

Perform the following steps to perform an additional task in the Projects pane:

- 1. Make sure the *project name* of the target project is the one that is highlighted in the Projects pane.
- 2. Right-click in the Projects pane. This action displays a menu. Figure 54 on page 43 shows this menu.

New	
× Delete	
Open Session	
Save Session	
Import session from archive	Ctrl+M
Export sessions to archive	Ctrl+E
Import IOCP File	
Export IOCP File	
Project Properties	

Figure 54. Right clicking displays actions

3. Click an action to perform a task. The sections that follow describe performing specific tasks.

Creating and working with multiple projects

You have already created a project; see <u>"Creating a project" on page 9</u>. However, the CHPID Mapping Tool allows you to create multiple projects and to display information about the project you choose.

To create a new project, perform the steps under "Creating a project" on page 9.

Figure 55 on page 44 shows the Projects pane with two projects.



Figure 55. Projects pane with two projects

The contents of the panes other than the Projects pane depend on which project you select as active. You can switch back and forth between multiple projects by selecting the one you want active.

Switching to a different project

Perform the following steps to switch to a different project.

1. In the Projects pane, double-click the name of the project you want to view. If you have made any changes to the information in the project you are exiting, the tool saves the changes before loading the other project. The tool displays the progress of saving the project in the bottom right corner of the window.

H Load Project	
Current project "Project 1" has unsaved changes. Are you sure you w load project "Project 2"?	ant to
Save changes to project "Project 1" before loading project "Project 2".	
<u>Y</u> es N	<u> </u>

Figure 56. Progress indicator for saving a project

After saving, the tool displays the Load Project window. Figure 57 on page 44 shows this window.



Figure 57. Load Project indicator window

Deleting a project

Perform the following steps to delete a project:

Note: Verify the project you want to delete is selected in the Projects pane.

- 1. Right-click in the Projects pane.
- 2. Click: Delete.

The tool opens the Confirm Projects Delete window. Figure 58 on page 45 shows this window.



Figure 58. Confirm Project Delete window

- 3. Optionally, to delete the *project_name* folder (under the **workspace** folder) click **Also delete contents under** *path*. By default, the tool selects **Do not delete contents**.
- 4. Click **Yes** to delete the project.

Importing a deleted project

If you selected **Do not delete contents** when deleting a project, you can import the contents back.

Perform the following steps to import a deleted project:

- 1. Right-click in the Project's pane.
- 2. Click New > Standard CMT Project.
- 3. Type the name of the deleted project. The tool detects the project automatically.
- 4. Click **Finish** to load the deleted project.

Importing the IOCP file

If you have not imported an IOCP input file when creating a project, you can do so later.

Perform the following steps to import an IOCP input file:

- 1. Right-click in the Projects pane.
- 2. Click **Import IOCP File**. The tool opens the window where you specify the IOCP file. Figure 59 on page <u>46</u> shows this window.

Import IOCP File	
Provide IOCP path Select a valid IOCP file	
Specify the IOCP file to load. IOCP file:	Browse
	<u>Einish</u> Cancel

Figure 59. Window for specifying IOCP file

- 3. Do one of the following:
 - Type the IOCP input file path and name in the **IOCP input file** field.
 - Click Browse, and navigate to the IOCP input file you want to use and select it. Click Open.
- 4. Click **Finish**. This loads the IOCP input file.

After loading the IOCP input file, you must right click on the new file (located in the input folder), and select Read Selected IOCP if you would like to make this the active IOCP input file for the project.

Setting Preferences

The CHPID Mapping Tool allows you to set several types of preferences.

General Preferences include the following items:

Temporary folder location

The directory where files are located until the tool saves session information.

Autosave interval

The amount of time between automatic saves that the tool performs. The default is 5 minutes.

Report preferences include items such as page and margin sizes. Availability preferences allow selection of the default manual mapping view. Hardware resolution preferences include an option to disable adapter insufficient hardware pop-up messages.

Perform the following steps to view or change preferences:

1. Click **Window** > **Preferences**. The tool displays the Preferences window. Figure 60 on page 47 shows this page.

H Preferences			- • ×
type filter text	General Preferences		⇔ ▼ ⇔ ▼ ▼
Availability Preferences General Preferences Hardware Resolution Preferences Report Preferences	Temporary folder location: Autosave interval:	C:\Users\IBM_AD~1\AppData\Local\Temp\ 5	Browse (In minutes)
		Restore Defaults	Apply
		ОК	Cancel

Figure 60. The General Preferences page of the Preferences window

Ensure the Preference page you want is selected in the navigation tree on the left. Figure 61 on page 47 and Figure 62 on page 48 shows the Preferences window with the Hardware Resolution Preferences and Report Preferences pages selected.

The Hardware Resolution Preferences page allows you to turn off pop-up messages when running hardware resolution.

H Preferences		
type filter text	Hardware Resolution Preferences $\diamond \star \star$	
Availability Preferences General Preferences	Show adapter insufficient bardware messages in Hardware Resolution	
Hardware Resolution Preferences		
Report Preferences	Restore Defaults Apply	
	OK Cancel	

Figure 61. The Hardware Resolution Preferences page of the Preferences

type filter text	Report Prefere	nces	⇔ ▼ ⇔ ▼
Availability Preferences General Preferences Hardware Resolution Preferences Report Preferences	Top margin : Bottom margin : Left margin : Right margin :	0.25 0.25 0.25 0.25	in in in in

Figure 62. The Report Preferences page of the Preferences window

3. Make any changes you want. When you are done making changes on a page, click **Apply** to save your changes but keep the Preferences window open or click **OK** to save your changes and close the Preferences window.

Saving a session

The CHPID Mapping Tool automatically saves your session every *n* minutes, depending on the value you have set in preferences. By default, this value is 5 minutes. The tool also saves your session before exiting.

Perform the following steps to save session information: Click **File** > **Save Session**. Figure 63 on page 48



Figure 63. The File and Save Session selections

Exporting sessions

You might need to export session information to send project data to someone working on the same project or to provide problem information to IBM Support. (See <u>"Importing a saved session" on page 49</u> for details on using the received project data.) Exporting a session zips up the following files and folders:

- Input folder
- CFReport folder contains CFReport file

- IOCP folder contains IOCP file
- Reports folder
- The session.cmt.edat file

The tool exports these items into a file whose name you specify. It appends the extension .cmt.edat to the exported file. (The e in edat stands for *export*.)

Perform the following steps to export a session:

1. Click **File** > **Export Session**. The tool opens the Export Session window. <u>Figure 64 on page 49</u> shows this window.

Export Cl	MT Session	_ 🗆 🗙
Provide pat	th and project(s) for CMT session export. oject(s) for export	
Please select a	a project(s) and specify the path.	
Projects :	Project1 Project2	
Export path:		Browse
	Einish	Cancel

Figure 64. Export Session window

- 2. Select the project name in the **Projects** field.
- 3. Complete the **Export path** field.

You can type the path in the field. Alternately, you can click **Browse**, navigate to the folder and select it, and click **OK**.

Note: Use a directory other than the Workspace directory.

4. Click Finish. The tool saves the .cmt.edat file in the folder you specified.

Importing a saved session

You can import a session that has been exported. (See <u>"Exporting sessions" on page 48</u> for information about exporting a session.)

Perform the following steps to import an exported session:

1. Click **File** > **Import Session**. This tool opens the Import CMT Project window. Figure 65 on page 50 shows this window.

H Import CMT	Session	_ 🗆 🗙
Specify path a	and project name of CMT session	
🔇 Missing session	n archive	
Please specify pa	th of the archive and name of the CMT project	
Import path:		Browse
Project name:]
	Einish	Cancel

Figure 65. Import CMT Project window

step opens the a window where you select the session file you want to import.

- 2. Type the full path of the archive file in the Archive name field or use Browse and navigate to the file, select it, and click Open. The tool fills in the **Session name** based upon the file you specify.
- 3. Click Finish.

Note:

a. When exporting a session, the tool zips the **Input** folder (with folders containing IOCP and CFReport files), **Reports** folder, and **session.cmt.dat** file into a file with an extension of .cmt.edat. When importing a session, the tool unpacks these files. Figure 66 on page 51 shows an example in which the session to import has a file name of ABC Project.cmt.edat. The tool fills in the **Session name** of ABC Project.

H Import CMT	Session	_ 🗆 🗙
Specify path a	and project name of CMT session	
Please specify pa	th of the archive and name of the CMT project	
Import path:	C:\CMT\Export\ABC Project.cmt.edat	Browse
Project name:	ABC Project	
	<u> </u>	Cancel

Figure 66. Importing a File

After the user clicks **Finish**, the project, named ABC Project, is included in the Projects pane. The project includes the **Input** folder (with folders containing IOCP and CFReport files), **Reports** folder, and **session.cmt.dat** file. Figure 67 on page 51 shows the ABC Project in the Projects pane.



Figure 67. Project pane contains the project

b. The tool stores the project files under the *project_name* directory. For example, the tool saves the session.cmt.dat file in the ABC Project folder.

Exporting an IOCP input file

This task is not available until after you have loaded an IOCP input file during project creation or afterward.

Perform the following steps to export an IOCP input file.

1. Click **File** > **Export IOCP**.

- If you assigned temporary AID values to CIB or CS5 CHPIDs, the tool displays a warning message that you should manually fix these (using an editor outside the tool) before exporting the IOCP input file. Click **Cancel** to abort exporting the IOCP input file or **Continue**.
- If you have unassigned CHPIDs, the tool displays a warning message that you should assign these before exporting the IOCP input file. Click **Cancel** to abort exporting the IOCP input file or **Continue**.

HID. File can not be x error.
t

If the tool displays no warning or you choose to continue after a warning, the tool opens the Export IOCP input File window. Figure 68 on page 52 shows this window.

Export IO	ICP File	_ 🗆 🔼
Provide pat	t h and name for IOCP export alid path	
Specify path a Export Path: IOCP Name:	nd name of IOCP.	Browse
	Einish	Cancel

Figure 68. Export IOCP Input File window

2. Complete the **Export Path** field.

You can type the path in the field. Alternately, you can click **Browse**, navigate to the folder and select it, and click **OK**.

- 3. Type in the IOCP name in the IOCP Input File field.
- 4. After the IOCP Input File field is complete, click **Finish**.

Updating the tool

Before you begin: Download the update (.zip) file from Resource Link.

Perform the following steps to update the CHPID Mapping Tool program:

1. Click Help>Install or Update Features. Figure 69 on page 53 shows these selections.

Help	
Help Contents	
Welcome Windo	w
Key Assist	Ctrl+L
Install or Update	e Features
About	

Figure 69. Help menu includes Install or Update Features

After you make these selections, the tool opens the Select Update Location window. Figure 70 on page 53 shows this window.

I Select Update Location	
Select Update Location	
Specify path to the CHPID Mapping Tool update file.	
Update file path.	
Path:	Browse
Einish	Cancel

Figure 70. The Select Update Location window

- 2. Complete the **Path** field.
 - a. Click **Browse**. The tool displays the Open window.
 - b. Click the appropriate file in the Open window to select it, and click **Open**. The tool displays the Select Update Location window with the Path field completed.

Alternately, you can type the path and file name in the Path field to complete it.

- 3. Click Finish. The Search Results window displays the content found from the specified path.
- 4. Select CHPID mapping tool update archive and click Next.

Updates	
Search Results Select features to install from the search result list.	
Select the features to install:	
 CHPID mapping tool update archive Other CHPID Mapping Tool Feature 10.03.2014 0.0.56 	Deselect All More Info Properties Select Required Error Details
0 of 1 selected. Image: Show the latest version of a feature only Image: Filter features included in other features on the list	
< Back Next > Finish	Cancel

Figure 71. Install window - with search results from path

5. The Install window opens, displaying the licensing agreement. Figure 72 on page 55 shows this window.
| Install | | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|--|
| Feature License Some of the features have license agreements that you need to accept before proceeding with the installation. CHPID Mapping Tool Feature: International License Agreement for Non-Warranted Programs Part 1 - General Terms BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE | | | | | | | | | | |
| < | AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF
OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE
FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU
DO NOT AGREE TO THESE TERMS,
* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN
"ACCEPT" BUTTON, OR USE THE PROGRAM; AND
* PROMPTLY RETURN THE UNUSED MEDIA AND
DOCUMENTATION TO THE PARTY FROM WHOM IT WAS | | | | | | | | | |
| I do not accept the terms in the license agreement | | | | | | | | | | |
| | < Back Next > Finish Cancel | | | | | | | | | |

Figure 72. Install window - with feature licensing agreement

6. Click to select I accept the terms of the license agreement. (Selecting a radio button makes **Next** available.) Click **Next**. The Install window displays installation information. Figure 73 on page 56 shows an example:

Install					
Installa The follo where th	tion owing features v he feature will b	vill be installed. You can s e installed.	select a feature	and change the location	
Features	to install:				
Feature	Name	Feature Version	Feature Size	Installation Directory	1
CHP	ID Mapping	0.0.56	Unknown	/C:/Program Files (x86)/IE	3M/CHPID
Install Lo Required Free spa	cation: C:\Pr d space: Unkno Ice: 6.61 GE	ogram Files (x86)\IBM\CH wn 3	IPID∨6	Chan	nge Location
		< Back	Next	Finish	Cancel

Figure 73. Install window - with installation information

7. Click **Finish**. The Verification window opens. Figure 74 on page 57 shows this.

Verification		
Feature Ver	ification out to install a signed feature. oose to install the feature or cancel its installation.	
One of the certi The provider of Certificate:	ficates used to authenticate this feature was recognized. this feature has been validated by a trusted third party.	
File signed by:	CN=IBM Canada Limited, O=IBM Canada Limited, L=Markham, ST=Ontario, C=CA Valid between "Jun 5, 2014" and "Sep 4, 2017". Valid certificate.	*
According to:	CN=VeriSign Class 3 Code Signing 2010 CA, OU=Terms of use at https://www.verisign.com/rpa (c)10, OU=VeriSign Trust Network, O="VeriSign, Inc.", C=US Valid between "Nov 7, 2006" and "Jul 16, 2036".	* *
Feature name:	CHPID Mapping Tool Feature 10.03.2014	
Feature Identifi	er: com.ibm.cmt.rcp.update.feature_0.0.56	
Provider:	IBM	
File Identifier:	com.ibm.cmt.rcp.update.feature_0.0.56	
	Install Install All Cance	

Figure 74. Verification window

8. Click **Install**. The Install/Update window opens. Figure 75 on page 57 shows this window.



- Figure 75. Install/Update window
- 9. Click **Yes**. The tool closes and reopens.
- 10. Click **OK** to clear the message. The tool reopens the CHPID Mapping Tool window.

Chapter 6. Strategies and Guidelines for Assigning Priorities

In manual mapping, you manually assign CHPIDs to PCHIDs. By contrast, automatic mapping allows the CHPID Mapping Tool to map CHPIDs to PCHIDs, and the tool tries to find the optimal mapping for each CHPID. A key step before performing automatic mapping is assigning priorities. One reason for assigning CU priorities is that your project has two (or more) control units that need to be processed at the same time.

The task of setting CU priorities consists of assigning priority numbers to control units. Setting CU priorities Priority numbers represent *the order* in which the tool maps the control units. This order is a key requirement of mapping for high availability.

The relationship between priority numbers and their priority (mapping order) is: The lower the priority number, the higher the priority. For example, a control unit with a priority number of 0001 is mapped before one with a priority number of 1000. The priority numbers correspond to the order of processing. A lower priority number indicates a higher level of importance.

This section provides strategies and guidelines to help you assign priority numbers effectively for effective automatic mapping.

Availability algorithm for automatic mapping

Automatic mapping configures paths to multiple path control units according to the following order of precedence (highest to lowest):

- Book
- MBA or Fanout
- Domain
- I/O card.

The tool does not consider logical partitions (that is, which CHPIDs are assigned to what LPs), switch configurations, or control unit availability characteristics. For these reasons, the mapping results might not be acceptable for all users. While helpful for many, the tool cannot replace an expert system programmer.

Use incremental numbering

The first time you specify the priorities of control units, use incremental numbering for priorities rather than sequential numbering by ones. For example, use increments of five (0005, 0010, 0015, and so on) or 10 (0010, 0020, 0030, and so on). A single pass through the tool is unlikely to produce the mapping you want. Using incremental numbering allows you to change the priorities of some control units without having to redo others.

For example, suppose you start with priority 0001 and assign priorities by ones from 0001 to 0100. Then you run the tool and discover you need to change the control unit with priority 0025 to priority 0009. You would have to go back and redo all control units from 0009 to 0100. With incremental numbering, you could reassign only the control unit with the problem to an unassigned priority. You would not have to redo the priorities of other control units.

Examine critical devices and paths and the HCD definitions

To prioritize at the control unit level, first look at the paths to critical devices, and then identify how these devices are defined to HCD. This information includes the relationship to control units and ultimately to channel paths. For example, Figure 76 on page 60 shows IOCP source input for a string of devices where each individual path is defined with a single control unit statement:

```
CNTLUNIT CUNUMBR=1000,PATH=(CSS(0),A3),UNITADD=((00,256)),LINK=(52), *
   UNIT=3990
CNTLUNIT CUNUMBR=1001,PATH=(CSS(0),B4),UNITADD=((00,256)),LINK=(53), *
   UNIT=3990
CNTLUNIT CUNUMBR=1002,PATH=(CSS(0),B7),UNITADD=((00,256)),LINK=(F1), *
   UNIT=3998
CNTLUNIT CUNUMBR=1003, PATH=(CSS(0), C0), UNITADD=((00, 256)), LINK=(F3), *
   UNIT=3990
CNTLUNIT CUNUMBR=1004,PATH=(CSS(0),C4),UNITADD=((00,256)),LINK=(52), *
   UNIT=3990
CNTLUNIT CUNUMBR=1005,PATH=(CSS(0),C7),UNITADD=((00,256)),LINK=(53), *
   UNIT=3990
CNTLUNIT CUNUMBR=1006,PATH=(CSS(0),CC),UNITADD=((00,256)),LINK=(F1), *
   UNIT=3990
CNTLUNIT CUNUMBR=1007,PATH=(CSS(0),DE),UNITADD=((00,256)),LINK=(F3), *
   UNIT=3990
IODEVICE ADDRESS=(1000,256),
        CUNUMBR=(1000,1001,1002,1003,1004,1005,1006,1007),
        STADET=Y,UNIT=3390
```

Figure 76. IOCP Code i -- Each Individual path is defined with a single control unit statement

In this example, there are eight paths to the string of DASD in the address range 1000. Optimally, the eight paths would be spread across availability boundaries to ensure high availability if one or more paths to the devices fails. Therefore, define control units 1000, 1001, 1002, 1003, 1004, 1005, 1006, and 1007 with the same priority. (This assigns them to the same priority group.) Doing so enables the mapping tool to understand the relationships between the control units. Defining the control units with the same priority ensures that all eight paths are mapped for availability.

