



System i and System p
Operations Guide for the
Hardware Management Console
and Managed Systems
Version 7 Release 3.1.0

SA76-0085-03





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Note

Before using this information and the product it supports, read the information in “Notices” on page 247 and the *IBM Systems Safety Information* manual, G229-9054.

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This edition applies to IBM Hardware Management Console Version 7 Release 3.1.0 Maintenance Level 0 and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this publication

This publication helps users to understand how to use the Hardware Management Console (HMC), describes the tasks you can use on the console, and how to navigate using the web-based user interface.

This guide is available in portable document format (PDF) to view or print from **Resource Link** (<http://www.ibm.com/servers/resourcelink>). It is also available as an online document and can be viewed from the Hardware Management Console.

Note: The HMC user interface windows represented in this document are general samples. They may or may not represent the exact windows that are displayed for your user ID or version.

For information about the accessibility features of this product, for users who have a physical disability, see Appendix E, “Accessibility features,” on page 245.

How to send your comments

Your feedback is important in helping to provide the most accurate and highest quality information. If you have any comments about this publication, send your comments using Resource Link™ at <http://www.ibm.com/servers/resourcelink>. Click **Feedback** on the navigation pane. Be sure to include the name of the book, the form number of the book, and the specific location of the text you are commenting on (for example, a page number or table number).

Chapter 1. Introduction to the Hardware Management Console

This chapter briefly describes some of the concepts and functions of the Hardware Management Console (HMC) and introduces the user interface that is used for accessing those functions.

The HMC is a system that controls managed systems, logical partitions, Capacity on Demand (CoD), and updates. To provide flexibility and availability, you can implement HMCs as a local HMC or a redundant HMC.

Local HMC

A local HMC is an HMC that is physically located close to the system it manages and is connected by either a private or public network. An HMC in a private network is a DHCP server for the service processors of the systems it manages. An HMC may also manage a system over an open network, where the managed system's service processor IP address has been assigned manually using the Advanced System Management Interface (ASMI).

Remote HMC

A remote HMC is an HMC that is not physically located near its managed systems. This could be in another part of the same room or data center, in another building, or even on another site. Typically, a remote HMC would be attached to its managed servers via a public network, but configurations with a remote HMC attached to a private network are also possible. Prior to HMC version 7, at least one local HMC was required. With Version 7, any or all HMCs may be remote.

Redundant HMC

A redundant HMC manages a system that is already managed by another HMC. When two HMCs manage one system, they are peers, and each can be used to control the managed system. One HMC can manage multiple managed systems, and each managed system can have two HMCs. If both HMCs are connected to the server using private networks, each HMC must be a DHCP server set up to provide IP addresses on two unique, nonroutable IP ranges.

The IBM® 7042-C06 Desktop Hardware Management Console and the IBM 7042-CR4 Rack-Mounted Hardware Management Console provide dedicated workstations designed to allow you to configure and manage servers. One HMC can manage multiple servers, and dual HMCs can provide redundant support by managing the same system. To help ensure consistent function for all 7042-C06 and 7042-CR4 HMC models, each HMC is shipped preinstalled with the Hardware Management Console Licensed Machine Code Version 7 (#0962).

The Hardware Management Console Licensed Machine Code Version 7 (#0962) may also be ordered via MES for 7310 HMCs. Version 7 is not available for the 7315-C03 HMCs.

User interface style for the HMC

This HMC uses a Web-based user interface. This interface uses a tree style navigation model providing hierarchical views of system resources and tasks using drill-down and launch-in-context techniques to enable direct access to hardware resources and task management capabilities. It provides views of system resources and provides tasks for system administration.

See Chapter 2, "Using the Web-based user interface," on page 19 for detailed information on how to use this HMC interface.

You also have the option of using the HMC Command Line Interface (CLI). See the *Command Line Support* education module (<http://www.ibm.com/servers/resourcelink/lib03030.nsf/page>) for information on how to use the command line interface and see Appendix D, "HMC commands," on page 147 for descriptions of all the commands you can use to perform the HMC and server tasks.

Predefined user IDs and passwords

Predefined user IDs and passwords are included with the HMC. It is imperative to your system's security that you change the hscroot predefined password immediately.

The following predefined user IDs and passwords are included with the HMC:

Table 1. Predefined HMC user IDs and passwords

User ID	Password	Purpose
hscroot	abc123	The hscroot user ID and password are used to log in to the HMC for the first time. They are case-sensitive and can only be used by a member of the super administrator role.
root	passwd	The root user ID and password are used by the service provider to perform maintenance procedures. They cannot be used to log in to the HMC.

Tasks and roles

Each HMC user can be a member of a different role. Each of these roles allows the user to access different parts of the HMC and perform different tasks on the managed system. HMC roles are either predefined or customized.

The roles discussed in this section refer to HMC users; operating systems running on logical partitions have their own set of users and roles. When you create an HMC user, you must assign that user a task role. Each task role allows the user varying levels of access to tasks available on the HMC interface. For more information about the tasks each HMC user role can perform, see Appendix A, "HMC tasks and user roles and IDs," on page 129.

You can assign managed systems and logical partitions to individual HMC users. This allows you to create a user that has access to managed system A but not to managed system B. Each grouping of managed resource access is called a managed resource role. To learn more about managed resource roles and how to create them, see "Manage Task and Resource Roles" on page 106.

The **predefined** HMC roles, which are the default on the HMC, are as follows:

Table 2. Predefined HMC Roles

Role	Description	HMC User ID
Operator	The operator is responsible for daily system operation.	hmcoperator
Super Administrator	The super administrator acts as the root user, or manager, of the HMC system. The super administrator has unrestricted authority to access and modify most of the HMC system.	hmcsuperadmin
Product Engineer	A product engineer assists in support situations, but cannot access HMC user management functions. To provide support access for your system, you must create and administer user IDs with the product engineer role.	hmcpe

Table 2. Predefined HMC Roles (continued)

Role	Description	HMC User ID
Service Representative	A service representative is an employee who is at your location to install, configure, or repair the system.	hmcservicerep
Viewer	A viewer can view HMC information, but cannot change any configuration information.	hmcviewer

You can create **customized** HMC roles by modifying predefined HMC roles. Creating customized HMC roles is useful for restricting or granting specific task privileges to a certain user. For more information about creating customized HMC roles, see “Manage Task and Resource Roles” on page 106.

Starting the HMC

First, turn on the HMC by setting both the display and system unit to the *On* position. The initialization window, which includes the copyright information, is displayed.

When initialization is complete, the pre-login window is displayed as shown in Figure 1.

Note: The pre-login window contains the link to log in to the HMC application, the ability to view the online help information, and the summarized status information for the HMC. You will need to log in to view the status information.