Examine relationships across different control units

Although some control units and their attached devices are physically independent, there might be a critical relationship in terms of availability. An example is the use of 3174 control units for master and alternate console support. Consider the following example:

CNTLUNIT CUNUMBR=1D40,PATH=(CSS(0),44), UNITADD=((00,016)),UNIT=3174 CNTLUNIT CUNUMBR=2D40,PATH=(CSS(0),45), UNITADD=((00,016)),UNIT=3174

At first glance, the control units might appear to be unrelated. However, you might know that 1D40 is the control unit for the master consoles for a particular LPAR and that 2D40 is the control unit for the alternate consoles of that LPAR. Because availability would be key for both of these control units, put them in the same priority group.

You continue this analysis across different control unit types, such as 3745s, tape units, CTCs, and so on. Typically, the customer is aware of these relationships and can plan accordingly.

CHPIDs not connected to control units

Figure 77 on page 61 shows the CU Priorities pane in the CU Priorities view. Look at the CU Number column. At the end of the list, the CHPID Mapping Tool displays all CHPIDs defined in the IOCP input that are **not** connected to control units. All coupling CHPIDs in this list are preceded with an "S". All non-

coupling CHPIDs are preceded with a "P". In the example, Figure 77 on page 61 shows an "S" before the CU Number.

CU Priorities					- 0
Search :					
CU Number 🔺	Type	e Priorit	y CSS	Comments	
8000	2105		0		
FFFD	CFP		0		
FFFE	CFP		0		
FFFE	CFP		1		
P 180	FC		1		
S0F4	CIB		0		
S1F4	CIB		1		

Figure 77. "S" before CU number of a coupling CHPID

Reasons to review the list of unconnected CHPIDs include the following:

- You might have forgotten to add a CHPID to a control unit and need to update the IOCP source before continuing in the tool.
- The unconnected CHPIDs might be extra channels you are ordering in anticipation of new control units
- The unconnected CHPIDs might be coupling links that are being used in coupling facility (CF) images. (These do not require control units.)

If unconnected CHPIDS are extra CHPIDs for anticipated new control units, you might want to group these CHPIDs with a common priority. Such a grouping allows automatic mapping to pick PCHIDs that afford your new control unit good availability.

If they are coupling links used by a CF image, group these links.

Use a common priority to group each set of CHPIDs going to a different CPC. For example, suppose the CF image has four links (CHPIDs 40, 41, 42, 43) and that 40 and 41 go to one CPC, while 42 and 43 go to a different CPC. In this case, give CHPIDs 40 and 41 one priority and CHPIDs 42 and 43 a different priority. The concept is the same regardless of the number of connecting CPCs or the number of links to each CPC.

Note: Different sysplexes are likely to have different levels of importance. You should consider this when assigning the priorities.

Set priorities for daisy-chained control units

In many cases, especially when ESCON or FICON directors are used, multiple control units are daisychained off the same channels either logically or physically. In this case, you do not need to prioritize all control units. (The reason is you are simply trying to map the channels for the control units. If you map the first one, the others are automatically mapped for availability. Therefore, assigning a priority for one of the control units (or groups of control units) automatically brings the others along without your assigning them priorities.)

If some daisy-chained control units have different numbers of CHPIDS going to them, separate the control units into different groups. Doing so is advantageous from an availability perspective, even though the same CHPIDs are being used. Assign the control units with fewer common channels as a higher priority (lower priority number) than control units with larger numbers of common channels.

For example, suppose control units CU1 and CU2 are daisy chained. CU1 has CHPIDs 1 and 2, while CU2 has CHPIDs 1,2,3, and 4. Assign CU1 to a priority group that is processed before the group containing CU2 (even though all CHPIDs going to CU1 also go to CU2).

Note: When you enter a priority for a control unit and other control units use the same CHPIDs, those entries are unavailable to indicate possible daisy chaining.

A limit applies to control units in a priority group

You can place a limited number of control units in the same priority group. The number of associated channels determines the limit. The exact number of the limit depends on the types of channels. The limit is a fixed value independent of the configuration. The CHPID Mapping Tool informs you if the number of control units in the same priority group exceeds the limit.

The number of CHPIDS in a single group that can be spread across cards for availability has a physical limit. . For example, for an IOCP with 256 ESCON channels, it might seem easiest to put all control units in a single group. However, doing so is not feasible because the machine would need 256 separate ESCON cards.

Chapter 7. Assigning priorities, automatic mapping, and processing intersections

The CHPID Tool provides two methods for mapping CHPIDs to PCHIDs:

Manual mapping

You manually assign CHPIDs to PCHIDs.

Automatic mapping

You optionally assign CU priorities and allow the tool to automatically assign CHPIDs to PCHIDs for maximum availability.

To get the maximum benefit from the CHPID Mapping Tool, you are recommended to use automatic mapping whenever possible. However, certain situations require you to perform manual mapping before you can perform automatic mapping. For example, the CHPID Mapping Tool cannot automatically assign to a PCHID any CHPID with an IOCP type of CIB or CS5. If the AID assignment in the IOCP input file is not valid, you can reset it during Hardware Resolution (see <u>"Performing hardware resolution to remove PCHIDs" on page 35</u>). Then to enable **Automatic Mapping**, you use manual mapping to reassign those CHPIDs to PCHIDs.

You might also want to use manual mapping in the following circumstances:

- If you have specific requirements about how CHPIDs should be laid out on the machine.
- To make minor mapping adjustments.
- To eliminate intersections after you use **Process Intersections**. (See <u>"Resetting CHPIDs in manual</u> mapping" on page 82.)

For details about performing manual mapping, see Chapter 8, "Manual mapping," on page 85.

To make Automatic Mapping available, you need to do the following:

- 1. If you have any CHPID with an IOCP type of CIB or CS5, use manual mapping to assign each such CHPID to a PCHID. (For manual mapping details, see Chapter 8, "Manual mapping," on page 85.)
- 2. If necessary, use manual mapping to assign any other unassigned CHPID to a PCHID.
- 3. Optionally assign priorities.

The CU Priorities view

This button displays the CU Priorities view. This view has four panes in the IBM CHPID Mapping Tool window. Figure 78 on page 64 shows this view..

CHPID Mapping Tool	l Produc	t Plug-in	- Project	t 1 - Pri	ority Ed	iting (CU)					_ 0	X
Eile Window Help												
Hardware Resolution	on 📀	CU Prioritie	es 💿) Manual I	Mapping) Preview	▼ Report ▼ (Sav Sav	e Re	port 🔻			
Projects -		riorities		·						etails	-	
~ ~	Search :											$\overline{\nabla}$
🕀 🗁 Project 1	CU Nu	umber 🔺	CU Type	Priorit	v css	Comments				CSS	Contro	
🕀 🗁 Input	8000		2105		0				Ξ	0	8000	
🗁 Reports	FFFD	FFFD			0			-1				
🔤 session.cmt.da	FFFE		CFP		0					0	FFFD	
🗄 🗁 Project 2	FFFE		CFP		1			_				
	P0F4		FC		0			-8		0	FFFE	
	P180		FC		1			-8				
	P1F4		FC		1			_				
	СНРІ	D Groups				Remove filt	ering 🗖		-			
		Name 🤞	- 1	Type	Data		1	~				
	Ξ	Control Un	it Group 8	000 - 0	0.80					1	FFFE	
	Đ		N	lembers								-
	8	Control Un	it Group F	FFD - 0	0.14							
	(+)		N	lembers								
	A	Control Un	it Group E	EFE - 0	0.E1. 0.E	0. 0.E3. 0.E2.	0.E5					
	Đ		N	lembers		-,						_
	e	Control Un	it Group E	FFF - 1	1.E1. 1.E	0. 1.E3. 1.E2.	1.E5		A	0	POF4	~
< III >	(F)	Contra of Of	N	lembers		27 211 27 211 27		Y	< .	13	>	
CU Priority - Please assign CU	POF4 P180 P1F4	D Groups Name Control Un Control Un Control Un Control Un	it Group F N it Group F N it Group F N	Type 000 - 0 fembers FFD - 0 fembers FFE - 1 fembers	0 1 1 0.1 0.80 0.14 0.F1, 0.F 1.F1, 1.F	Remove filb 0, 0.F3, 0.F2, 0, 1.F3, 1.F2,	ering 🕞 0.F5 1.F5			0	FFFE P0F4	

Figure 78. IBM CHPID Mapping Tool window - CU Priorities view

The view includes:

Projects

By default, this pane is on the left. (It is on the top left if there are two panes on the left.) See <u>"The</u> Projects pane" on page 15 for a detailed description.)

CU Priorities

By default, this pane is the center pane on the top. It is the pane where you perform the work of assigning priorities. This pane shows the control unit numbers and types.

CHPID Groups

By default, this pane is the center pane on the bottom. This pane shows the members (CHPIDs) of the control units and any intersections.

CU Details

By default, this pane is on the right. This pane shows the members (CHPIDs) of the control units.

Optionally assigning priorities

You might decide to assign priorities in certain situations. For example, you might assign priorities if:

- You have two (or more) control units that you want to process at the same time
- You want to prioritize control units.

Perform the following steps to assign priorities:

1. Click **CU Priorities** to open the CU Priorities view if it is not already open. Figure 79 on page 65 shows the three panes in the CU Priorities pane view. The CU Priorities pane includes a Priorities column. Before you assign priorities, this column has " - " in each row.

	Priorities					- 0	1 CI	J Details			
Search	:							CSS	Control Unit 🔺	CHPID	Assigned
		1701220404					8	0	8000		
CUN	umber 🔺	CUTy	pe Priori	ty CSS	Comments					2 0.80	
8000		2105	1.000	0			8	0	FFFD		
FFFD		CFP		0						2 0.14	
FFFE		CFP		0			E.	0	FFFE		
PEPE	CPP 1						210.F0				
P160		CTP	2.555	0						D.E1	
S1E4		CIB		1						210 F2	
5111		CID		-						10.52	
										20.05	
							0			<10.F5	
								1	FFFE		
										3 1.F0	
										3 1.F1	
										2 1.F2	
		<u>.</u>		- 252	10					2 1.F3	
CHP:	ID Groups					Remove filtering 🗖 🗖				2 1.F5	
	1						8	1	P180		
	Name 🔺		Type	Data						2 1.80	
8	Control Un	it Group	8000 - 0	0.80			8	0	S0F4		
Đ			Members							2 0.F4	
8	Control Un	it Group	FFFD - 0	0.14			8	1	S1F4		
Đ			Members							211.F4	
8	Control Un	it Group	FFFE - 0	0.F1, 0.F	0, 0.F3, 0.F2, 0					-	
Đ			Members				1				
8	Control Un	it Group	FFFE - 1	1.F1, 1.F	0, 1.F3, 1.F2, 1		1				
(F)			Members				1				
8	Control Un	it Group	S1E4 - 1	1.F4			1				
-	control on	ic or oup	Members								
0	Control Un	t Group	SOE4 . 0	0 E4							
	Control On	ic oroup	Members	01.1							
	Control Un	+ Croup	D190 1	1.90							
	Controi On	Group	Mambarr	1.00							
÷			Henders				<				>

Figure 79. CU Priorities pane before assigning priorities

2. Perform this step for each row: Type a priority number for the CU in the Priority column.

Figure 80 on page 66 shows the CU Priorities pane after you have assigned all priorities.

	Priorities					- 6	a	J Details		-	
Search	:							CSS	Control Unit 🔺	CHPID	Assigned
CLIN	lumbor A	CUTWO	Driorit	ul ceel	Commonte			0	8000		
19000	under - 1	2105	20	y C33	comments					2 0.80	
EEED	1	CEP	40	0			0	0	FFFD	~	
FFFE		CFP	40	õ				1.00		2 0.14	
FFFE		CFP	40	1				0	FFFE	~	
P180		FC	10	1						3 0.F0	
S0F4		CIB	1	0						3 0.F1	
S1F4		CIB	10	1						2 0.F2	
										2 0.F3	
										2 0.F5	
							8	1	FFFE	3.	
										2 1.FO	
										2 1.F1	
										2 1.F2	
										2 1.F3	
CHP	ID Groups					Remove filtering 🗖 🗖				2 1.F5	
-	1	-		-			- 0	1	P180		
	Name 🔺		Type	Data						2 1.80	
8	Control Unit	Group	8000 - 0	0.80				0	S0F4		
Đ			Members							2 0.F4	
Ξ	Control Unit	Group	S0F4-0	0.F4			0	1	S1F4		
Đ			Members							2 1.F4	
Ξ	Priority Grou	p	40	0.14, 0.F	0, 0.F1, 0.F2,	, 0.F5, 1.F0, 1.F1					
Ð			Members								
Ξ	Priority Grou	p	10	1.F4, 1.8	0						
Đ			Members								
							1 CAT				1 (*)
							1				

Figure 80. After assigning priorities

When you type in priorities, the CHPID Mapping Tool makes additional related changes in the CHPID Groups pane.

Control Unit Group

Before you assign priorities, Control Unit Groups are the only type of group in the CHPID Groups pane. After you assign priorities, this type of group is for control units not sharing the same priority with other control units. Figure 80 on page 66 shows an example. In this example, in the CU Priorities pane:

- Control unit number 8000 is the only one with a priority of 30
- Control unit number is the only one with a priority of 1.

After you assign priorities, in the CHPID Groups pane, control unit numbers 8000 and S0F4 remain in Control Unit Groups.

Priority Group

If you assign the same priority to multiple control units, the tool lists a Priority Group in the CHPID Groups pane. This type of group is for control units sharing the same priority. Figure 80 on page 66 shows an example. In the CU Priorities pane, three control units have the same priority:

- FFFD
- FFFE (both CSS 1 and CSS 0).

In the CHPID Groups pane, these three control units are in a Priority Group.

Figure 81 on page 67 shows the CHPID Groups pane as it appears after assigning priorities (in either the CU Priorities pane or the Manual Mapping pane). It has the two Control Unit Groups and a Priority Group.

🗖 СНРІ	D Groups		Remove	filtering	
	Name 🔺	Туре	Data		
Ξ	Control Unit Group	8000 - 0	0.80		
÷		Members			
•	Control Unit Group	S0F4 - 0	0.F4		
±		Members			
•	Priority Group	40	0.F0, 0.F1, 0.F2, 0.F3, 0.F5, 1.F0, 1.F1, 1.F2	2	
±		Members			

Figure 81. The CHPID Groups pane - with members not expanded

Clicking the bottom plus sign of each group (in the first column) expands the information and displays the members belonging to the group. Figure 82 on page 67 shows this expansion:

🗖 СНРІ	D Groups		Remove filtering	
	Name 🔺	Туре	Data	^
	Control Unit Group	8000 - 0	0.80	
		Members		-
		CHPID	2 0.80	=
Ξ	Control Unit Group	S0F4 - 0	0.F4	
		Members		
		CHPID	2 0.F4	
•	Priority Group	40	0.F0, 0.F1, 0.F2, 0.F3, 0.F5, 1.F0, 1.F1, 1.F2	
		Members		
		CHPID	2 0.F0	
		CHPID	2 0.F1	~

Figure 82. The CHPID Groups pane - with members expanded

3. Click Manual Mapping. This returns you to the Manual Mapping view.

Unless you have changed the default, the CHPID Mapping Tool displays the **Hardware > IO** format of the Manual Mapping view. Figure 83 on page 68 shows this format.

IBM CHPID Mapping To	ol - Proj	ect2 - (Connection	n Mappi	ng (Hardw	/are)								_	
File Window Help															
Hardware Resolution	() a	J Prioritie	s 🔊 M	lanual Maj	pping 🔻	Autor	natic Mapping	Proc	ess Inters	ections	6	Preview F	Report •	Save Report	•
Projects 🗸 🗖 🗖	🗖 Hard	lware	_					l	Hide Incor	mpatible 🗂		I/O Cor	nfig	Hide Spanned	
Project1 Project2	Search :											Search :			
E Controjecti2		Feature	So 🔺	Cage	Slot/Port	Adapter 1	Туре	PCHID	CHPID	Assigned E			CHPID 🔺	Assigned By	IOC
Reports	0	171	01/D7/J01	A25B		HCA3-O F	ANOUT	🔷 AID=04	0.F0(S)	IOCP(S)			2 0.80		FC
session.cmt.dat	0	171	01/D7/J02	A25B		HCA3-O F	ANOUT	🔷 AID=04	0.F1(S)	IOCP(S)			2 1.80		FC
	0	171	01/D8/J01	A25B		HCA3-O F	ANOUT	🔷 AID=05	0.F2(S)	IOCP(S)					
	0	171	01/D8/J02	A25B		HCA3-O F	ANOUT	🔷 AID=05	0.F3(S)	IOCP(S)					
	0	171	01/D9/J01	A25B		HCA3-O F	ANOUT	🔷 AID=06	0.F4(S)	IOCP(S)					
	0	171	01/D9/J02	A25B		HCA3-O F	ANOUT	🔷 AID=06	0.F5(S)	IOCP(S)					
	0	409	01/DA/J01	Z15B	LG09/D1	FICON EX	P8S 10KM LX	🔷 51C							
	0	409	01/DA/J01	Z15B	LG09/D2	FICON EX	P8S 10KM LX	🔷 51D							
	0	409	01/DA/J01	Z15B	LG08/D1	FICON EX	P8S 10KM LX	518							
	0	409	01/DA/J01	Z15B	LG08/D2	FICON EX	P8S 10KM LX	\$ 519							
	0	409	01/DA/J01	Z15B	LG07/D1	FICON EX	P8S 10KM LX	514							
	0	0409	01/DA/J01	Z15B	LG07/D2	FICON EX	P8S 10KM LX	\$ 515			~				
	<									>					
	СНРЗ	ID Groups					Sho	w Intersects	Remove	filtering					
Columns 🗖 🗖		Name		Туре			Data				~				
M Feature	Đ			Members											
Source		Control	Unit Group	S1F4 - 1			1.F4								
Cage	Đ			Members											
Slot/Port		Control	Unit Group	S0F4 - 0			0.F4								
Adapter Type	÷			Members											
CHPID		Control	Unit Group	P180 - 1			1.80								
Assigned By	Đ			Members											
	•	FID Par	rtition Group	(LPAR 70	C,PAID,POA1	1,POA2),(=))	FID 01-1, FI	D 02-2			≡				I
	Đ			Members											
		FID Par	rtition Group	(PAID,PO	DA1,POA2)		FID 15								
	÷			Members	;							1			
L											\mathbf{M}				
Hardware View - Please select ha	ardware.														

Figure 83. Manual Mapping view after assigning priorities - Hardware > I/O format

Alternately, you can click the down-arrow beside **Manual Mapping** and click **I/O > Hardware** to display the other format of the Manual Mapping view. Figure 84 on page 68 shows this format.