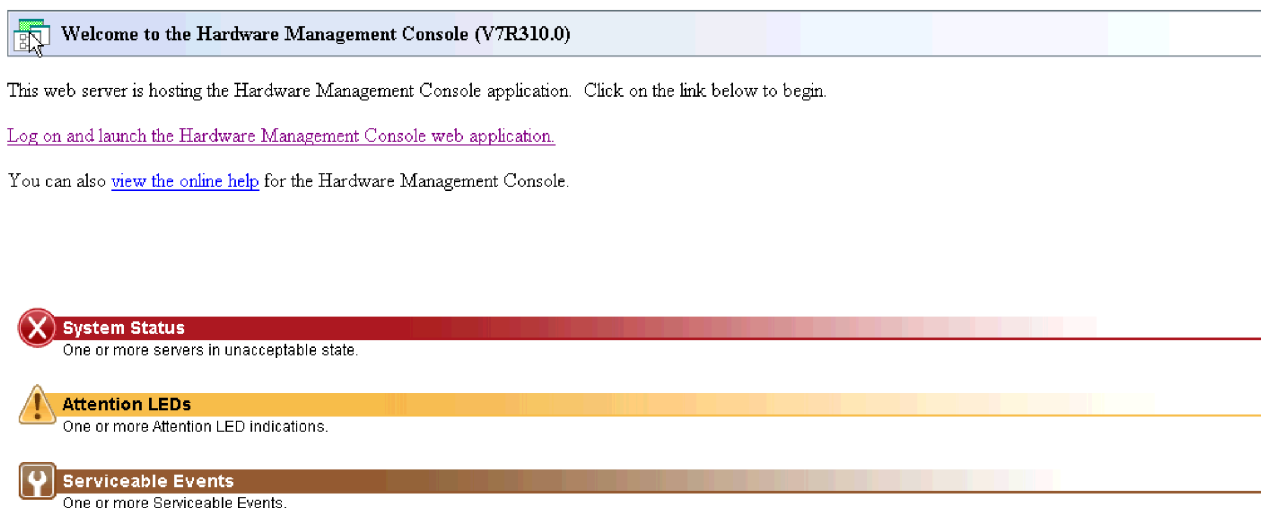



Figure 1. HMC pre-login window

To log in to the HMC, click **Log on and launch the Hardware Management Console web application.** from the pre-login window.

The Logon window is displayed as shown in Figure 2 on page 4.

 **Hardware Management Console (V7R310.0) Logon**

Please enter a userid and password below and click "Logon".

userid:

Password:

Figure 2. HMC login window

To log in, enter the user ID and password combination assigned to you. Then click **Logon**.

Note: If you previously disconnected from your session, the **Choose a Disconnected Session** window is displayed, select the session you want to reconnect to and click **Reconnect**.

After you log in, the HMC workplace window is displayed and, if enabled, the **Tip of the Day** window appears. For more information, see “Tip of the Day” on page 112.

The HMC workplace window allows you to work with tasks for your console and managed systems. Not all tasks are available for each user ID. The user role assigned to your user ID determines what tasks you are able to perform. For example, if you are assigned a user ID with the operator role, you will have access to all the tasks that have *operator* access. See Appendix A, “HMC tasks and user roles and IDs,” on page 129 for a listing of all tasks and the user roles for which the tasks are available.

If at any time you do not know or remember what user ID you are currently logged in to the HMC, look at the task bar on the top of the Welcome page or you can open the **HMC Management** node in the navigation pane, then select the **Manage Users and Tasks** task from the work pane (see “Manage Users and Tasks” on page 108 for more information).

What’s new in HMC Version 7.3.1

This section highlights some of the new features and functions on Version 7.3.1 Hardware Management Console and the POWER6 platform. For more information, click **HMC Readme** from the HMC workplace Welcome pane.

Interface features

The following new Interface features include:

Web-based user interface:

The HMC user interface (UI) has changed from a Java® Swing implementation to a standard HTML (Web browser) implementation. There no longer is a requirement to download a separate Web-Based System Manager client to remotely connect to the HMC. When the HMC has been enabled to accept remote connections, any supported Web browser (Internet Explorer 6.0 and later or Firefox 1.5.2.0 and later) can be used as the remote console.

The new UI also provides greater flexibility in how data is represented for managed systems and partitions through the sorting and filtering functions. In addition, custom groups can be created to provide essentially any structure over the managed objects (servers, frames, and partitions). For more information, see Chapter 2, “Using the Web-based user interface,” on page 19.

Status bar

This feature provides quick visual feedback of the overall system status, including serviceable events and System Attention indicators. For more information, see “Status bar” on page 37.

User task management

This task displays all of the users that are currently logged in to the HMC and which tasks they are running. A user with **hmcsuperadmin** privileges can cancel the running tasks of other users and can also log off other users from the system. For more information, see “Manage Users and Tasks” on page 108.

Disconnect/Logoff

This feature allows a user to either log off the HMC or disconnect temporarily. When a user chooses the logoff option, all of the currently running tasks for that user are terminated. However, if a user chooses the disconnect option all currently running tasks for that user continue to run without interruption. When that user logs back in to the HMC they can either return to that previously disconnected session or start a new session. For more information, see “Logoff or Disconnect” on page 105.