H IBM CHPID Mapping Tool - Pr	roject2 - (Connectio	n Mapping (I	0)									_	
File Window Help														
Hardware Resolution	CU Priorities		Vanual Mapping	•	Automa	atic Mapping	7	Process Ir	ntersectio	ns 🛞	Preview Report 🔹	Sa 🛇	ve Report	•
Projects	🗖 1/0 C	onfig	Hide	Spanned	🗌 🗖 Hardı	ware								
Project1 Project2	Search :				Search :									
🗄 🗁 Input	0	HPID 🔺	Assigned By	IOCP T		Feature	Sou	rce 🔺	Cage	Slot/Port	Adapter Type	PCH	ID	<u> </u>
		0.14	IOCP	CIB		0171	01/D	7/301	A25B		HCA3-O FANOUT	🔷 🖉 A	ID=04	
session.cmt.dat	X	0.80		FC		0171	01/D	7/302	A25B		HCA3-O FANOUT	🔷 🔷 🔺	ID=04	
	X	0.F0	IOCP	CIB		0171	01/D	8/J01	A25B		HCA3-O FANOUT	🧳 🔺	ID=05	
	X	0.F1	IOCP	CIB		0171	01/D	8/302	A25B		HCA3-O FANOUT	🔷 🧳 🔺	ID=05	=
	X	0.F2	IOCP	CIB		0171	01/D	9/301	A25B		HCA3-O FANOUT	🧳 🔺	ID=06	
	X	0.F3	IOCP	CIB		0171	01/D	9/302	A25B		HCA3-O FANOUT	🥏 🔺	ID=06	
	X	0.F4	IOCP	CIB		0171	06/D	7/J01	A25B		HCA3-O FANOUT	🥏 🖉	ID=0D	
	X	0.F5	IOCP	CIB		0171	06/D	7/302	A25B		HCA3-O FANOUT	🔷 🔷 🔺	ID=0D	
	X	1.80		FC	V	0171	06/D	8/J01	A25B		HCA3-O FANOUT	🥏 🖉	ID=0D	
	X	1.F0	IOCP	CIB		0171	06/D	8/302	A25B		HCA3-O FANOUT	🔷 🔷 🔺	ID=0D	
	X	1.F1	IOCP	CIB		0171	10/D	7/301	A25B		HCA3-O FANOUT	🔷 🔷	ID=14	
	X	1.F2	IOCP	CIB		0171	10/D	7/302	A25B		HCA3-O FANOUT	🔷 🔷 🔺	ID=14	
	X	1.F3	IOCP	CIB		0171	10/D	8/101	A258		HCA3-O FANOLIT	- 🌰 🔺	TD=15	M
	X	1.F4	IOCP	CIB		Crewe					Chaw Taba			
	~ ~	1.F5	IOCP	CIB		D Groups					Show Inte	rsects		ering
Columns	X	FID 01-1		FID	I	Name 🔺		Type			Data			<u>^</u>
Assigned By	A V	FID 02-2		FID	÷			Members	s					
✓ IOCP Type	X	FID 15		FID		Control Unit G	Group	S1F4 - 1			1.F4			
					•			Members	s					
						Control Unit G	Group	S0F4 - 0			0.F4			
						Control Units C		Members	S		1.00			_
						Control Unit G	roup	P180 - 1 Members	-		1.80			_
						EID Partition (Group	(I DAP 7		0A1 POA2) (-))	EID 01-1 EID 02-2			-
					E P	1 10 Fall duoin (aroup	Members	s and the second second	0A1, 0A2), (-))	10 01 1,110 02-2			
						FID Partition (Group	(PAID.PC	- DA1.POA	2)	FID 15			
				-				Members	s					
														×
Input/Output Adapters View - Please ch	oose connec	tion(s) to se	lected hardware	e										

Figure 84. Manual Mapping view after assigning priorities -- I/O > Hardware format

(See "Panes in the I/O -> Hardware format" on page 92 for more information.)

For an IOCP type of CIB, the adapter type is IFB Link or HCA. For an IOCP type of CS5, the adapter type is PCIe. In the I/O > Hardware format of the Manual Mapping pane, you can view CIB and CS5 IOCP types; Figure 84 on page 68 shows CIB IOCP types. In the Hardware > I/O format, you can view IFB Link, HCA, or PCIe adapter types; Figure 83 on page 68 shows HCA adapter types.

For more information, see "Manually assigning CHPIDS of type CIB and CS5" on page 69.

Manually assigning CHPIDS of type CIB and CS5

If you have CHPIDs of IOCP type CIB or CS5, you must assign these CHPIDS to make Automatic Mapping available.

Perform the following steps to make Automatic Mapping available:

- 1. If you have not already done so, ensure that the tool is displaying the Manual Mapping pane in the Hardware >I/O format.
- 2. Find all the PCHIDs of type IFB, HCA, and PCIe by doing one of the following steps:
 - Type IFB, HCA, or PCIe in the **Search** field near the top of the pane, (Figure 85 on page 69 shows the search field in the Hardware pane before the search) and click **Enter**.

Hardware Hide Incompatible												
Searc	h:											
	Feature	So 🔺	Cage	Slot/Port	Adapter Type	PCHID	CHPID	Assigned E				
	0171	01/D7/J01	A25B		HCA3-O FANOUT	AID=04	0.F0(S)	IOCP(S)				
	0171	01/D7/J02	A25B		HCA3-O FANOUT	🔷 AID=04	0.F1(S)	IOCP(S)				
	0171	01/D8/J01	A25B		HCA3-O FANOUT	🔷 AID=05	0.F2(S)	IOCP(S)				
	0171	01/D8/J02	A25B		HCA3-O FANOUT	🔷 AID=05	0.F3(S)	IOCP(S)				
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID=06	0.F4(S)	IOCP(S)				
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID=06	0.F5(S)	IOCP(S)				
	0409	01/DA/J01	Z15B	LG09/D1	FICON EXP8S 10KM LX	🔷 51C						
	0409	01/DA/J01	Z15B	LG09/D2	FICON EXP8S 10KM LX	🔷 51D						
	0409	01/DA/J01	Z15B	LG08/D1	FICON EXP8S 10KM LX	518						
	0409	01/DA/J01	Z15B	LG08/D2	FICON EXP8S 10KM LX	519			~			
<					1111			>				

Figure 85. Hardware pane in Manual Mapping view

Figure 86 on page 70 shows the results of the search.

🗖 Ha	rdware					H	Hide Incor	npatible 🗖 🗖
Search	HCA							
	Feature	So 🔺	Cage	Slot/Port	Adapter Type	PCHID	CHPID	Assigned By
	0171	01/D7/J01	A25B		HCA3-O FANOUT	AID=04	0.F0(S)	IOCP(S)
	0171	01/D7/J02	A25B		HCA3-O FANOUT	🔷 AID=04	0.F1(S)	IOCP(S)
	0171	01/D8/J01	A25B		HCA3-O FANOUT	🔷 AID =05	0.F2(S)	IOCP(S)
	0171	01/D8/J02	A25B		HCA3-O FANOUT	🔷 AID =05	0.F3(S)	IOCP(S)
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID =06	0.F4(S)	IOCP(S)
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID =06	0.F5(S)	IOCP(S)
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D		
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D		
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.14	IOCP
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D		
	0171	10/D7/J01	A25B		HCA3-O FANOUT	AID=14		
	0171	10/D7/J02	A25B		HCA3-O FANOUT	AID=14		
	0171	10/D8/J01	A25B		HCA3-O FANOUT	AID=15		
	0171	10/D8/J02	A25B		HCA3-O FANOUT	AID=15		
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16		
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16		
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D		
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D		
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D		
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D		

Figure 86. Results of search

Note: To reset the contents of the Hardware pane, remove the contents of the search field.

• In the Hardware pane, click the **Adapter Type** column header. This action sorts the column by adapter type. Figure 87 on page 71 shows this.

🗖 На	rdware					ł	Hide Incor	mpatible 🗍	- 8
Search	n:								
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned	E 🔨
	0410	15/DA/J01	Z22B	LG09/D1	FICON EXP8S SX	🔷 59C			
	0410	15/DA/J01	Z22B	LG09/D2	FICON EXP8S SX	🔷 59D			
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.14	IOCP	
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D			
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D			
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D			
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D			
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D			
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D			
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D			
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16			
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16			
	0171	10/D8/J01	A25B		HCA3-O FANOUT	AID = 15			
	0171	10/D8/J02	A25B		HCA3-O FANOUT	AID = 15			
	0171	10/D7/J01	A25B		HCA3-O FANOUT	AID = 14			=
	0171	10/D7/J02	A25B		HCA3-O FANOUT	AID = 14			_
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID =06	0.F4(S)	IOCP(S)	
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID =06	0.F5(S)	IOCP(S)	
	0171	01/D8/J01	A25B		HCA3-O FANOUT	AID = 05	0.F2(S)	IOCP(S)	
	0171	01/D8/J02	A25B		HCA3-O FANOUT	AID = 05	0.F3(S)	IOCP(S)	
	0171	01/D7/J01	A25B		HCA3-O FANOUT	🔷 AID=04	0.F0(S)	IOCP(S)	~
<								>	

Figure 87. Hardware pane after sorting by adapter type

- 3. For every row having HCA in the Adapter Type column, perform the following steps:
 - a. Click a row in that has a adapter type of HCA. The tool displays the CHPIDs with IOCP type of CIB that are available. Figure 88 on page 71 shows an example:

Har	dware							Hide Incor	npatible 🗖 🗖	I/O Cor	nfig	Hide Sp	anned 🗂
Search	:									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^		CHPID 🔺	Assigned By	IOCP T
	0410	15/DA/J01	Z228	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14		CIB
	0410	15/DA/J01	Z228	LG09/D2	FICON EXP8S SX	🔷 59D				i i i	0.F0		CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D				i i i	0.F1		CIB
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D				i i i	0.F2		CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D				i iii	> 0.F3		CIB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D				H -	0 F4		CTB
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D				H	2 0 FF		CTR
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D					≥ 1.50		CID
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D					×: 1.FU		CID
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D					< 1.F1		CIB
	0171	10/D9/J01	A25B		HCA3-O FANOUT	🔷 AID=16					1.F2		CIB
	0171	10/D9/J02	A25B		HCA3-O FANOUT	🔷 AID=16			✓		<1.F3		CIB
Пон	PID Groups						Show	Intersects Remove	filtering -		1.F4 1.F5		CIB
	Name	<u> </u>	Type		Data					<			

Figure 88. Adapter type of HCA Link and associated CIB type CHPIDs

b. Select one or more empty check boxes in the I/O Config pane to assign the CHPID or CHPIDs.

Figure 89 on page 72 shows an example of selecting a single check box.

🗌 Ha	ardware							Hide Incomp	oatible 🗖 🗖	🗖 I/O Cor	nfig	Hide Sp	anned
Seard	h:									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^		CHPID 🔺	Assigned By	IOCP
	0410	15/DA/J01	Z228	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14	Manual	CIB
	0410	15/DA/J01	Z228	LG09/D2	FICON EXP8S SX	🥏 59D					0.F0		CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.14	Manual		ī	0.F1		CIB
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D				i i i	> 0.F2		CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D				H	> 0 F3		CTB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D					> 0 F4		CIB
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D					2 0.55		CTP
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D					≥ 1.50		CID
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D					< 1.FU		CIB
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D					< 1.⊢1		CIB
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16					< 1.F2		CIB
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16			~		2 1.F3		CIB
							-1				1.F4		CIB
	HPID Groups						Show	Intersects Remove h	tering 🖵				010
	Name		Type		Data				^				
Ξ	Contro	Unit Group	FEED -	0	0.14				~				

Figure 89. Changes in Hardware and I/O Config panes

If you select a single check box, the tool makes the following changes:

- In the Hardware pane:
 - In the CHPID column, it inserts the CHPID number.
 - In the Assigned By, it inserts the value Manual
- In the I/O Config pane:
 - In the first column, it puts a green check mark in the check box.
 - In the Assigned By, it inserts the value Manual.

Note:

1) There may be cases in which you select a single check box but the tool automatically selects additional check boxes. This occurs because the CHPID you selected is spanned, as is its associated CSS. Any additional CHPIDs are assigned to the same PCHID. Figure 90 on page 72 shows an example in which the user selected 0.F0 and the tool automatically selected 1.F0.

	Hardware							Hide Incomp	atible 🗖 🗖	I/O Cor	nfig	Hide Sp	anned 🗍
Se	arch :									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^		CHPID 🔺	Assigned By	IOCP Typ
	0410	15/DA/J01	Z22B	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14		CIB
	0410	15/DA/J01	Z22B	LG09/D2	FICON EXP8S SX	🥏 59D				V	0.F0	Manual	CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.F0(S)	Manual(S)			0.F1		CIB
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D					0.F2		CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D					0.E3		CIB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D				H H	> 0 F4		CTR
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D					0.55		CIB
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D					2 1 50	Manual	CID
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D					× 1.FU	Mariual	CID
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D					< 1.F1		CIB
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16					2 1.F2		CIB
	0171	10/D9/J02	A25B		HCA3-O FANOUT	🔷 AID=16					<1.F3		CIB
	CHRID Croup						Chow	Internette Domorro fil			2 1.F4 2 1.F5		CIB
	CHPID Group	<u> </u>					SHOW	Intersects Removern		_			
	Name		Type		Data				<u>^</u>				-
E	Contro	Unit Group	FFFD -	0	0.14				×				

Figure 90. Multiple check marks for a spanned CHPID after selection of a single check box

2) In the I/O Config pane, you can click **Hide Spanned** to hide the additional item or items. Figure <u>91 on page 73</u> shows the additional item hidden.

I/O Cor	nfig		Hide	Spanned
earch :				
	0	HPID 🔺	Assigned By	IOCP Type
	X	0.14		CIB
V	Α¥	0.F0	Manual	CIB
	X	0.F1		CIB
	X	0.F2		CIB
	XX	0.F3		CIB
	XX	0.F4		CIB
	X	0.F5		CIB

Figure 91. Results of clicking Hide Spanned

3) In the I/O Config pane, a check box might have a green square in it. This means the CHPID is already assigned to another PCHID and you cannot select it. Figure 92 on page 73 shows an example. CHPIDs 0.F0 and 1.F0 are already assigned.

Пн	ardware							Hide Incom	patible 🗖 🗖	🗌 I/O Cor	nfig	Hide Sp	anned 🗂
Sear	ch :									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^		CHPID 🔺	Assigned By	IOCP Ty
	0410	15/DA/J01	Z228	LG09/D1	FICON EXP8S SX	4 59C					0.14		CIB
	0410	15/DA/J01	Z228	LG09/D2	FICON EXP8S SX	🔷 59D					0.F0	Manual	CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.F0(S)	Manual(S)			0.F1		CIB
	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D					0.F2		CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D					> 0 F3		CIB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D					> 0 F4		CIB
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D					> 0.F5		CIB
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID = 1D					2 1 50	Manual	CIP
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D			_		× 1.FU	Mariuai	CID
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID = 1D					×; 1.F1 >1.450		CID
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16					< 1.F2		CIB
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16			~		1.F3		CIB
_							-1				1.F4		CIB
	HPID Groups	s					Show	Intersects Remove h	Itering 🗆				CID
	Name		Type		Data				^				
	Contro	Libit Group	EEED .	.0	0.14				~			1111	

Figure 92. Green square inside check box means CHPID is unavailable

If you select more than one check box, the changes in the I/O Config pane are the same as for a single selection. However, in the Hardware pane, there are several differences:

• The value in the CHPID and Assigned By columns is Multiple (rather than Manual). Figure 93 on page 74 shows Multiple in these columns.

На	rdware							Hide Incompa	tible 🗖 🗖	I/O Cor	nfig	Hide Sp	anned
Searc	h:									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	•		CHPID 🔺	Assigned By	IOCP
	0410	15/DA/J01	Z22B	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14		CIB
	0410	15/DA/J01	Z22B	LG09/D2	FICON EXP8S SX	🥏 59D					0.F0	Manual	CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.F0(S)	Manual(S)		V	0.F1	Manual	CIB
٠	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D	Multiple>	Multiple>			0.F2	Manual	CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D					> 0.F3		CIB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D				l H	0.F4		CIB
	0171	15/D8/J01	A25B		HCA3-O FANOUT	AID=1D					0.F5		CIB
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D					2 1 F0	Manual	CIB
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D					2 1 51	Manual	CIB
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID=1D					2 1.51	Manual	CID
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16					× 1.F2	Mariual	CID
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16			~		<. 1.F5 ≥ 1.F5		CID
_	~										<: 1.F4 ≥l s.cc		CIB
_ CF	IPID Groups						Show Inte	ersects Remove filt	ering 🗌 🗆		≪; I.F5		CID

Figure 93. Hardware pane displays "Multiple" in Assigned By column

• The first column of the Hardware pane has a box with a plus sign in it. Figure 94 on page 74 shows an example.

н	ardware							Hide Incompa	tible 🗖 🗖	1/O Co	nfig	Hide Sp	anned 🗂
Sear	ch i	~								Search :			
Jean		-	-		1	1				bearch.		1	
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	<u>^</u>		CHPID 🔺	Assigned By	IOCP T
	0410	15/DA/J01	Z22B	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14		CIB
	0410	15/DA/J01	Z22B	LG09/D2	FICON EXP8S SX	🥏 59D					0.F0	Manual	CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.F0(S)	Manual(S)		V	0.F1	Manual	CIB
÷	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D	Multiple>	Multiple>			0.F2	Manual	CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D				i iii	> 0.F3		CIB
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D				H	0 F4		CIB
	0171	15/D8/J01	A25B		HCA3-O FANOUT	🔷 AID = 1D					20.55		CTP
	0171	15/D8/J02	A25B		HCA3-O FANOUT	🔷 AID = 1D					× 0.F5	Manual	CID
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID = 1D					< 1.FU	Manual	CIB
	0171	15/D7/J02	A25B		HCA3-O FANOUT	AID = 1D					₹ 1.⊢1	Manual	CIB
	0171	10/D9/J01	A25B		HCA3-O FANOUT	AID = 16					< 1.F2	Manual	CIB
	0171	10/D9/J02	A25B		HCA3-O FANOUT	AID = 16			~		1.F3		CIB
											1.F4		CIB
🗆 c	HPID Groups						Show Inte	ersects Remove filte	ering 🗖 🗖		1.F5		CIB
	Name		Type		Data				~	_			
	Contro	Libit Group	EEED -	0	0.14					<		1111	-

Figure 94. Clicking + displays additional details

If you click the +, the row expands, showing all the CHPIDs. Figure 95 on page 74 shows an example with the row expanded to show 0.F0 and 0.F1.

- Ha	ardware	_						Hide Incompa	tible 🗖 🗖	1/0 Cor	nfig	Hide Sp	anned 🗍
Searc	:h :									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	~		CHPID 🔺	Assigned By	IOCP T
	0410	15/DA/J01	Z22B	LG09/D1	FICON EXP8S SX	🔷 59C					2 0.14		CIB
	0410	15/DA/J01	Z22B	LG09/D2	FICON EXP8S SX	🔷 59D					0.F0	Manual	CIB
	0171	06/D8/J01	A25B		HCA3-O FANOUT	AID=0D	0.F0(S)	Manual(S)			> 0.F1	Manual	CIB
Ξ	0171	06/D8/J02	A25B		HCA3-O FANOUT	AID=0D	Multiple>	Multiple>			> 0.F2	Manual	CIB
							0.F1(S)	Manual(S)			0.63		CIB
							2 0.F2(S)	Manual(S)			0.F3		CIB
	0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D					× 0.55		CTP
	0171	06/D7/J02	A25B		HCA3-O FANOUT	AID=0D					≥ 1.50	Manual	CID
	0171	15/D8/J01	A25B		HCA3-O FANOUT	🔷 AID = 1D			_		× 1.FU	Mariual	CID
	0171	15/D8/J02	A25B		HCA3-O FANOUT	AID=1D					< 1.F1 ≥ 1.F1	Manual	CIB
	0171	15/D7/J01	A25B		HCA3-O FANOUT	AID=1D					< 1.F2	Manual	CIB
	0171	15/D7/J02	A25B		HCA3-O FANOUT	🔷 AID = 1D			~		1.F3		CIB
		-		1							1.F4		CIB
0	HPID Groups						Show Inte	ersects Remove filte	ring 🗖 🗖 `		1.F5		CIB
	Name		Туре		Data				^				
Ξ	Contro	Unit Group	FFFD -	0	0.14				~	<		1111	

Figure 95. Expanding the row to display multiple CHPIDs

• In the expanded view of the CHPIDs, the tool displays Manual(S) in the Assigned By column for each CHPID. Manual indicates the you assigned the CHPID manually. The (S) indicates the CHPID and its associated CSS are spanned.

After you assign all the CHPIDs of IOCP type CIB and CS5, you will be able to perform Automatic Mapping.

Performing Automatic Mapping



Figure 96. Automatic Mapping

Clicking Automatic Mapping performs two tasks:

- It performs the processing for automatic mapping
- It processes intersections.

Note: Although Automatic mapping includes processing intersections, there may be times when you want to process intersections without the overhead of performing automatic mapping. (See <u>"Optionally using</u> Process Intersections" on page 83 for such situations.)

Most of the processing that **Automatic Mapping** performs is not apparent to the user. The only part that the user sees when the tool asks the user to indicate which CHPID assignments to reset (and a progress bar window for mapping and processing intersections).

Perform the following steps for automatic mapping.

1. Click Automatic Mapping.

The Reset CHPID Assignments window opens. Figure 97 on page 76 shows an example of the window with four choices. The fourth choice, is available only for an upgrade or an MES.

1 Reset CHPID Assignments	_ 🗆 🔀
 Reset CHPID Assignments Select CHPID assignments to reset Reset CHPIDs assigned by Automatic Mapping Reset CHPIDs assigned by Manual Mapping Reset CHPIDs assigned by IOCP (Potential re-cabling required!) Reset CHPIDs assigned by Config File (Warning: Requires manually renaming con 	nfig files)
Select All	Deselect All

Figure 97. Reset CHPID Assignments window

2. Select the CHPIDs you want to reset.

You can select none, all, or any number of check boxes.

Note: None of the choices affects CIB or CS5 type CHPIDs associated with IFB Link, HCA, or PCIe channel types.

Reset CHPIDs assigned by Automatic Mapping

Resets all CHPIDs processed by previous automatic mapping in this session.

By default, this option is selected. (To select none of the options, clear this default selection or click **Deselect All**.)

Reset CHPIDs assigned by Manual Mapping

Resets CHPIDS for which manual mapping assigned PCHIDs.

Reset CHPIDs assigned by IOCP

Resets CHPIDS assigned in the IOCP input file.

Selecting this option may require recabling after automatic mapping. The following message is displayed (in red on the Reset CHPID Assignments window):

Resetting IOCP assignments may require recabling

Reset CHPIDs assigned by CMT for config files

Resets assignments the CHPID Mapping Tool made (for an upgrade or an MES). The tool resets the assignments only if the project's IOCP file includes CHPID Mapping Tool assignments for config files.

Recommendation: Even if **Reset CHPIDs assigned by CMT for config files** is available, you are recommended not to select it. Suppose you run automatic mapping and review the intersections, concluding that the configuration file assignments are causing unacceptable intersections. You are

then recommended to use manual mapping to reset only those configuration file assignments causing the unacceptable intersections.

3. Click **OK**.

After the tool completes processing, you can view any intersections in the CHPID Groups pane of Manual Mapping or CU Priorities view.

Intersections

The next several sections provide the following information:

- Types of intersections
- · Viewing information about intersections
- · Possible strategies for eliminating intersections
- Manually running Process Intersections.

Types of Intersections

The CHPID Mapping Tool flags several types of intersections. An intersection indicates a *possible* availability problem that you might need to consider and correct. The types of intersections are:

D

Assigned pchids are on the same daughter card.

С

Two or more assigned pchids use the same adapter card.

S

Greater than half the assigned pchids use the same InfiniBand or STI link.

Μ

All the assigned pchids are supported by the same MBA group.

В

Greater than half the assigned pchids are connected to the same book.

Viewing information about intersections

After you run **Automatic Mapping** (or **Process Intersections** – see <u>"Optionally using Process</u> <u>Intersections" on page 83</u>) the tool displays information about intersections in the CHPID Groups pane. (This pane is present in the Manual Mapping view (both formats) and in the CU Priorities view.) Figure 98 <u>on page 78</u> shows an example in which the tool flags "C" or "Card" intersections. The tool displays a red "C" in the Type column and "Card" in the Data column.

HIBM CHPID Mapping Tool - P	roject2 - Connect	ion Mapping (I	0)							_	
File Window Help											
Hardware Resolution	CU Priorities	Manual Mapping	-	Automa	tic Mapping	Proce	ess Intersectio	ns 🔞	Preview Report 🔹	Save Report	-
Projects 🗸	I/O Config	Hide	Spanned	🔲 Hardı	vare						
Project1 Project2	Search :			Search :							
	CHPID 🔺	Assigned By			Feature	Source	🔺 🕴 Cage	Slot/Port	Adapter Type	PCHID	
Reports	2 0.14	IOCP	CIB		0171	01/D7/J01	1 A25B		HCA3-O FANOUT	AID=04	
session.cmt.dat	₹ 0.80		FC		0171	01/D7/J02	2 A25B		HCA3-O FANOUT	🔷 AID=04	
	0.F0	IOCP	CIB		0171	01/D8/J01	1 A25B		HCA3-O FANOUT	AID=05	
	0.F1	IOCP	CIB		0171	01/D8/J02	2 A25B		HCA3-O FANOUT	AID=05	
	0.F2	IOCP	CIB 🗏		0171	01/D9/J01	1 A25B		HCA3-O FANOUT	AID=06	
	0.F3	IOCP	CIB		0171	01/D9/J02	2 A25B		HCA3-O FANOUT	AID=06	~
	0.F4	IOCP	CIB								
	🗧 🔍 0.F5	IOCP	CIB	CHPI) Groups				Show Int	ersects Remove fi	Itering
Columns	2 1.80		FC		Name 🔺	Tvo	pe		Data		
Assigned By	🔰 1.F0	IOCP	CIB		Control Unit G	roup 800	0-0		0.80		
IOCP Type	🔰 1.F1	IOCP	CIB	E I		Men	nbers				-1
	1.F2	IOCP	CIB		Control Unit G	roup FFF	D - 0		0.14		
	🔰 1.F3	IOCP	CIB	÷		Men	nbers				
	≹ 1.F4	IOCP	CIB 🚩	•	Control Unit G	roup FFF	E-0		0.F1, 0.F0, 0.F3, 0	.F2, 0.F5	
	<		>	Đ		Men	nbers				~
Input/Output Adapters View - Please ch	hoose connection(s) to	selected hardware	е,						1		

Figure 98. The CHPID Groups pane flags intersections

Displaying only intersections

To display only the intersections in the CHPID Groups pane, click **Show Intersects**. To display all of the groups again, click **Show Intersects** again.

Filtering information about intersections

Perform the following steps to filter information about intersections.

1. If you have not already done so, open the Manual Mapping view in the I/O Config > Hardware format. (Click the arrow beside **Manual Mapping**, and then click **I/O > Hardware**.) Figure 99 on page 78 shows format.

H IBM CHPID Mapping Tool - File Window Help	Project2 - Connectio	n Mapping (I	0)	_								
Hardware Resolution	CU Priorities	lanual Mapping	-	P Aut	omatic Map	iping	Process Inte	rsections	S Pr	eview Repor	t 🔹 🛞 Save Re	port 🔻
Projects	▼ I/O Config	Hide	Spanned	н	ardware							
Project1	Search :			Searc	:h :							
E Project2	CHPID 🔺	Assigned By	IOC 🔨		Feature	Source 🔺	Cage	Slot/Port	Adapter	Туре	PCHID	•
Beports	2 0.14	IOCP	CIB		0171	01/D7/J01	A25B		HCA3-O	FANOUT	AID=04	=
session.cmt.dat	2 0.80		FC		0171	01/D7/J02	A25B		HCA3-O	FANOUT	AID=04	
	之 0.F0	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-O	FANOUT	AID=05	
	0.F1	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-O	FANOUT	AID=05	
	0.F2	IOCP	CIB 🗏		0171	01/D9/J01	A25B		HCA3-O	FANOUT	🔷 AID=06	
	💐 0.F3	IOCP	CIB		0171	01/D9/J02	A25B		HCA3-O	FANOUT	AID=06	~
	0.F4	IOCP	CIB									
	2 0.F5	IOCP	CIB	🗖 G	HPID Group)s				Sh	iow Intersects Remov	ve filtering
	2 1.80		FC		Nam	e 🔺 👘	Туре			Data		^
Assigned By	1.F0	IOCP	CIB	Θ	Contro	ol Unit Group	8000 - 0			0.80		
IOCP Type	1.F1	IOCP	CIB	6	÷		Members					
	1.F2	IOCP	CIB		Contro	ol Unit Group	FFFD - 0			0.14		
	1.F3	IOCP	CIB	6	÷		Members					
	2 1.F4	IOCP	СІВ		Contro	ol Unit Group	FFFE - 0			0.F1, 0.F0, 0).F3, 0.F2, 0.F5	=
			>	6	÷		Members					~

Figure 99. Manual Mapping view in I/O Config > Hardware format

2. In the CHPID Groups pane (at the bottom right by default), double click on Control Unit Group or on the intersection information (in Figure 99 on page 78, this is a big red *C*). This filters the information that the tool displays in the I/O Config pane. Figure 100 on page 79 shows this.

H IBM CHPID Mapping Tool - Pro	oject2 - Connectio	n Mapping (I	0)								_ 🗆 🔀
File Window Help											
Hardware Resolution	CU Priorities	Manual Mapping	- (Auto	omatic Map	iping 👔	Process Inte	rsections	Preview Repor	t 🔹 🛞 Save Re	port 🔻
□ Projects	I/O Config	Hide	Spanned	🗌 На	rdware	_)
Project1	Search :			Searc	h:						
	CHPID 🔺	Assigned By	IOCP T		Feature	Source 🔺	Cage	Slot/Port	Adapter Type	PCHID	
Reports	2 0.F0	IOCP	CIB		0171	01/D7/J01	A25B		HCA3-O FANOUT	AID=04	=
session.cmt.dat	0.F1	IOCP	CIB		0171	01/D7/J02	A25B		HCA3-O FANOUT	AID=04	
	0.F2	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-O FANOUT	AID=05	
	0.F3	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-O FANOUT	AID=05	
	0.F5	IOCP	CIB		0171	01/D9/J01	A25B		HCA3-O FANOUT	AID=06	
					0171	01/D9/J02	A25B		HCA3-O FANOUT	AID=06	
					0171	06/D7/J01	A25B		HCA3-O FANOUT	AID=0D	►
				C 04	IPID Group	05			S	now Intersects Remo	ve filtering
					Nam	e 🔺 🗌	Туре		Data		•
Source					Contr	ol Unit Group	FFFE - 0		0.F1, 0.F0,	0.F3, 0.F2, 0.F5	
Cage				9	Ð		B Interse	ct	Book		
Slot/Port				6	8		B Interse	ct	Book		
Adapter Type				6	9		C Interse	ct	Card		
		_					CHPID		0.F1		_
	<	1111					CHPID		0.F0		~
Hardware View - Please select hardware.											

Figure 100. Filtered information in the I/O Config pane

3. If you want to undo filtering, click **Remove Filtering** in the CHPID Groups pane. This returns the I/O Config pane to its previous state. Figure 101 on page 79 shows this.

🕀 IBM CHPID Mapping Tool - Project2 - Connection Mapping (IO)											
File Window Help											
Hardware Resolution	CU Priorities	lanual Mapping	-	Nur	comatic Map	ping 👔	Process Inte	ersections	Preview Re	eport 🔹 🛞 Save	Report 🔹
Projects	I/O Config	Hide	Spanned) 🗖 н	ardware						
Project1 Project2	Search :			Sear	ch :						
🗄 🗁 Input	CHPID 🔺	Assigned By	IOC		Feature	Source 🔺	Cage	Slot/Port	Adapter Type	PCHID	
Beports	₹ 0.14	IOCP	CIB		0171	01/D7/J01	A258		HCA3-O FANOUT	r 🔷 AID=04	_
session.cmt.dat	≥ 0.80	Availability	FC		0171	01/D7/J02	A25B		HCA3-O FANOUT	r 🔷 AID=04	
	0.F0	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-O FANOUT	AID=05	
	0.F1	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-O FANOUT	r 🔷 AID=05	
	0.F2	IOCP	CIB		0171	01/D9/J01	A25B		HCA3-O FANOUT	AID=06	
	0.F3	IOCP	CIB		0171	01/D9/J02	A25B		HCA3-O FANOUT	r 🔷 AID=06	
	0.F4	IOCP	CIB		0171	06/D7/J01	A25B		HCA3-O FANOUT	r 🔷 AID=OD	✓
	0.F5	IOCP	CIB								
Columns	2 1.80	Availability	FC		HPID Group	s				Show Intersects Rer	hove filtering
	2 1.F0	IOCP	CIB		Name		Type		Data		
V Feature	1.F1	IOCP	CIB	-	Contro	l Unit Group	FFFE - 0		0.F1, 0.	F0, 0, F3, 0, F2, 0, F5	
V Gane	1.F2	IOCP	CIB 🛄		+		B Interse	ct	Book		
Slot/Port	1.F3	IOCP	CIB		Đ		B Interse	ct	Book		
Adapter Type	1.F4	IOCP	CIB				C Interse	ct	Card		
	1.F5	IOCP	CIB 🖌				CHPID		2 0.F1		
			>				CHPID		2 0.F0		~
CHPID Group - Control unit group infor	mation.								1		

Figure 101. Removing filtering

Resolving Intersections

You can try to resolve intersections by:

- Resetting priorities in the CU Priorities view
- Changing assignments in the Manual Mapping view
- Using a different IOCP file
- Adding hardware.

Resetting priorities to resolve intersections

Perform the following steps to reset priorities:

1. If you have not already done so, display the CU Priorities view by clicking **CU Priorities**. Figure 102 on page 80 shows the originally assigned priorities and four associated intersections.

H IBM CHPID Mapping Tool - Pr	roject2 - (Connectio	n Mapping (I	0)									- 0 🛛
File Window Help													
Hardware Resolution	CU Priorities	s 🕢 M	lanual Mapping	•	Nut	omatic Map	oping 👔	Process Inte	rsections	S Pr	eview Repor	t 🔹 🛞 Save Re	port 🔻
□ Projects	🗌 🗖 1/0 C	Config	Hide	Spanned) 🗖 н	ardware							
Project1	Search :				Sear	ch :							
	0	CHPID 🔺	Assigned By	IOC 🔨		Feature	Source 🔺	Cage	Slot/Port	Adapter	Туре	PCHID	^
Reports	X	0.14	IOCP	CIB		0171	01/D7/J01	A25B		HCA3-O	FANOUT	AID=04	=
session.cmt.dat	X	0.80	Availability	FC		0171	01/D7/J02	A25B		HCA3-O	FANOUT	AID=04	
	A	0.F0	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-O	FANOUT	AID=05	
	X	0.F1	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-O	FANOUT	AID=05	
	X	0.F2	IOCP	CIB		0171	01/D9/J01	A25B		HCA3-O	FANOUT	AID=06	
	X	0.F3	IOCP	CIB		0171	01/D9/J02	A25B		HCA3-O	FANOUT	AID=06	
	X	0.F4	IOCP	CIB		0171	06/D7/J01	A25B		HCA3-O	FANOUT	AID=0D	~
	X	0.F5	IOCP	CIB									
Columns	2	1.80	Availability	FC	0	HPID Group	os				Sh	iow Intersects Remov	ve filtering
	~ ~	1.F0	IOCP	CIB		Nam	e 🔺	Type			Data		~
V Feature	X	1.F1	IOCP	CIB		Contr	ol Unit Group	FFFF - 0			0.E1. 0.E0. 0).E3. 0.E2. 0.E5	
V Cane	×	1.F2	IOCP	CIB 🛄		+		R Interse	ct		Book		
Slot/Port	×	1.F3	IOCP	CIB		+		B Interse	ct		Book		
Adapter Type	A A	1.F4	IOCP	CIB		3		C Interse	ct		Card		
	A.	1.F5	IOCP	CIB 🖌				CHPID			20.F1		
	<	1111		>				CHPID			2 0.F0		~
						_				:			
CHPID Group - Control unit group inform	hation.												

Figure 102. Original priorities and associated intersections

2. In the CU Priorities pane, change the priority of any control unit that has an intersection and has the same priority as another control unit. Figure 103 on page 81 shows the updated priorities.

Search	:						
CU N	umber 🔺	CUTy	pe Priori	ty CSS	Comments		
8000		2105	30	0			
FFFD		CFP	50	0			
FFFE		CFP	40	0	(I I I I I I I I I I I I I I I I I I I		
FFFE		CFP	10	1			
P180		FC	10	1			
SOF4		CIB	1	0			
S1F4		CIB	10	1			
		-					
				_			
		-					
-						2.00	
CHP	ID Groups		Туре	Data		Rem	ove filtering 🎴 🗖
CHP	ID Groups	it Group	Type S0F4 - 0	Data 0.F4		Rem	ove filtering 🗖 🗖
	ID Groups Name Control Un	it Group	Type S0F4 - 0 Members	Data 0.F4		Rem	ove filtering 🗖 🗖
	ID Groups	it Group	Type S0F4 - 0 Members 8000 - 0	Data 0.F4		Rem	ove filtering 🗖 🗖
CHP	ID Groups Name Control Un Control Un	it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members	Data 0.F4 0.80		Rem	ove filtering 🏾 🗖
	ID Groups	it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members	Data 0.F4 0.80		Rem	ove filtering 🏾 🗖
CHP	ID Groups Name Control Un Control Un Control Un	it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0	Data 0.F4 0.80 0.14		Rem	ove filtering 🏾 🗖
CHP	ID Groups Name Control Un Control Un Control Un	it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members	Data 0.F4 0.80 0.14	0.053.053	Rem	ove filtering 🏾 🗖
	ID Groups Name Control Un Control Un Control Un Control Un	it Group it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0	Data 0.F4 0.80 0.14 0.F1, 0.F	0, 0.F3, 0.F2	Rem	ove filtering 🗖 🗖
	ID Groups Name Control Un Control Un Control Un Control Un	it Group it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0 Members	Data 0.F4 0.80 0.14 0.F1, 0.F	0, 0.F3, 0.F2	Rem , 0.F5	ove filtering 🗖 🗖
	ID Groups Name Control Un Control Un Control Un Control Un Priority Gro	it Group it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0 Members 10	Data 0.F4 0.80 0.14 0.F1, 0.F 1.F0, 1.F	0, 0.F3, 0.F2 1, 1.F2, 1.F3	Rem , 0.F5 , 1.F5, 1.80, 1.F4	ove filtering 🦳 🗖
	ID Groups Name Control Un Control Un Control Un Control Un Priority Gro	it Group it Group it Group it Group pup	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0 Members 10 Members	Data 0.F4 0.80 0.14 0.F1, 0.F 1.F0, 1.F	0, 0.F3, 0.F2	Rem , 0.F5 , 1.F5, 1.80, 1.F4	ove filtering 🏾 🗖
	ID Groups Name Control Un Control Un Control Un Control Un Priority Gro	it Group it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0 Members 10 Members	Data 0.F4 0.80 0.14 0.F1, 0.F 1.F0, 1.F	0, 0.F3, 0.F2	Rem , 0.F5 , 1.F5, 1.80, 1.F4	ove filtering 🗖 🗖
	ID Groups Name Control Un Control Un Control Un Control Un Priority Gro	it Group it Group it Group it Group	Type S0F4 - 0 Members 8000 - 0 Members FFFD - 0 Members FFFE - 0 Members 10 Members	Data 0.F4 0.80 0.14 0.F1, 0.F 1.F0, 1.F	0, 0.F3, 0.F2	Rem , 0.F5 , 1.F5, 1.80, 1.F4	ove filtering 🏾 🗖

Figure 103. Updated priorities

3. Click Automatic Mapping or Process Intersections.

Note: (As previously noted, **Automatic Mapping** includes processing intersections. However there may be times when you want to process intersections without the overhead of performing automatic mapping. See <u>"Optionally using Process Intersections"</u> on page 83for more information.)