Test Network Connectivity

This task allows a user to view network diagnostic information for the HMC. The task provides an interface to ping other IP addresses or hostnames and view various network protocol settings. For example, the routing information for the HMC can be accessed using this task. For more information, see “Test Network Connectivity” on page 111.

Manage Data Replication

This task enables or disables customized data replication. Customized data includes the following HMC configuration settings: Customer information data, user defined custom group data, modem configuration data, and outbound connectivity data. For more information, see “Manage Data Replication” on page 106.

POWER6 specific functions

The following new POWER6 specific functions include:

Host Ethernet Adapters:

Host Ethernet Adapters (also referred to as Integrated Virtual Ethernet Adapters) are a new feature of the POWER6 platform. They allow multiple partitions to share a single physical Ethernet adapter. For more information, see “Host Ethernet Adapter (HEA)” on page 55.

Partition Availability Priority

Partition availability priority is used in the case of processor failure. If a processor fails on a logical partition, and there are no unassigned or spare processors available on the managed system, the logical partition is assigned a replacement processor from a logical partition with a lower partition-availability priority. For more information, see “Partition Availability Priority” on page 48.

Utility CoD for Processors

Utility CoD is essentially a replacement for the POWER5 Reserve CoD function. Utility CoD tracks processor usage on a processor-minute basis. Like Reserve CoD, Utility CoD provides additional processor capacity for uncapped partitions assigned to the shared pool. Utility CoD capacity is only charged when a partition exceeds its assigned maximum capacity. For more information, see “Utility Capacity on Demand” on page 64.

LPAR support for Barrier Synchronization Register (BSR)

The HMC will allow BSR assignment to LPAR types (such as AIX, Linux, VIOS, and i5/OS). The BSR attributes are displayed from the **Properties** task if the managed system is BSR capable. Use the **Properties** task for managed systems to set the capability. See “Properties” on page 41 for more information.

Dump facility enhancements

These enhancements reduce unplanned customer outages and improve platform serviceability, by eliminating unneeded and duplicate hardware data from platform system dump, and moving all formatting of dump data to the post-collection analysis phase. This can improve dump runtime

performance and releases FSP control storage to allow more problem-specific hardware data to be collected. See “Manage Dumps” on page 117 for more information.

Shared pool usage of dedicated capacity

This feature provides the ability for partitions that normally run as dedicated processors partitions to contribute unused processor capacity to the shared processor pool. You can use some of the capacity this is formerly locked up in dedicated processor partitions to satisfy peak needs for the shared processor pool without restoring to using utility on-demand processors. Use the **Properties** task for partitions to set the capability. See “Properties” on page 69 for more information.

Virtual Server model instrumentation

This feature provides a common interface for server system management. It is the first phase of work for the HMC to provide the standardized VS model as the common interface for third parties to manage the server system and their hardware resources.

Electronic Error Reporting

This feature allows automatic call-home for i5/OS partitions. Use the **Properties** task for partitions to enable the option to electronically report errors that cause partition termination or required attention. See “Properties” on page 69 for more information.

Partition processor compatibility mode

This features defines the compatibility of a partition with the given processor architecture (processor mode). Use the **Properties** task for partitions to set the capability. See “Properties” on page 69 for more information.

HMC Version 6 to HMC Version 7.3.1 task mappings

This information is used to aid HMC Version 6 users in locating the equivalent Web-based System Manager HMC task in the new Web-based HMC UI. Each navigation node in the WebSM UI is converted to a table that lists the location of the WebSM task on the left side and then indicating the new location for the task in the Web UI on the right side. Where possible, a non-targeted task has been moved (no object is selected to perform the task on) to a targeted task (a objected is selected first) to help make tasks readily available. These tasks are referred to as Targeted tasks and are denoted with a **T[S-System, P-Partition, H-HMC, U-Updates, SP-System Plan]**. If a target is not listed, then HMC is the assumed target.