Figure 104 on page 82 shows only two "C" intersections (after changing a priority) rather than the original four.

CU Priorities								
Search								
CU N	umber 🔺	CU Ty	pe Priority	CSS	Comments	ß		
8000		2105	30	0			-	
FFFD		CFP	50	0				
FFFE		CFP	40	0				
FFFE		CFP	10	1				
P180		FC	10	1				
S0F4		CIB	1	0				
S1F4		CIB	10	1				
		-						
		-						
	Name		Туре	Data		Remove r	nicering 🖵	
	Control Ur	nit Group	S0F4 - 0	0.F4				
(F)			Members					
	Control Ur	nit Group	8000 - 0	0.80				
Ŧ			Members					
	Control Ur	ait Group	EEED - 0	0.14				
(H)	Control of O	ine or oup	Members	0.11				
	Control Ur	nit Group	FFFE - 0	0.E1.	0.F0. 0.F3.	0.F2. 0.F5		
-		at at any	C Intersect	Card				
6			CHPID	>10	= 1			
			CHPID	10.	E2			
æ			Members	<10.	2			
	Distant		Members	1.50				
Ŧ	Priority Gr	oup	10	1.10,	1.11, 1.12,	1.F3, 1.F5, 1.80, 1.F4		
		_						

Figure 104. Intersections reduced

• Use manual mapping to remap CHPIDs to PCHIDs to fix intersections:

Resetting CHPIDs in manual mapping

Perform the following steps to reset CHPIDS using manual mapping:

1. If you have not already done so, open the Manual Mapping view in the I/O Config > Hardware format. Figure 105 on page 83 shows this.

HIBM CHPID Mapping Tool - Pr	oject2 -	Connectio	n Mapping (I	0)									_ 🗆 🗙
File Window Help													
Hardware Resolution	CU Prioritie	es 🕢 N	lanual Mapping	•	Nut	omatic Map	oping	Process Inte	rsections	\odot	Preview Repor	rt 🔹 🛞 Save Re	eport 🔻
Projects	0 I/O	Config	Hide	Spanned	П	ardware							
🕀 🗁 Project1	Search	:			Sear	ch :							
Emple Input	1	CHPID 🔺	Assigned By	IOCP T		Feature	Source 🔺	Cage	Slot/Port	Adapt	er Type	PCHID	^
Beports	2	0.14	IOCP	CIB		0171	01/D7/J01	A25B		HCA3-	O FANOUT	AID=04	
session.cmt.dat	X	0.80		FC		0171	01/D7/J02	A25B		HCA3-	D FANOUT	AID=04	
	X	0.F0	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-	O FANOUT	AID=05	=
	A V	0.F1	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-	O FANOUT	AID=05	
	× ×	0.F2	IOCP	CIB		0171	01/D9/J01	A25B		HCA3-	D FANOUT	🔷 AID=06	
	AV V	0.F3	IOCP	CIB		0171	01/D9/J02	A25B		HCA3-	O FANOUT	AID=06	
	× ×	0.F4	IOCP	CIB		0171	06/D7/J01	A25B		HCA3-	O FANOUT	AID=0D	
	AV V	0.F5	IOCP	CIB		0171	06/D7/J02	A25B		HCA3-	O FANOUT	AID=0D	
	×	1.80		FC		0171	06/D8/J01	A25B		HCA3-	O FANOUT	AID=0D	
	AV V	1.F0	IOCP	CIB		0171	06/D8/J02	A25B		HCA3-	O FANOUT	AID=0D	
	X	1.F1	IOCP	CIB								-	
	×	1.F2	IOCP	CIB		HPID Group	os				S	how Intersects Remo	ve filtering
Columns	Ň	1.F3	IOCP	CIB	-						- Data		
Assigned By	AV V	1.F4	IOCP	CIB		i Nam	e 🔺	Туре			Data		
IOCP Type	N N	1.F5	IOCP	CIB		Contr	ol Unit Group	8000 - 0			0.80		
	× ×	FID 01-1		FID		± Contr	el Unit Crown	Members			0.14		=
	N N	FID 02-2		FID	-	D	or unit Group	Members			0.14		
	× ×	FID 15		FID		Contr	ol Unit Group	FEFE - 0			0 E1 0 E0	0 63 0 62 0 65	
					-	Ŧ	or onic or oup	Members			0.1 1, 0.1 0,	011 0, 011 2, 011 0	
						Contr	ol Unit Group	FFFE - 1			1.F1, 1.F0,	1.F3, 1.F2, 1.F5	
						+		Members			,		
						Contr	ol Unit Group	S1F4 - 1			1.F4		~
Input/Output Adapters View - Please cho	oose conne	ction(s) to se	lected hardware	e.						÷			

Figure 105. Manual Mapping view in I/O Config > Hardware format

Note: The CHPID Groups pane displays any intersections. This pane is present in the CU Priorities view and in both formats of the Manual Mapping view.

- 2. Optionally, filter groups; see "Filtering information about intersections" on page 78 for details.
- 3. See <u>"Undoing a manual mapping assignment" on page 97and</u> <u>"Performing manual mapping" on page</u> 93for information about remapping CHPIDs in the Manual Mapping view.
- 4. Click **Automatic Mapping** or **Process Intersections** (see <u>"Optionally using Process Intersections" on</u> page 83) to see if the tool still reports Intersections.

Optionally using Process Intersections

Automatic Mapping performs the processing for automatic mapping and also for processing intersections. It also makes available **Process Intersections** control. There are only a few cases where you would want to run **Process Intersections**:

- If the IOCP file assigned all the CHPIDs, you can skip Automatic Mapping and go directly to checking for intersections.
- There may be situations for which you want to process intersections without the overhead of automatic mapping.

For example, if you run automatic mapping and there are intersections, you might use **Manual Mapping** to reset some CHPID assignments. To avoid the overhead of automatic mapping, you can click **Process Intersections** to see if your manual changes fixed the intersections.

If the tool reports intersections, see "Resolving Intersections" on page 79 for help.

Chapter 8. Manual mapping

Few users would want to use manual mapping exclusively to map CHPIDs to PCHIDs. To use only manual mapping, you would need to thoroughly evaluate the allocation of devices to channels and you would need an in-depth knowledge of the availability characteristics of the machine structure. Therefore, most users prefer to use automatic mapping. (For details about automatic mapping, see <u>Chapter 7</u>, "Assigning priorities, automatic mapping, and processing intersections," on page 63.)

However, certain situations require you to perform manual mapping before you can perform automatic mapping:

- The CHPID Mapping Tool cannot automatically assign CHPIDs of type CIB or CS5. If the AID assignment in the IOCP file is not valid, you can reset it during Hardware Resolution (see "Performing hardware resolution to remove PCHIDs" on page 35). Then to enable **Automatic Mapping**, use Manual Mapping to reassign those CHPIDs.
- You might also prefer to use manual mapping:
 - If you have specific requirements about how CHPIDs should be laid out on the machine.
 - To make minor mapping adjustments.
 - To eliminate intersections after you use Process Intersections. (For details, see <u>"Resetting CHPIDs</u> in manual mapping" on page 82.)

This chapter provides general information about the Manual Mapping view and the steps to perform manual mapping. See <u>"Manually assigning CHPIDS of type CIB and CS5" on page 69</u> for information about using manual mapping to assign CHPIDs of IOCP type CIB and CS5.

The Manual Mapping view

After hardware resolution is complete, there are no red-circled Xs in either the Hardware Resolution or Channel Type Summary panes of the Hardware Resolution view. **Manual Mapping** then becomes available. Figure 106 on page 85 shows **Manual Mapping** available in the bar of buttons in the top of the tool.



Figure 106. Manual Mapping available

You can either click **Manual Mapping** (by default the third button from the left) or click the arrow beside **Manual Mapping**. Clicking the arrow displays two choices, which represent two different workflow formats. Figure 107 on page 85 shows these choices.



Figure 107. Manual Mapping button in group

The Hardware ->I/O format conceptualizes the workflow from the hardware point of view. After you select a hardware port, the tool filters the list of available CHPIDs based on your choice; then and you select the CHPID or CHPIDs. Alternately, the I/O -> Hardware format allows you to select a particular CHPID; the tool filters the hardware, and you select the location to assign to the CHPID.

Clicking Manual Mapping has the same effect as clicking Manual Mapping > Hardware -> I/O.

Panes in Hardware -> I/O format

Figure 108 on page 86 shows the Manual Mapping pane using **Hardware - > I/O** format.

BIM CHPID Mapping To	ol - Pr	oject2 -	Connectio	n Mapp	oing (Hardw	are)									_ (
File Window Help																
Hardware Resolution	۲	CU Prioritie	s 🔊	1anual M	lapping 🔻	(Autor	natic Mappir	ng 🕥 Pro	ocess Inte	rsections	6	Preview	Report	- (Save Report	·
Projects 🗸 🗖 🗖	🗖 на	ardware							Hide Inc	ompatible	- 0] 🗖 I/O Co	nfig		Hide Spanned	- 8
Project1	Searc	:										Search :				
Erroject2		Feature	Source	Cage	Slot/Port	Adapter T	ype 🔺	PCHID	CHPID	Assigned	By		0	HPID 🔺	Assigned By	IOC
		0171	10/D7/J01	A25B		HCA3-O FAI	NOUT	AID=14					×	0.14	IOCP	CIB
session.cmt.dat		0171	10/D7/J02	A25B		HCA3-O FAI	TUON	AID=14					×	0.F0	IOCP	CIB
		0171	01/D9/J01	A25B		HCA3-O FAI	TUOV	🔷 AID=06	0.F4(S)	IOCP(S)			X	0.F1	IOCP	CIB
		0171	01/D9/J02	A25B		HCA3-O FAI	TUOV	🔷 AID=06	0.F5(S)	IOCP(S)			X	0.F2	IOCP	CIB
		0171	01/D8/J01	A25B		HCA3-O FAI	TUOV	AID=05	0.F2(S)	IOCP(S)			2	0.F3	IOCP	CIB
		0171	01/D8/J02	A25B		HCA3-0 FAI	TUOV	AID=05	0.F3(S)	IOCP(S)			2	0.E4	TOCP	CTB
		0171	01/D7/J01	A25B		HCA3-O FAI	TUOV	AID=04	0.F0(S)	IOCP(S)			2	0.E5	TOCP	CTB
		0171	01/D7/J02	A25B		HCA3-O FAI	TUOV	AID=04	0.F1(S)	IOCP(S)			E	1 E0	TOCP	CTB
		0407	06/D9/J01	Z22B	LG19/J00	OSA-EXP4S	10 GbE SR	5BC					2	1 E1	TOCR	CTB
		0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S	10 GbE SR	4 540					*	1 5 2	TOCP	CTP
		0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S	10 GbE SR	57C					*	1.52	TOCP	CID
		0407	01/DA/J02	Z08B	LG02/J00	OSA-EXP4S	10 GbE SR	4 384					×	1.53	TOCP	CID
		0408	06/DA/J01	Z22B	LG37/J00J01	OSA-EXP4S	1000BASET	SF8					×	1.64	TOCP	CIB
		0408	15/D9/J01	Z22B	LG20/J00J01	OSA-EXP4S	1000BASET	\$C0					*	1.85	TOCP	CIB
		0408	01/DA/J01	Z158	LG02/J00J01	OSA-EXP4S	1000BASET	4 504								
Columns 🛛 🗖						1111					>					
Feature Source	C +	HPID Group	,				Sł	now Intersect	s Remo	ve filtering						
Cage		Name		Type			Data				-					
Slot/Port	9	Contro	Unit Group	8000 -	0		0.80									
Adapter Type	9	Đ		Membe	ers						=					
CHPID		Contro	Unit Group	FFFD -	0		0.14									
Assigned By	9	Ð		Membe	ers											
		Contro	Unit Group	FFFE -	0		0.F1, 0.F0	, 0.F3, 0.F2,	0.F5							
	9	÷		Membe	ers											
	Θ	Contro	Unit Group	FFFE -	1		1.F1, 1.F0	, 1.F3, 1.F2,	1.F5							
	9	÷		Membe	ers						V	<				>
B Project2												1				

Figure 108. Manual Mapping view – Hardware -> I/O format

The Hardware -> I/O version contains five panes:

Projects

See "The Projects pane" on page 15 for details about the Projects pane.

Columns

This pane is the lower-left pane (by default). When you click in a pane with columns of information, the Columns pane lists the column headings. You can hide a column by clearing its check box; you can undo this change by selecting its check box again. Figure 109 on page 86 lists the columns in the Hardware pane (of the Manual Mapping view).



Figure 109. Columns pane showing available columns for Hardware pane

See "The Hardware Resolution pane" on page 29 for descriptions of these columns.

If you have clicked to select a row in the I/O Config pane, the Column pane displays a list of the columns in the I/O Config pane. Figure 110 on page 87 shows this.



Figure 110. Columns pane showing available columns for I/O Config pane

Note: The Columns pane might be empty when you first open the Manual Mapping view. When you click in Hardware pane or I/O Config pane, the tool displays the appropriate list of the columns.

A check mark in a check box indicates that the particular column is displayed in the Hardware pane. To control the information that is displayed in the Hardware pane, you can select and clear the check boxes in the Columns pane.

Hardware

The Hardware pane is, be default, positioned as the top middle pane. This pane shows the hardware ports available to accept assignments for CHPIDs. It consists of a table containing rows and columns of information you use to perform manual mapping. For details, see <u>"The Hardware Resolution pane"</u> on page 29.

CHPID Groups

Although the CHPID Groups pane is present in this view, the CU Priority function determines the contents of this pane; for more information, see "Optionally assigning priorities" on page 64.

СНРІ	D Groups			Remove filtering	- 8
	Name 🔺	Туре	Data		
8	Control Unit Group	S0F4 - 0	0.F4		
Đ		Members			
Ξ	Control Unit Group	FFFE - 0	0.F1, 0.F0, 0.F3, 0.F2, 0.F5		
Đ		Members			
Ξ	Priority Group	30	0.80, 0.14		
Đ		Members			
Ξ	Priority Group	10	1.F0, 1.F1, 1.F2, 1.F3, 1.F5, 1.80, 1.F4		
Đ		Members			

Figure 111 on page 87 shows the CHPID Groups pane.

Figure 111. CHPID Groups pane

By default, this pane is positioned as the lower middle pane. The pane consists of a table with information you use later when looking for intersections. (See <u>Figure 98 on page 78</u> for an example of this pane with intersections.)

I/O Config

The I/O Config pane is, by default, positioned as the right pane. Based on your selection in the Hardware pane, the CHPID Mapping Tool filters CHPIDs it displays in the I/O Config pane. Figure 112 on page 88 shows this the I/O Config pane.

	1. 1		1	
	0	CHPID 🔺	Assigned By	IOCP Type
	X	0.14		CIB
	X	0.F0		CIB
	X	0.F1		CIB
2	X	0.F2		CIB
	X	0.F3		CIB
	X	0.F4		CIB
	X	0.F5		CIB
	XX	1.F0		CIB
	X	1.F1		CIB
	X	1.F2		CIB
	X	1.F3		CIB
	XX	1.F4		CIB
	X	1.F5		CIB

Figure 112. I/O Config pane

It consists of a **Hide Spanned** control and a table with rows and columns of information you use to perform manual mapping. See <u>"The I/O Config pane – Columns of information and Hide Spanned</u> control" on page 90 and <u>"Hide Spanned" on page 92</u>.

The Hardware pane - Columns of information

The Hardware pane shows the hardware ports available to accept assignments for CHPIDs. Figure 113 on page 88 shows the Hardware pane in the Manual Mapping view.

🗖 Ha	rdware	~					Hide Inc	ompatible	' E
Search	n:								
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^
	0171	10/D7/J01	A25B		HCA3-O FANOUT	AID=14			
	0171	10/D7/J02	A25B		HCA3-O FANOUT	AID=14			
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID =06	0.F4(S)	IOCP(S)	
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID =06	0.F5(S)	IOCP(S)	
	0171	01/D8/J01	A25B		HCA3-O FANOUT	🔷 AID=05	0.F2(S)	IOCP(S)	
	0171	01/D8/J02	A25B		HCA3-O FANOUT	🔷 AID=05	0.F3(S)	IOCP(S)	
	0171	01/D7/J01	A25B		HCA3-O FANOUT	🔷 AID=04	0.F0(S)	IOCP(S)	
	0171	01/D7/J02	A25B		HCA3-O FANOUT	🔷 AID = 04	0.F1(S)	IOCP(S)	
	0407	06/D9/J01	Z22B	LG19/J00	OSA-EXP4S 10 GbE SR	🔷 5BC			
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S 10 GbE SR	4 540			
	0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S 10 GbE SR	🔷 57C			
	0407	01/DA/J02	Z08B	LG02/J00	OSA-EXP4S 10 GbE SR	a 384			
	0408	06/DA/J01	Z22B	LG37/J00J01	OSA-EXP4S 1000BASET	🔷 5F8			
	0408	15/D9/J01	Z22B	LG20/J00J01	OSA-EXP4S 1000BASET	🔷 5C0			
	0408	01/DA/J01	Z15B	LG02/J00J01	OSA-EXP4S 1000BASET	04			~
<					1111			>]

Figure 113. Hardware pane in Manual Mapping view

Note: You can sort the columns of information in any pane containing tabular information. For details, see <u>"Sorting information" on page 25</u>. You can also rearrange the columns in any pane containing tabular information; see "Reordering columns within a pane" on page 27.

The following table lists the default column headings and describes the information.

Note: You can control which columns of information are displayed in the Hardware pane by selecting or clearing the check boxes in the Columns pane. A check mark indicates that this particular column is displayed in the Hardware pane.

Table 6. Column headings and descriptions of contents					
Column name	Description				
(Blank or Plus Sign)	This column may be blank or, after you map multiple CHPIDs to a PCHID, may contain a plus sign.				
Feature	Details the feature code (FC) at current row's the hardware location.				
Source	Provides the location where the channel's link plugs into the processors.				
Cage	Provides a 4-character field indicating the frame and cage location where the particular port is located. The frame can be one of the following types:				
	Z Indicates it is located in the Z-frame.				
	A Indicate it is located in the A-frame.				
	The cage identification consists of its Y (vertical) and X (horizontal) axis. The Y mapping is numeric. The X mapping is alphabetic. An example would be A15B, indicating A-frame, Y axis 15, X axis B, as viewed from the front.				
Slot/Port	Indicates the card location within the cage and the port location on the card. For example, LG14/J.00 indicates card slot 14 and that the port is the first port on the card (the top port).				
Channel Type	Indicates the type of card containing the port.				
PCHID	Specifies the PCHID assigned to the port.				
CHPID	Is initially blank unless this PCHID has been assigned a CHPID. After you assign a CHPID to a PCHID, the value of the CHPID assignment is displayed in this field.				

Table 6. Column headings and descriptions of contents (continued)	
Column name	Description
Assigned By	Indicates how the CHPID assignment was made. Values can include the following sources of the assignment:
	Manual You made the assignment using manual mapping.
	Automatic You made the assignment using automatic mapping.
	IOCP The IOCP source made the assignment.
	Ignore You have selected to have the tool ignore this CHPID.
	Delete You have selected to have the tool ignore this CHPID. When the IOCP input file is exported, the CHPIDs with the Delete assignment are not included in the exported file.
	Config File The CHPID Mapping Tool forced an assignment because of configuration file requirements.
	Note: In certain cases, the CHPID Mapping Tool identifies PCHIDs with new values by displaying "Config File" in the Assigned By column. This applies to CHPIDs affected by:
	• An upgrade (for example, from a z990 to a z10 EC)
	• a Miscellaneous Equipment Specification (MES) in a z10 EC, z10 BC, z9 EC, or z9 BC.
	You are recommended not to change these assignments.

The I/O Config pane – Columns of information and Hide Spanned control

Based on your selection in the Hardware pane, the CHPID Mapping Tool filters CHPIDs it displays in the I/O Config pane. Figure 114 on page 91 shows the columns of information in the I/O Config pane.
🗖 На	rdware						Hide Inc	ompatible 🗂	
Search	n:								
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^
	0171	10/D7/J01	A25B		HCA3-O FANOUT	🔷 AID=14			
	0171	10/D7/J02	A25B		HCA3-O FANOUT	🔷 AID=14			
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID =06	0.F4(S)	IOCP(S)	
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID =06	0.F5(S)	IOCP(S)	
	0171	01/D8/J01	A25B		HCA3-O FANOUT	🔷 AID = 05	0.F2(S)	IOCP(S)	
	0171	01/D8/J02	A25B		HCA3-O FANOUT	🔷 AID = 05	0.F3(S)	IOCP(S)	
	0171	01/D7/J01	A25B		HCA3-O FANOUT	🔷 AID = 04	0.F0(S)	IOCP(S)	
	0171	01/D7/J02	A25B		HCA3-O FANOUT	🔷 AID = 04	0.F1(S)	IOCP(S)	
	0407	06/D9/J01	Z22B	LG19/J00	OSA-EXP4S 10 GbE SR	🔷 5BC			
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S 10 GbE SR	4 540			
	0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S 10 GbE SR	🔷 57C			
	0407	01/DA/J02	Z08B	LG02/J00	OSA-EXP4S 10 GbE SR	ar 384 🖉			
	0408	06/DA/J01	Z22B	LG37/J00J01	OSA-EXP4S 1000BASET	🔷 5F8			
	0408	15/D9/J01	Z22B	LG20/J00J01	OSA-EXP4S 1000BASET	🔷 5C0			
	0408	01/DA/J01	Z158	LG02/J00J01	OSA-EXP4S 1000BASET	a 504			*
<								>	

Figure 114. I/O Config pane

Table 7. Column headings and	descriptions of I/O config pane
Column name	Description
(Check box and arrows)	The check box is for selecting CHPIDs. The left- and right-facing arrow icons indicate input and output throughout the tool; they are not functional.
CHPID	The CHPID number, which is the number of the channel subsystem.
Assigned By	Identifies the method by which the CHPID was assigned. Values can be:
	Manual You made the assignment using manual mapping.
	Automatic The tool made the assignment.
	IOCP The IOCP source made the assignment.
	Config File The CHPID Mapping Tool forced an assignment because of configuration file requirements.
	Note: In certain cases, the CHPID Mapping Tool identifies PCHIDs with new values by displaying "Config File" in the Assigned By column. This applies to CHPIDs affected by:
	• An upgrade (for example, from a z990 to a z10 EC)
	• a Miscellaneous Equipment Specification (MES) in a z10 EC, z10 BC, z9 EC, or z9 BC.
	You are recommended not to change these assignments.
ІОСР Туре	For a complete description of the IOCP CHPID types, see the Input/Output Configuration Program User's Guide.

Filtering information

With the Hardware > I/O format, clicking a row in the Hardware pane filters the information that the tool displays in the I/O Config pane. The tool displays only compatible CSSs. (With the I/O > Hardware format, clicking a row in the I/O Config pane filters the information in the Hardware pane.)

Hide Spanned

Figure 114 on page 91 shows all the CHPIDs in the I/O Config pane. CHPIDs can be spanned. Clicking **Hide Spanned** filters the list of CHPIDs by hiding all but one of the spanned CHPIDs. Figure 115 on page 92 shows this:

I/O Con	ifig		Hid	e Spanned	- 6
Search :					
	CHPI	ID 🔺	Assigned B	y IOCP T	pe
	2 0.	14		CIB	
	2 0.	FO		CIB	
	2 0.	F1		CIB	
	2 0.	F2		CIB	
	2 0.	F3		CIB	
	2 0.	F4		CIB	
	2 0.	F5		CIB	

Figure 115. Hide Spanned hides additional (spanned) CHPIDs

Panes in the I/O -> Hardware format

Figure 116 on page 93 shows the Manual Mapping pane using **I/O -> Hardware** format.

IBM CHPID Mapping Tool -	Project2 -	Connectio	n Mapping (I	0)								_ 🗆 🔀
File Window Help												
Hardware Resolution	CU Prioritie	s 💿	Manual Mapping	- (Nur 🥑	comatic Map	iping	Process Inte	ersections	S Previe	w Report 🔹 🛞 Save	Report 🔻
Projects	▽) (□ I/O (Config	Hide	Spanned) 🗖 н	ardware)
Project1 Project2	Search				Sear	ch :						
		CHPID 🔺	Assigned By	IOCP T		Feature	Source 🔺	Cage	Slot/Port	Adapter Typ	e PCHID	^
Reports	2	0.14	IOCP	CIB		0171	01/D7/J01	A25B		HCA3-O FAN	OUT 🔷 AID=04	
session.cmt.dat	×	0.80		FC		0171	01/D7/J02	A25B		HCA3-O FAN	OUT 🔷 AID=04	
	X	0.F0	IOCP	CIB		0171	01/D8/J01	A25B		HCA3-O FAN	OUT 🔷 AID=05	
	X	0.F1	IOCP	CIB		0171	01/D8/J02	A25B		HCA3-O FAN	OUT 🔷 AID=05	≡
	X	0.F2	IOCP	CIB		0171	01/D9/J01	A25B		HCA3-O FAN	OUT 🔷 AID=06	
	X	0.F3	IOCP	CIB		0171	01/D9/J02	A25B		HCA3-O FAN	OUT 🔷 AID=06	
	X	0.F4	IOCP	CIB		0171	06/D7/J01	A25B		HCA3-O FAN	OUT 🔷 AID=0D	
	X	0.F5	IOCP	CIB		0171	06/D7/J02	A25B		HCA3-O FAN	OUT 🔷 AID=0D	
	~	1.80		FC	4	0171	06/D8/J01	A25B		HCA3-O FAN	OUT 🔷 AID=0D	
	X	1.F0	IOCP	CIB		0171	06/D8/J02	A25B		HCA3-O FAN	OUT 🔷 AID=0D	
	X	1.F1	IOCP	CIB		0171	10/D7/J01	A25B		HCA3-O FAN	OUT 🗬 AID=14	
	X	1.F2	IOCP	CIB		0171	10/D7/J02	A25B		HCA3-O FAN	OUT 🜒 AID=14	
	4	1.F3	IOCP	CIB		0171	10/08/101	∆25R		HCA3-O FAN		.
		1.F4	IOCP	CIB		HPID Group	os				Show Intersects Ren	nove filtering
Columns	× ×	1.F5	IOCP	CIB	-	Nam		Turne		Dat	- I	
Assigned By	**	FID 01-1		FID		Contro	e —	9000 0		0.90		
IOCP Type	**	FID 02-2		FID		E Contra	or unit Group	Members		0.60	,	
	-	1 10 15		FID		Contro	al Unit Group	FEED - 0		0.14	1	=
					—	Ŧ		Members		0.12		
						Contro	ol Unit Group	FFFE - 0		0.F1	L, O.FO, O.F3, O.F2, O.F5	
						÷		Members				
					Θ	Contro	ol Unit Group	FFFE - 1		1.F1	l, 1.F0, 1.F3, 1.F2, 1.F5	
						÷		Members				
						Contro	ol Unit Group	S1F4 - 1		1.F4	ł	
	<)		÷		Members				
L						Contro	nl Unit Groun	S0E4 - 0		0 F4	1	``
Input/Output Adapters View - Please	choose conne	ction(s) to se	elected hardware	e.								

Figure 116. Manual Mapping view - I/O -> Hardware format

You can use this view to select a CHPID and assign hardware to it.

Filtering information

With the I/O > Hardware format, clicking a row in the I/O Config pane filters the information that the tool displays in the Hardware pane. (With the Hardware > I/O format, clicking a row in the Hardware pane filters the information in the I/O Config pane.)

Performing manual mapping

Perform the following steps to do manual mapping:

1. Open the Manual Mapping view. To do so, click **Manual Mapping** or click the arrow beside **Manual Mapping** (by default the third button from the left). This opens a list of choices. Figure 117 on page 93 shows this list.



Figure 117. Manual Mapping button in group

I/O -> Hardware

Displays the Manual Mapping view in the I/O > Hardware format. You probably use this format less frequently than the Hardware > I/O format. In this chapter, you use the Hardware > I/O format.

Hardware -> I/O

Displays the Manual Mapping view in the Hardware > I/O format. This is the more commonly used format. This format is the default (unless you change it).

The Hardware > I/O format is also displayed if you clicking **Manual Mapping** (and have not changed the default).

The rest of the steps are based on the Hardware >I/O format of the Manual Mapping view.

You perform manual mapping mainly in the Hardware pane and the I/O Config pane of the Manual Mapping view. Figure 118 on page 94 shows these panes.

🗖 Hardwa	re						Hide Incom	npatible 🗖 🗖	🗖 I/O Co	nfig	Hide Sp	anned '
Search :									Search :			
Fea	ture Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	•		CHPID 🔺	Assigned By	IOCP .
017	10/D7/J0	1 A25B		HCA3-O FANOUT	AID=14					≥ 0.14	IOCP	CIB
017	10/D7/J0	2 A25B		HCA3-O FANOUT	AID=14					0.F0	IOCP	CIB
017	L 01/D9/J0	1 A25B		HCA3-O FANOUT	AID=06	0.F4(S)	IOCP(S)			> 0.F1	TOCP	CIB
017	1 01/D9/J0	2 A25B		HCA3-O FANOUT	🔷 AID=06	0.F5(S)	IOCP(S)			0.F2	TOCP	CIB
017	1 01/D8/J0	1 A25B		HCA3-O FANOUT	AID=05	0.F2(S)	IOCP(S)			0.F3	TOCR	CTR
017	1 01/D8/J0	2 A25B		HCA3-O FANOUT	🔷 AID=05	0.F3(S)	IOCP(S)			> 0.F4	TOCP	CIB
017	1 01/D7/J0	1 A25B		HCA3-O FANOUT	🔷 AID=04	0.F0(S)	IOCP(S)			× 0.14	TOCP	CID
017	1 01/D7/J0	2 A25B		HCA3-O FANOUT	🔷 AID=04	0.F1(S)	IOCP(S)			≥ 1.50	TOCP	CID
040	7 06/D9/J0	1 Z22B	LG19/J00	OSA-EXP4S 10 GbE SR	🔷 5BC					<1.FU > 1.FU	TOCP	CIB
040	7 15/DA/J0	2 Z15B	LG20/J00	OSA-EXP4S 10 GbE SR	4 540					.F1 ≥1 .F1	TOCP	CIB
040	7 10/DA/30	1 Z15B	LG38/J00	OSA-EXP4S 10 GbE SR	🔷 57C					2 1.F2	IOCP	CIB
040	7 01/DA/J0	2 Z08B	LG02/J00	OSA-EXP4S 10 GbE SR	4 384					< 1.F3	IOCP	CIB
040	8 06/DA/J0	1 Z22B	LG37/J00J01	OSA-EXP4S 1000BASET	🔷 5F8					1.F4	IOCP	CIB
040	8 15/D9/J0	1 Z22B	LG20/J00J01	OSA-EXP4S 1000BASET	🔷 5C0					1.F5	IOCP	CIB
040	8 01/DA/30	1 Z15B	LG02/J00J01	OSA-EXP4S 1000BASET	4 504							
040	8 10/DA/J0	2 Z08B	LG38/J00J01	OSA-EXP4S 1000BASET	are 3FC							
040	5 15/DA/J0	1 Z22B	LG02/J00J01	OSA-EXP4S GbE SX	4 584							
040	5 15/D9/J0	1 Z22B	LG21/J00J01	OSA-EXP4S GbE SX	🔷 5C4							

Figure 118. Manual Mapping view – Hardware pane and I/O Config pane

2. Select the target row containing the PCHID to which you want to map one or more CHPIDS. Figure 118 on page 94 shows the CHPIDs in the I/O Config pane.

Note:

- a. The tool displays only compatible CHPID types in the I/O Config pane.
- b. If the CHPID column is blank, no selections are available in the I/O Config pane. Figure 119 on page 94 shows an example:

	Hardware							Hide Incom	patible 🗖 🗖	I/O Cont	fig	Hide Spa	anned 🗂
Sea	rch :									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type 🔺	PCHID	CHPID	Assigned By	^		CHPID 🔺	Assigned By	IOCP Ty
	0171	10/D7/J01	A25B		HCA3-O FANOUT	AID=14							
	0171	10/D7/J02	A25B		HCA3-O FANOUT	🔷 AID=14							
	0171	01/D9/J01	A25B		HCA3-O FANOUT	🔷 AID=06	0.F4(S)	IOCP(S)					
	0171	01/D9/J02	A25B		HCA3-O FANOUT	🔷 AID=06	0.F5(S)	IOCP(S)					
	0171	01/D8/J01	A25B		HCA3-O FANOUT	🔷 AID=05	0.F2(S)	IOCP(S)					
	0171	01/D8/J02	A25B		HCA3-O FANOUT	🔷 AID=05	0.F3(S)	IOCP(S)					
	0171	01/D7/J01	A25B		HCA3-O FANOUT	AID=04	0.F0(S)	IOCP(S)					
	0171	01/D7/J02	A25B		HCA3-O FANOUT	🔷 AID=04	0.F1(S)	IOCP(S)					
	0407	06/D9/J01	Z228	LG19/J00	OSA-EXP4S 10 GbE SR	SBC 🧳							
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S 10 GbE SR	ay 540 🖉							
	0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S 10 GbE SR	🔷 57C							
	0407	01/DA/J02	Z08B	LG02/J00	OSA-EXP4S 10 GbE SR	ay 384 🖉							
	0408	06/DA/J01	Z22B	LG37/J00J01	OSA-EXP4S 1000BASET	🔷 5F8							
	0408	15/D9/J01	Z228	LG20/J00J01	OSA-EXP4S 1000BASET	🔷 5C0							
	0408	01/DA/J01	Z158	LG02/J00J01	OSA-EXP4S 1000BASET	504							
	0408	10/DA/J02	Z08B	LG38/J00J01	OSA-EXP4S 1000BASET	SFC 🔷							
	0405	15/DA/J01	Z228	LG02/J00J01	OSA-EXP4S GbE SX	584							
	0405	15/D9/J01	Z228	LG21/J00J01	OSA-EXP4S GbE SX	5C4							

Figure 119. CHPID column is blank - no selections in I/O Config

3. Map one or more CHPIDs to the PCHID by selecting one or more check boxes in the first column of the I/O Config pane.

- If you map a single CHPID to the selected PCHID, the tool inserts a check mark in the selected check box. The tool also makes the following changes:
 - In the Hardware pane, in the CHPID column, the tool inserts the CHPID number.
 - In the Hardware pane, in the Assigned By column, the tool inserts the value Manual.
 - In the I/O Config pane, in the Assigned By column, the tool inserts the value Manual.

Figure 120 on page 95 shows these changes.

Н	ardware								Hide I	Incompatible 「		🗖 I/O Con	fig	Hide Sp	anned 🗂
Sear	h:											Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type	A P	CHID	CHPID	Assigned By				CHPID 🔺	Assigned By	IOCP Ty
	0405	10/DA/J02	Z088	LG37/J00J01	OSA-EXP4S GbB	ESX 🔌	3F8						FID 01-1	Manual	FID
	0405	15/D9/J02	Z088	LG21/J00J01	OSA-EXP4S GbB	ESX 🔌	3C4						FID 02-2		FID
	0405	06/D9/J02	Z088	LG18/J00J01	OSA-EXP4S GbB	E SX 🔌	388					_	-		
	0405	01/DA/J02	Z088	LG04/J00J01	OSA-EXP4S GbB	E SX 🔌	38C								
	0411	06/DA/J02	Z15B	LG11/J.01	RoCE 10 GbE SF	R 📣	520								
	0411	06/DA/J02	Z15B	LG11/J.02	RoCE 10 GbE SF	R 📣	521								
	0411	10/DA/J02	Z08B	LG30/J.01	RoCE 10 GbE SF	R 📣	3E0	FID 01-1	Manual						
	0411	10/DA/J02	Z08B	LG30/J.02	RoCE 10 GbE SP	R 🔍 📣	3E1								
	0420	15/D9/J02	Z08B	LG28/J.01	zEDC Express	- 4	3DC								
	0420	15/D9/J02	Z088	LG28/null	zEDC Express	4	3DD								
] 0	HPID Groups							Show I	ntersects Ren	nove filtering	- 0				
	Name		Type		D	ata					~				
Ξ	Contro	Unit Group	8000 -	0	0.	80									
1	÷		Membe	rs											
Ξ	Contro	Unit Group	FFFD -	0	0.	14									
-	Đ		Membe	rs											
Ξ	Contro	Unit Group	FFFE -	0	0.	E1. 0.E0. 0.	E3. 0.E2. 0	E5				<			

Figure 120. Selecting a check box to map a single CHPID to a PCHID

Note:

a. If you map a single CHPID to a PCHID, the tool might automatically map an additional CHPID to that PCHID. Figure 121 on page 95 shows an example. The user selected the check box (at 0.F1) in row three of the I/O Config pane, and the tool selected the check box (at 0.F1) in the ninth row as well.