Note: These tables list tasks from a WebSM perspective and mapping to the Web UI. New tasks for the POWER6 hardware functionality are not covered in this information.

Server and partition management

The tasks for managed system and partitions have been grouped into consistent categories for each of the object types. Instead of one long list of tasks when you select an object, there is categories of tasks to choose from. The major change in the overall Server and Partition management approach is that System Profiles and Partition Profiles are now viewed and worked with in their own separate tasks. They are no longer displayed in the container underneath a system or partition, respectively. The new task used to manage System Profiles is found by selecting a server then **Configuration > Manage System Profiles** and the new task used to manage Partition Profiles is found by selecting a partition then **Configuration > Manage Profiles**. Each of those two tasks allows you to view and work with the profiles created on the system and contain the same tasks as the WebSM UI had provided when either one of those object types were selected.

Table 3. Server management tasks

Task Name	Task Description	New location in HMC 7.3.1
Properties	Display and edit managed system properties	Properties
Reset or Remove Connection	Remove or reset the HMC connection to the managed system	Connections > Reset or Remove Connection

Table 3. Server management tasks (continued)

Task Name	Task Description	New location in HMC 7.3.1
Create		
Logical Partition	Create a logical partition	Configuration > Create Logical Partition
System Profile	Create a system profile	Configuration > Manage System Profiles > New
System Plan	Create a system plan	Configuration > System Plans > Create
Manage On Demand Activations (See “Manage on demand activations” on page 9)	See the section below	See “Manage on demand activations” on page 9
Adapters		
GX+	View the properties of the GX+ adapters installed	Removed for V7.3.1.0
Power On	Power on the managed system	Operations > Power On
Power Off	Power off the managed system	Operations > Power Off
Disconnect Another HMC	Removes another HMC’s lock on the managed system	Connections > Disconnect Another HMC
Profile Data		
Restore	Restore a profile data backup file	Configuration > Manage Profile Data > Restore
Initialize	Clear the LPAR and profile configuration on the managed system	Configuration > Manage Profile Data > Initialize
Backup	Back up the LPAR and profile configuration on the managed system	Configuration > Manage Profile Data > Backup
Remove	Remove a configuration backup file	Configuration > Manage Profile Data > Remove
Rebuild Managed System	Rebuild the HMC’s internal representation of the managed system	Operations > Rebuild
Recover Partition Data	Rebuild the HMC’s internal representation of the managed system	Recover Partition Data
Update Managed System Password	Update the HMC passwords for the managed system	Operations > Change Password
Workload Management Groups	View the workload management groups	Configuration > View Workload Management Groups
Status	Flexible Service Processor connection status	Connections > Service Processor Status
Add Managed System	Add another managed system to the HMC	Connections > Add Managed System

Table 4. Partition management tasks

Task Name	Task Description	New Location
Properties	View or edit the partition properties	Properties
Create Profile	Create a profile for the partition	Configuration > Manage Profiles > New
Add	Add physical adapters to the partition	Dynamic Logical Partitioning > Physical Adapters > Add
Dynamic Logical Partitioning		
Physical Adapter Resources:		

Table 4. Partition management tasks (continued)