🗌 Ha	rdware								Hide	Incompatible		🔲 I/O Cor	nfig		Hide Spi	anned 👘
Seard	h:											Search :				
	Feature	Source	Cage	Slot/Port	Adapter Typ	e 🔺	PCHID	CHPID	Assigned By		•		CHPI	D 🔺	Assigned By	IOCP Typ
	0171	10/D7/J01	A25B		HCA3-O FAN	TUC	AID=14	0.F1(S)	Manual(S)				2 0.1	14		CIB
	0171	10/D7/J02	A25B		HCA3-O FAN	DUT	AID=14						2 0.F	=0		CIB
	0171	01/D9/J01	A25B		HCA3-O FAN	DUT	🔷 AID =06						2 0.F	-1	Manual	CIB
	0171	01/D9/J02	A25B		HCA3-O FAN	DUT	🔷 AID =06						> 0.F	-2		CIB
	0171	01/D8/J01	A25B		HCA3-O FAN	DUT	AID=05						> 0 F	-		CIB
	0171	01/D8/J02	A25B		HCA3-O FAN	DUT	🔷 AID = 05					H	2 0 F	=4		CIB
	0171	01/D7/J01	A25B		HCA3-O FAN	DUT	🔷 AID=04					H	2 0.5	-		CIB
	0171	01/D7/J02	A25B		HCA3-O FAN	DUT	🔷 AID=04					H	>	-		CID
	0407	06/D9/J01	Z22B	LG 19/300	OSA-EXP4S 1	0 GbE SR	4 5BC						× 1.	-0	Manual	CID
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S 1	0 GbE SR	4 540				~		×: 1.r	-1	Manual	CIB
	~												× 1.r	-2		CID
CH	IPID Groups							Show	Intersects Re	move filtering	- 81		× 1.F	-3		CIB
	Name		Type		1	Data							× 1.r	-4		CIB
	Control	Unit Group	8000 -	0		0.80					- 31		×; 1.F	-5		CIB
	Contro	i onic di oup	Membe	ve.		0.00										
	Contro	Linit Group	FEED -	.0		0.14										
	Contro	ronic Group	Membe	ve.		0.14										
0	Contro	Lunit Group	EEEE -	0		0 61 0 60	0 53 0 52	0.65				<				11

Figure 121. CHPID Mapping Tool automatically maps a CHPID to a PCHID

Notice the (S) after the value Manual in the Assigned By row in the Hardware pane. The (S) indicates the CHPID is spanned.

b. If the I/O Config pane has a green box inside a check box, this means the CHPID is already assigned to another PCHID, and you cannot assign it to the target PCHID. Figure 122 on page 96 shows an example.

🗖 На	rdware								Hide	Incompatible		I/O Con	ifig	Hide Spi	anned 🗖
Searc	h:											Search :			
	Feature	Source	Cage	Slot/Port	Adapter Ty	pe 🔺	PCHID	CHPID	Assigned By		•		CHPID 🔺	Assigned By	IOCP Typ
	0171	10/D7/J02	A25B		HCA3-O FAN	IOUT	AID=14	0.F1(S)	Manual(S)				2 0.14		CIB
	0171	01/D9/J01	A25B		HCA3-O FAN	IOUT	AID=06					n	2 0.F0		CIB
	0171	01/D9/J02	A25B		HCA3-O FAN	IOUT	AID = 06						0.F1	Manual	CIB
	0171	01/D8/J01	A25B		HCA3-O FAN	IOUT	🔷 AID =05						0.F2		CIB
	0171	01/D8/J02	A25B		HCA3-O FAN	IOUT	🔷 AID =05					i i i	> 0 F3		CIB
	0171	01/D7/J01	A25B		HCA3-O FAN	IOUT	🔷 AID=04						0 54		CTR
	0171	01/D7/J02	A25B		HCA3-O FAN	IOUT	🔷 AID=04						2055		CTP
	0407	06/D9/J01	Z22B	LG19/J00	OSA-EXP4S	10 GbE SR	🥏 5BC						× 0.F5		CID
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S	10 GbE SR	540						< 1.FU		CID
	0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S	10 GbE SR	🔷 57C				~		2.1.F1	Manual	CIB
_	~												2 1.F2		CIB
다	IPID Groups							Show	Intersects Re	move filtering			 ₹ 1.15 ₹ 1.64 		CID
	Name		Type			Data					•		<: 1.F4 ≥: 1.F4		CID
Ξ	Control	Unit Group	8000 -	0		0.80					-1		≪; 1.F5		CID
6	8		Membe	rs											
	Control	Unit Group	FFFD -	0		0.14									
-	-		Membe	rs											
	Control	Unit Group	FFFF -	0		0.E1.0.E0	0.E3.0.E2.1	D.E5				<		Ш	le la

Figure 122. Green squares in check boxes in I/O Config pane

- c. On some channels, you can define multiple CHPIDs. You can define up to 16 CHPIDs on one AID. OSA Express3 cards can have four ports (for two PCHIDs) or two ports (for one PCHID).
- d. If you map more than one CHPID to a PCHID (or the tool does this for you automatically), the tool makes the changes listed in Step <u>"3" on page 94</u> with two differences:
 - In the Hardware pane, in the first column, the tool displays a plus sign.
 - The tool inserts the value Multiple -> in the CHPID and Assigned By columns.

Figure 123 on page 96 shows an example of these differences.

н	ardware								Hide Incomp	atible 🗖 🗖	1/0 Ca	onfig		Hide Sp	anned 🗍
Sear	:h :										Search :				
	Feature	Source	Cage	Slot/Port	Adapter T	pe 🔺	PCHID	CHPID	Assigned By	~		0	HPID 🔺	Assigned By	IOCP Typ
÷	0171	10/D7/J02	A25B		HCA3-O FAI	IOUT	AID=14	Multiple>	Multiple>			¥	0.14		CIB
	0171	01/D9/J01	A25B		HCA3-O FAI	IOUT	🔷 AID=06					X	0.F0		CIB
	0171	01/D9/J02	A25B		HCA3-O FAI	IOUT	AID = 06				V	X	0.F1	Manual	CIB
	0171	01/D8/J01	A25B		HCA3-O FAI	IOUT	AID=05				V	2	0.F2	Manual	CIB
	0171	01/D8/J02	A25B		HCA3-O FAI	IOUT	AID=05					×	0.63	Manual	CIB
	0171	01/D7/J01	A25B		HCA3-O FAI	IOUT	AID=04					>	0.54	- Inclinicitati	CIB
	0171	01/D7/J02	A25B		HCA3-O FAI	IOUT	AID=04					*	0.55		CTP
	0407	06/D9/J01	Z22B	LG 19/300	OSA-EXP4S	10 GbE SR	🥏 5BC					*	1 50		CTP
	0407	15/DA/J02	Z15B	LG20/J00	OSA-EXP4S	10 GbE SR	4 540					*	1.0	Manual	CID
	0407	10/DA/J01	Z15B	LG38/J00	OSA-EXP4S	10 GbE SR	🥏 57C			×		×	1.51	Manual	CIB
												×	1.F2	Manual	CIB
🗖 0	HPID Groups	3						Show Inte	ersects Remove fil	tering 🗖 🗖		×	1.83	Manual	CIB
	Name		Type			Data				~		×	1.F4		CIB
-	Centra	Libit Croup	8000	0		0.00						*	1.F5		CIB
	D Contro	ronic aroup	Membe	v		0.00									
	Contro	Lunit Group	FEED	.0		0.14									
-	D Contro	ronic droup	Membe	· U		0.14									
	Casha	Lunit Conun	FEED	0		0.51.0.50	0.52.0.52	0.55			<				

Figure 123. Plus sign in first column and "Multiple -> in CHPID and Assigned By columns Clicking the plus sign expands the row. Figure 124 on page 97 shows the expansion.

н	ardware							Hide Incomp	atible 🗖 🗖	🗖 I/O Co	nfig	Hide Sp	anned 🗂
Sear	:h :									Search :			
	Feature	Source	Cage	Slot/Port	Adapter Type	PCHID	CHPID	Assigned By	•		CHPID 🔺	Assigned By	IOCP T
E	0171	10/D7/J02	A25B		HCA3-O FANOU	T 🔷 AID=14	Multiple>	Multiple>			2 0.14		CIB
							2 0.F1(S)	Manual(S)		l n	0.F0		CIB
							2 0.F2(S)	Manual(S)			> 0.F1	Manual	CIB
							2 0.F3(S)	Manual(S)			> 0.F2	Manual	CIB
	0171	01/D9/J01	A25B		HCA3-O FANOU	T 🔷 AID=06					2 0.52	Manual	CIB
	0171	01/D9/J02	A25B		HCA3-O FANOU	T 🔷 AID=06					2 0.13	Mariual	CID
	0171	01/D8/J01	A25B		HCA3-O FANOU	T 🔷 AID=05					× 0.F4		CID
	0171	01/D8/J02	A25B		HCA3-O FANOU	r 🔷 AID=05					< 0.F5		CIB
	0171	01/D7/J01	A25B		HCA3-O FANOU	r 🔷 AID=04					< 1.F0		CIB
	0171	01/D7/J02	A25B		HCA3-O FANOU	r 🔷 AID=04			~		1.F1	Manual	CIB
_											1.F2	Manual	CIB
10	-PID Group						Show Inte	ersects Remove filt	erina 🗖 🗖		1.F3	Manual	CIB
											1.F4		CIB
	Name	A	Type		Da	ita			^		1.F5		CIB
Ξ	Contro	l Unit Group	8000 -	0	0.8	0			=				
- 1	÷		Membe	rs									
•	Contro	l Unit Group	FFFD -	0	0.1	.4							
- 1	Đ		Membe	rs									
•	Contro	Unit Group	FFFE -	0	0.F	1, 0.F0, 0.F3, 0.F2,	0.F5		~				

Figure 124. Expanding the information in the Hardware pane

- The plus sign changes to a minus sign.
- The expansion shows the value Manual in the CHPID and Assigned By columns.

Note: The (S) after Manual indicates the CHPID is spanned

- 4. Optionally, save your session. See <u>"Saving a session" on page 48</u>.
- 5. Optionally, create another IOCP file with statements that include the assignments you have made with the tool. For details, see"Exporting an IOCP input file" on page 51.

Undoing a manual mapping assignment

When a CHPID is assigned to a PCHID, a check mark is present in the check box in the I/O Config pane.Figure 125 on page 97 shows this.

На	rdware								Hide I	ncompatible 🗂		I/O Cor	nfig	Hide Sp	anned
eard	n:										S	earch :			
	Feature	Source	Cage	Slot/Port	Adapter Ty	pe 🔺	PCHID	CHPID	Assigned By		<u>~</u>		CHPID 4	Assigned By	IOCP Ty
	0405	06/D9/J02	Z088	LG19/J00J01	OSA-EXP4S	GbE SX	argent and a second sec					¥	FID 01	-1 Manual	FID
	0405	01/DA/J02	Z08B	LG03/J00J01	OSA-EXP4S	GbE SX	ar 388 ar				i	-	FID 02	-2	FID
	0405	10/DA/J02	Z08B	LG37/J00J01	OSA-EXP4S	GbE SX	🔷 3F8								
	0405	15/D9/J02	Z08B	LG21/J00J01	OSA-EXP4S	GbE SX	ac 4 🖉								
	0405	06/D9/J02	Z08B	LG18/J00J01	OSA-EXP4S	GbE SX	ar 388 🔷								
	0405	01/DA/J02	Z08B	LG04/J00J01	OSA-EXP4S	GbE SX	a 38C								
	0411	06/DA/J02	Z15B	LG11/J.01	RoCE 10 GbB	E SR	520	FID 01-1	Manual						
	0411	06/DA/J02	Z15B	LG11/J.02	RoCE 10 GbB	E SR	521								
	0411	10/DA/J02	Z08B	LG30/J.01	RoCE 10 GbB	SR	ar 3E0				a -				
	0411	10/DA/J02	Z088	LG30/J.02	RoCE 10 GbB	E SR	🥏 3E1				◄ -				
CH	PID Groups	,						Show I	ntersects Rem	ove filtering					
	Name		Type			Data									
-	Contro	Unit Group	8000 -	0		0.80									
Ð	1		Membe	rs							- III				
	Contro	Unit Group	FFFD -	0		0.14									
	1		Membe	rs											
-	Contro	Unit Group	FFFF -	0		0.E1.0.8	F0. 0.E3. 0.E2	0.E5				د]		1111	

Figure 125. Selecting a check box to map a single CHPID to a PCHID

To undo assigning a CHPID to a PCHID, click the check box containing a check mark. The check box is cleared and the mapping is undone; the tool no longer shows the CHPID number in the CHPID column of

the Hardware pane or the word *Manual* in the Assigned By columns of the Hardware or I/O Config panes. Figure 126 on page 98 shows this.

- +	Hardware								Hide	Incompatible		🗖 I/O Cor	nfig	Hide Sp	anned 🗂
Sea	rch :											Search :			
	Feature	Source	Cage	Slot/Port	Adapter Ty	pe 🔺	PCHID	CHPID	Assigned By		^		CHPID 🔺	Assigned By	IOCP Ty
	0405	06/D9/J02	Z088	LG19/J00J01	OSA-EXP4S	GbE SX	🔷 3BC						FID 01-1		FID
	0405	01/DA/J02	Z088	LG03/J00J01	OSA-EXP4S	GbE SX	4 388						FID 02-2		FID
	0405	10/DA/J02	Z08B	LG37/J00J01	OSA-EXP4S	GbE SX	🔷 3F8								
	0405	15/D9/J02	Z08B	LG21/J00J01	OSA-EXP4S	GbE SX	age 3C4								
	0405	06/D9/J02	Z08B	LG18/J00J01	OSA-EXP4S	GbE SX	ar 388 🖉								
	0405	01/DA/J02	Z08B	LG04/J00J01	OSA-EXP4S	GbE SX	a 38C								
	0411	06/DA/J02	Z15B	LG11/J.01	RoCE 10 GbB	SR.	ar 520 🖉								
	0411	06/DA/J02	Z15B	LG11/J.02	RoCE 10 GbB	SR	521								
	0411	10/DA/J02	Z08B	LG30/J.01	RoCE 10 GbB	SR	ar 3E0								
	0411	10/DA/J02	Z08B	LG30/J.02	RoCE 10 GbB	SR	🔷 3E1				~				
								Show	Intersects Re	move filtering					
	Name		Type			Data					^				
Ξ	Contro	Unit Group	8000 -	0		0.80									
	•		Membe	ers											
	Contro	Unit Group	FFFD -	0		0.14									
	±		Membe	ers											
	Contro	Unit Group	FFFF -	0		0.E1.0.E	0. 0.E3. 0.E2.).E5				<		Ш	

Figure 126. Available CHPIDs displayed in the I/O Config pane

Manually assigning CHPIDS of type CL5, HYL, ROCE, and ROC2

Manual mapping may be required for PCHIDs with multiple ports allowing multiple CHPIDs per port. This includes zHyperlink Express, Coupling Express LR, and the RoCE cards. The CHPID Mapping Tool only supports mapping of a single CHPID to each PCHID port. Assignment of additional CHPIDs to a PCHID port must be done manually.

Manually assigning CHPIDS of type FC and FCP

Beginning with IBM z14, the Kraken FICON I/O adapter cards with 2 ports do not allow mixing of FC and FCP CHPIDs on an adapter card. The CHPID types must be the same on both ports of an adapter card. If one PCHID port is assigned a CHPID of TYPE=FC, then the CHPID assigned to the other port on that PCHID must also be TYPE=FC, and the same rule applies for TYPE=FCP. The CHPID Manual Tool cannot evenly distribute FC and FCP devices and fully populate the cards when both CHPID types are defined. Manual mapping must be done.

Chapter 9. Reports

This chapter describe using the CHPID Mapping Tool to create, save, view, and print reports.

Keep in mind that reports are static, which means that they do not necessarily reflect the current data. They reflect the data as it was at the time you saved the report.

Previewing and saving reports

Note: The person who will install the I/O cables during system installation needs one of the reports. The Port Report, sorted by location, is recommended. The installer can use this to help with labeling the cables. The labels must include the PCHID or cage/slot/port.

Preview Report and **Save Report** are located near the top of the IBM CHPID Mapping Tool window. Figure 127 on page 99 shows these buttons.

-	lardware								Hide	Incompatible		I/O Cor	nfig	Hide Spi	anned 🗂
Sea	rch :											Search :			
	Feature	Source	Cage	Slot/Port	Adapter Ty	pe 🔺	PCHID	CHPID	Assigned By		•		CHPID 🔺	Assigned By	IOCP T
	0405	06/D9/J02	Z088	LG19/J00J01	OSA-EXP4S	GbE SX	🔷 3BC						FID 01-1		FID
	0405	01/DA/J02	Z08B	LG03/J00J01	OSA-EXP4S	GbE SX	4 388						FID 02-2		FID
	0405	10/DA/J02	Z08B	LG37/J00J01	OSA-EXP4S	GbE SX	🔷 3F8								
	0405	15/D9/J02	Z08B	LG21/J00J01	OSA-EXP4S	GbE SX	age 3C4								
	0405	06/D9/J02	Z08B	LG18/J00J01	OSA-EXP4S	GbE SX	age 388								
	0405	01/DA/J02	Z08B	LG04/J00J01	OSA-EXP4S	GbE SX	a 38C					L			
	0411	06/DA/J02	Z15B	LG11/J.01	RoCE 10 GbB	E SR	520					L			
	0411	06/DA/J02	Z15B	LG11/J.02	RoCE 10 GbB	E SR	521					L			
	0411	10/DA/J02	Z08B	LG30/J.01	RoCE 10 GbB	E SR	🔷 3E0								
	0411	10/DA/J02	Z08B	LG30/J.02	RoCE 10 GbB	E SR	🧳 3E1				~	<u> </u>			
	HPID Groups							Show	Intersects Re	move filtering					
	Name		Type			Data						<u> </u>			
E	Contro	Unit Group	8000 -	0		0.80						L			
_	Ŧ		Membe	rs											
Ξ	Contro	Unit Group	FFFD -	0		0.14									
-	+		Membe	rs											
Ξ	Contro	Unit Group	FFFF -	0		0.E1.0.E	0. 0.E3. 0.E2. ().E5				<		1	

Figure 127. Preview Report and Save Report buttons

Click Preview Report or Save Report to display choices. The choices are the same except Save Report lists one additional selection.



Figure 128. Choices under Preview Report and Save Report

CHPID Report

This report is similar to the one e-config produces but includes the CHPID values. It shows the values based on a hardware location (primarily slot).

Port Report

This report presents each I/O port, type, and, if assigned, the CHPID and its Assigned By value.

Four items are under Port Report. Figure 129 on page 100 shows these.

Sa Preview Report 🔹 Sa	ive Report 🔻
2 CHPID Report	
🛷 Port Report 🔹 🕨	Sort by Location
Fiber Cable Report	Sort by CHPID
FTS Report	Sort by Channel Type
Control Unit Report	Sort by Database Order
CHPID to Control Unit Report	
CHPID-AID Conflict Report	
CHPID-PCHID Conflict Report	
Hardware Resolution Report	

Figure 129. Port Report options

- Sort by Location
- Sort by CHPID
- Sort by Database Order
- Sort by Channel Type

Fiber Cable Chart

This assists with documenting cabling from an I/O port to a device.

FTS Report

This is a specialized report to assist with documenting the cabling from the trunking brackets to the patch panel.

Note:

- 1. The FTS Report is called FQC Report for machines preceding z10.
- 2. z10 EC and z10 BC support this report for FICON and ESCON channels only.

3. This report is available only if the FTS (or FQC) feature is present in the CFReport file (or hardware configuration file).

Control Unit Report

This report is available only after IOCP has been loaded. It shows the hardware connections associated to each control unit. It provides a good record of how you prioritized the control units and any availability intersections you may have encountered.

CHPID to Control Unit Report

This report is available only after IOCP has been loaded. It shows information about each CHPID, hardware connection, and the control units on which it is defined.

Batch Save...

This is available only under Save Report. This is used when the user wants to save several reports at the same time. You can select which reports to be saved and what format is required. The current supported formats to save reports are PDF, HTML, and CSV.

Previewing reports

Perform the following steps to preview a report:

1. Click **Preview Report**. The tool displays a list of types of reports. <u>Figure 130 on page 101</u> shows this list.



Figure 130. Choices under Preview Report

- 2. Click one of the items under Preview Report.
- 3. If you click **Port Report** you additionally need to click a **Sort by...** selection. Figure 131 on page 102 shows these additional selections.



Figure 131. Additional options under Port Report

The CHPID Mapping Tool displays the Reports view.

Figure 132 on page 102 shows this.

port					□ [
					S Prin
CHPID	Mappi	ing T	ool	Product Plug-in 0.0.2 - CHPID Report	
Control Numb	er: 1903291	11 (CFR)	F	Report Created: 8/12/11 5:27 PM	
Machine: 209	7-E56		1	OCP File: /Project2/Input/IOCP/Copy of IESP1CIBSAMP.IOCP	
Source	Cade	Slot	F/C	CSS CHPID/PCHID/Ports or AID	
Source	Cage	Slot	F/C	CSS.CHPID/PCHID/Ports or AID	
01/D9/J01	A01B	LG01	3366	/100/J00/101/J01	
10/D9/J01	A01B	LG02	0863	/110/P00/111/P01	
01/D9/J01	A01B	LG03	3365	/120/J00/121/J01	
10/D9/J01	A01B	LG04	3322	/130/D01/131/D02/132/D03/133/D04	
01/D9/J01	A01B	LG06	3324	/140/D01/141/D02/142/D03/143/D04	
10/D9/J01	A01B	LG07	3324	/150/D01/151/D02/152/D03/153/D04	
01/D9/J01	A01B	LG08	2323	/160/J00/161/J01/162/J02/163/J03 /164/J04/165/J05/166/J06/167/J07 /168/J08/169/J09/16A/J10/16B/J11 /16C/J12/16D/J13/16E/J14	
10/D9/J01	A01B	LG09	2323	/170/J00 /171/J01 /172/J02 /173/J03 /174/J04 /175/J05 /176/J06 /177/J07 /178/J08/179/J09/17A/J10/17B/J11	

Figure 132. The Reports view displaying CHPID report as an example

The Report view

The Reports view is similar for all types of reports. It consists of two panes:

Projects pane

By default, this is positioned on the left. (It is on the top left if there are two panes on the left.) See "The Projects pane" on page 15 for a detailed description.

Report pane

By default this is positioned on the right. It displays the report you selected. Figure 132 on page 102 shows a more detailed example of the CHPID Report in the Report pane.

Saving reports

You can save individual reports or save multiple reports in batch.

To save an individual report, perform the following steps:

1. Click the arrow beside **Save Report**. This displays types of reports. Figure 133 on page 103 shows this.

*	CHPID Report
-	Port Report
	Fiber Cable Report
	FTS Report
	Control Unit Report
	CHPID to Control Unit Report
	CHPID-AID Conflict Report
	CHPID-PCHID Conflict Report
	Hardware Resolution Report
	Temporary AID Values Assigned

Figure 133. Choices under Save Report

- 2. Click one of the report choices under Save Report.
- 3. If you click **Port Report** you additionally need to click a **Sort by...** selection. Figure 134 on page 103 shows this.



Figure 134. Additional options under Port Report

The tool displays a window with a wizard for creating a new report. Figure 135 on page 104 shows an example of the CHPID Report window.

	eport 📃 🗖
CHPID Rep This wizard c	ort Wizard reates a new report file that can be double-clicked for viewing.
Eile name:	ppid.rpt
Save to w	orkspace
Save outs	ide workspace
External path	Browse
File <u>type</u> :	PDF
	HTML
	CSV
	Einish Cancel

Figure 135. Window for saving the CHPID Report

The window is similar for all types of reports.

4. When saving a report, you can optionally change the default file name. <u>Table 8 on page 104</u> summarizes information about the default files names.

Table 8. Summary of default file r	names of reports
Report name	Default file names
CHPID Report	chpid.rpt
Port Report	pchid.rpt
Fiber Cable Report	Fiber Cable.rpt
FTS Report	FTS.rpt
Control Unit Report	Control Unit.rpt
CHPID to Control Unit Report	chpidtocu.rpt

5. If you want to save the report in a folder other than the **workspace** folder, select **Save outside workspace**. If you do this, the tool makes available the **External path** and **File type** fields.

GHPID Rep	port	_ 🗆 🗙
CHPID Repo This wizard cre	rt Wizard ates a new report file that can be double-clicked for viewing.	
Eile name: Save to wor Save outsid External path: File type:	chpid.rpt kspace e workspace C:/Reports PDF HTML CSV	Browse
	Einish	Cancel

Figure 136. Window for saving the CHPID Report outside the workspace

- a. Type the **External path** value in the field or click **Browse** to open the Browse For Folder window in which you navigate to the path and click **OK**.
- b. If you want to save the report in HTML, select **HTML**. The tool selects **PDF** by default. This remains selected after you select HTML. If you do not want to save an additional version of the report in PDF format, clear **PDF**.
- 6. If you do not want to save an additional copy of the report in the **workspace** folder, clear **Save to workspace**. (By default, the tool selects **Save to workspace**. This remains selected even if you select **Save outside workspace**.)

Note: The tool creates the workspace folder when you open it for the first time.

7. Click **Finish**. The tool saves the report in the specified directory. <u>Table 9 on page 105</u> summarizes the file names of the reports. Notice that, if you save outside the **workspace** folder, either .pdf or .html follows the extension .rpt.

Table 9. Summary o	Table 9. Summary of file names of saved report files					
Report	File name saved in workspace folder	Saved outside workspace folder				
CHPID Report	<i>chpid</i> .rpt	<i>chpid</i> .rpt.pdf or <i>fn</i> .rpt.html				
Port Report	pchid.rpt	pchid.rpt.pdf or pchid.rpt.html				
Fiber Cable Report	Fiber Cable.rpt	Fiber Cable.rpt.pdf or Fiber Cable.rpt.html				
FTS Report	FTS.rpt	FTS.rpt.pdf or FTS.rpt.html				
Control Unit Report	Control Unit.rpt	Control Unit.rpt.pdf or Fiber Control Unit.rpt.html				

Table 9. Summary of file names of saved report files (continued)				
Report	File name saved in workspace folder	Saved outside workspace folder		
CHPID to Control Unit Report	chpidtocu.rpt	chpidtocu.rpt.pdf or chpidtocu.rpt.html		

The tool saves the report and displays the Reports view. See Figure 132 on page 102.

To save multiple reports, perform the following steps:

- 1. Click **Save Report**. This displays types of reports. Figure 137 on page 106 shows this.
- 2. Click **Batch Save** under Save Report. The Multi-page Editor File window is displayed. <u>Figure 137 on</u> page 106 shows this.

🕀 Batch Export Report Wizard	
Batch Export Report Wizard Please select at least one report type	
Choose export type	
	CSV
Choose Reports To Export	
CHPID Report	Fiber Cable Report
FTS Report	Control Unit Report
CHPID to Control Unit Report	CHPID-AID Conflict Report
CHPID-PCHID Conflict Report	Hardware Resolution Report
Port Report	Temporary AID Report
Sorted by Location	
Sorted by CHPID	
Sorted by Database	
External path: C:/CMT/Reports	Browse
	Einish Cancel

Figure 137. Multi-page Editor File window

- 3. If you want the CHPID Mapping Tool to export an HTML file rather than a PDF, select **HTML** to change the default.
- 4. Select the report or reports you want. If you select **Port Report**, additional choices about the sort order become available and you are required to select one.
- 5. If you want to save reports to a folder other than the default Documents and Settings folder, click **Browse**. This opens the Browse For Folder window where you can create a new folder or select an existing folder; click **OK** when you are done.
- 6. Click Finish.

Printing Reports

Saved reports can be HTML files or PDF files. You are recommended to print all reports. You can use a viewer associated with the file type to print a file. For example, you can print an HTML file from a browser or a PDF file from Adobe Acrobat reader.

Note: When you print using Internet Explorer, certain reports, such as CHPID reports and FTS reports, may have page breaks at logical sections.

Chapter 10. Troubleshooting and support

This chapter provides directions for reporting a problem or submitting a suggestion on the CHPID Mapping Tool through Resource Link and ViewBlue. It also provides a brief list of frequently asked questions (FAQ).

Submitting a problem or suggestion

You can report a problem or submit a suggestion through Resource Link. Alternately, your IBM representative or IBM business partner can report a problem for you using ViewBlue.

Submitting a problem or suggestion with Resource Link

IBM monitors feedback from Resource Link during normal U.S. business hours.

Perform the following steps to submit a problem or suggestion to the tool developers:

1. On the main Resource Link site, click **Feedback** in the navigation bar on the left. This opens the Feedback form, as shown in Figure 138 on page 109.

We welcome you area of ibm.com. appropriate area other comments	r comments about your experience on t All comments will be read and forwards for review. Not all comments will receiv or requests, please use <u>Contact</u> .	he Resource Link ed to the re a response. For
The fields indicat you don't wish to cancel button to	ed with an asterisk are required to comp provide us with the required informatio return without submitting feedback.	plete this form. If n, please use the
Did you achiev your goal?*	e 💿 Yes 🔘 No	
Comments*		8
Category*	Accuracy of content Broken link CHPID Mapping Tool	
First name*	Ann	
Last name*	Burkes	
E-mail address	* burkesam@us.ibm.com	

Figure 138. Feedback form

- 2. Select CHPID Mapping Tool in the Category list.
- 3. Enter your comments, **making sure to include the version of the tool you are using** (this is displayed in tool title bar).

- 4. Complete the fields for first and last names and email address, optionally select the check box regarding information use, and click **Submit**.
- 5. Save the work in a session file if possible. A session file can be used by the development team to analyze the problem.
- 6. If Internal Tool Error is encountered, the log file named chpid.log, found in the tool installation directory (usually c:\program files\ibm\chpid) can be sent to the development team for quick resolution, along with the session file, hardware data and IOCP file.

Submitting a problem with ViewBlue

For issues outside U.S. business hours, please contact your IBM representative/Business Partner to report the problem using ViewBlue.

The following instruction are for IBM representatives/Business Partners:

- 1. Open https://www.ibm.com/ibmlink/feedback.
- 2. Open up a feedback to report the problem.
- 3. Click Report a problem.
- 4. Identify the subject of the feedback as Configurators.
- 5. Select eConfig.

Note: Users who do not have access to ViewBlue can open up a feedback from the eConfig application.

Frequently asked questions (FAQ)

Q: Why do I get the following error message while importing a CFReport?

CHPID Mapping Tool could not identify the I/O device with the following feature codes: n n...

This might be due to modifications of the CFReport, or the version of the CHPID Mapping Tool being not current. If so please download the latest version before trying to load

A: The tool maintains a list of feature codes. It is possible for the CFReport to include recently introduced feature codes that the installed version of the tool does not yet support. If the installed version is not the latest, you should download the latest upgrade of the tool from the Resource Link website. If the error still occurs, you should contact support.

Q: How do I find the version of the installed tool?

A: After you start the tool, you can display the version by clicking: **Help** > **About**.

Q: When I load a session file, why does the tool display a window with the following message?

```
Tool has detected a more recent saved session.
This is because the CHPID Mapping Tool periodically saves changes to a separate session file to
avoid
productivity loss from desktop or application failures.
If you exit the tool or a desktop or application failure occurs before you save the latest changes
to a session file, then the automatically saved session file is newer than your session file.
Alternately you might not want to save some changes.
```

Do you want to load the automatically saved session file?

A: The tool has an autosave feature that periodically saves changes to a separate session file to avoid productivity loss from desktop or application failures. If you exit the tool or a desktop or application failure occurs before you save the latest changes to a session file, the tool displays this message to inform you that the tool detects an autosaved file for the same CCN with later changes. You can load the auto saved file to recover lost changes.

Q: How do I know if a CHPID is spanned in the Manual page?

A: Spanned CHPIDs are displayed in bold text in the CHPID table.

Appendix A. An explanation of configuration files

The following information applies if you are performing:

- An upgrade (for example, from a z990 to a z9 EC)
- A MES for a z10 EC, z10 BC, z9 EC, or z9 BC to another z10 EC, z10 BC, z9 EC, or z9 BC.

On the z890 and z990, customization information is stored in files on the SE. The files are called configuration files (or 'config files'), and they are named based on the PCHID value (physical location) of the channel. The following table lists channel or CHPID types that have config files on a z10 EC, z10 BC, z9 EC, z9 BC, z990, or z890 and the kind of information stored in these files:

Table 10. Channel or CHPID type information in configuration files				
Channel or CHPID type	Information stored in configuration files			
OSA-Express2 or OSA-Express3	Any user specified MAC addresses and OAT tables			
1000BaseT channel defined as CHPID type OSC	Console session information			

The following is true for an upgrade (for example, from a z990 to a z10 EC) or an MES (for example, for a z10 EC, z10 BC, z9 EC, or z9 BC). If channels or CHPIDs have associated configuration files, the CHPID Mapping Tool can assign PCHIDs to your logical CHPID definitions or move a CHPID definition to a new location. This can occur regardless of whether channels are moving. The CHPID Mapping Tool can override PCHID assignments for the following channels supporting CHPID type OSC, OSD, OSE, and OSN:

- OSA Express3
 - 3362
 - 3363
 - 3367
 - 3369
 - 3370
 - 3371
 - 3373
- OSA Express2
 - 3364
 - 3365
 - 3366
 - 3367
 - 3368
- OSA Express
 - 1364
 - 1365
 - 1366
 - 2364
 - 2365
 - 2366

The following explains how the system preserves the config files on an upgrade (for example, from a z990 to a z9 EC). However, it is ultimately your responsibility to have a record or backup of the customization data stored in config files. You should always make a backup record:

• For OSA-Express2 and OSA-Express-3 channels, record all user-assigned MAC addresses using the **Display or alter MAC address** function in **Card specific advanced facilities** or user-specified OSA Address Tables (OAT).

Note: If you are an OSA/SF user, a better method is to use OSA/SF to back up and restore the configuration information for your OSA-Express2 and OSA-Express-3 channels.

• For CHPID type OSC (OSA-ICC), use the **Export source file** function in **Manual configuration options**.

For an upgrade (for example, from a z990 to a z9 EC), most of the existing channels cards to move from the old machine to the new machine are rebalanced to take advantage of the availability characteristics of the new machine. This rebalancing also takes into consideration any new channels that may be added as part of the upgrade. The configurator creates machine configuration data and reports that contain information on which PCHIDs have been relocated.

The information contained in the configurator data is used to create a file that the service representative uses as part of the installation (or MES) activities of the new z10 EC, z10 BC, z9 EC, or z9 BC. This file supports the relocation for channel types that have specific files containing customization data.

It is important that the file names containing the customization data be renamed to the new PCHID value. As part of the installation (or MES) process, the service representative is presented with a window (Migrate Channel Configuration Files) that shows the movement of PCHIDs based on the information contained in the manufacturing-provided file. This function provides the capability to automatically rename the files so that they reflect the new PCHID values (so that the customization data is not lost and follows the physical movement for those cards). If you used the CHPID Mapping Tool to perform the CHPID to PCHID assignments (a process that is recommended), then the service representative need only accept the values on the window and the files are copied correctly. On the windows displayed, the service representative can change the "TO" PCHID during this process.

This can accommodate those customers who choose not to do not follow the recommendations (those who do not use the CHPID Mapping Tool or who override the CHPID Mapping Tool default assignments). If the customer and service representative team preplan and develop their own from-to-PCHID list, manual entry can be used to override the file.

It is strongly recommended that you use the CHPID Mapping Tool to configure the CHPID to PCHID assignments because the tool ensures that logical CHPIDs are assigned to the new PCHID values. The tool has been changed to handle the previously described issues. When the appropriate files have been loaded into the tool (that is, CFReport file and IOCP file with PCHID assignments for the z990 or for the current z10 EC, z10 BC, z9 EC, or z9 BC if this is an MES to a z10 EC, z10 BC, z9 EC, or z9 BC), the tool assigns new PCHID values to those affected CHPIDs based solely on the physical movement of the channel cards. If you use the manual mode, these PCHIDs have an identifier ('Config File'). You are not recommended to change that these assignments.

You are recommended to use automatic mapping rather than manual mapping for most of your mapping needs. If you use the automatic mapping, the CHPID Mapping Tool protects any CHPID/PCHIDs that have been assigned because of config files unless you direct it not to do so. The following outlines the process:

- 1. You click **Automatic Mapping**. The tool displays the Reset CHPID Assignments window. This window includes three or four options. The fourth option is **Reset CHPIDs assigned by CMT for config files**. The tool displays this option only if the CHPID Mapping Tool reset assignments for an upgrade or an MES. (Figure 97 on page 76) shows an example of the Reset CHPID Assignments window, but this example does not include the fourth option.)
- 2. You select one or more of the options. You are recommended *not* to select **Reset CHPIDs assigned by CMT for config files**.
 - If you select **Reset CHPIDs assigned by CMT for config files**, the tool resets CHPID Mapping Tool assignments for config files.
 - If you select any options other than **Reset CHPIDs assigned by CMT for config files**, the tool does not reset config file assignments. It protects any CHPID/PCHIDs that have assigned through config files.
- 3.

After you run automatic mapping and review the intersections, if you believe the config file assignments are causing unacceptable intersections, you are recommended to use manual mapping to reset only those config file assignments that are causing the unacceptable intersections. Remember it is your responsibility to have backed up the customization data (and to restore it to the PCHID to which the logical CHPID has been assigned).

After you have completed working with the CHPID Mapping Tool, one of the available reports will identify all the CHPIDs that have new PCHID values. A subset of these may have had config files associated with the old PCHIDs. The service representative can use this report to verify or change the **to** column of the **Migrate Channel Configuration Files** window.

The use of the mapping tool is highly recommended for this migration because it ensures the logical CHPIDs are assigned to the new PCHID values. The IOCP file (for the machine being upgraded) that is input to the CHPID Mapping Tool must contain the current CHPID to PCHID assignments for the CHPID Mapping Tool to perform the function as previously described.

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