Task Name	Task Description	New Location
Remove	Remove physical adapters from the partition	Dynamic Logical Partitioning > Physical Adapters > Move/Remove
Move	Move physical adapters to another partition	Dynamic Logical Partitioning > Physical Adapters > Move/Remove
Processor Resources:		
Add	Add processors to the partition	Dynamic Logical Partitioning > Processor > Add/Remove
Remove	Remove processors from the partition	Dynamic Logical Partitioning > Processor > Add/Remove
Move	Move processors from the partition	Dynamic Logical Partitioning > Processor > Move
Memory Resources:		
Add	Add memory to the partition	Dynamic Logical Partitioning > Memory > Add/Remove
Remove	Remove memory from the partition	Dynamic Logical Partitioning > Memory > Add/Remove
Move	Move memory from the partition	Dynamic Logical Partitioning > Memory > Move
Virtual I/O		
SCSI Adapters	View the virtual SCSI adapter's connections configured for the partition	Hardware (Information) > Virtual I/O Adapters > SCSI
Ethernet Adapters	View the virtual Ethernet adapter's connections configured for the partition	Hardware (Information) > Virtual I/O Adapters > Ethernet
Restart Partition	Restart the partition	Operations > Restart
Shutdown Partition	Shut down the partition	Operations > Shut Down
Save	Save the current LPAR configuration to a new profile	Configuration > Save Current Configuration
Activate	Activate the partition	Operations > Activate
Change Default Profile	Change the default profile for the partition	Change Default Profile
Virtual I/O Server Command	Issue a command to the Virtual I/O Server partition	Operations > Perform VIOS Command
Open Terminal Window	Open a virtual terminal to the partition	Console Window > Open Terminal Window
Open Shared 5250 Console	Open a shared 5250 console to the partition	Console Window > Open Shared 5250 Console
Open Dedicated 5250 Console	Open a dedicated 5250 console to the partition	Console Window > Open Dedicated 5250 Console
Close Terminal Window	Close the virtual terminal window connection to the partition	Console Window > Close Terminal Connection
Delete	Delete the partition	Operations > Delete

Task Name	Task Description	New Location
Profile Tasks		* All profile tasks are located in the Manage Profiles task, which is available when a partition is selected in the main UI.
Copy	Copy the profile	Configuration > Manage Profiles > Copy
Properties	View or edit the profile properties	Configuration > Manage Profiles > Edit
Delete	Delete the profile	Configuration > Manage Profiles > Delete
Activate	Activate the profile	Configuration > Manage Profiles > Activate

Task Name	Task Description	New Location
System Profile Tasks		* All profile tasks are located in the Manage System Profiles task, which is available when a managed system is selected in the main UI.
Validate	Validate the system profile configuration information	Configuration > Manage System Profiles > Validate
Copy	Copy the system profile	Configuration > Manage System Profiles > Copy
Properties	View or edit the system profile properties	Configuration > Manage System Profiles > Edit
Delete	Delete the system profile	Configuration > Manage System Profiles > Delete
Activate	Activate the system profile	Configuration > Manage System Profiles > Activate

Manage on demand activations

Manage On Demand Activations has more categorization of tasks and is located under **Capacity On Demand (CoD)**. The different CoD types are shown separately and placed in their own category. For instance, instead of having one task called “Capacity Settings” that contained all of the information for the different CoD types, now each type of CoD now has its own Capacity Settings task. This new categorization allows you to easily see all of the tasks that are associated with each CoD type.

Table 5. Manage on demand activations

Task Name	Task Description	New Location
Capacity On Demand		
Enter CoD Code	Enter a CoD code	Capacity On Demand > Enter CoD Code
Processor		
Capacity Settings	View overall system processor capacity settings	Capacity On Demand > Processor > View Capacity Settings
On/Off CoD	View On/Off CoD processor settings	Capacity On Demand > Processor > On/Off CoD > View Capacity Settings
Reserve CoD	View Reserve CoD processor settings	Capacity On Demand > Processor > Reserve CoD > View Capacity Settings

Table 5. Manage on demand activations (continued)

Task Name	Task Description	New Location
Trial CoD	View Trial CoD processor settings	Capacity On Demand > Processor > Trial CoD > View Capacity Settings
Manage On/Off CoD	Manage On/Off CoD processors	Capacity On Demand > Processor > On/Off CoD > Manage
Manage Reserve CoD	Manage Reserve CoD processors	Capacity On Demand > Processor > Reserve CoD > Manage
Stop Trial CoD	Stop Trial CoD processors	Capacity On Demand > Processor > Trial CoD > Stop
Shared Processor Utilization	View the shared processor utilization data for the system	Capacity On Demand > Processor > Reserve CoD > View Shared Processor Utilization
Memory		
Capacity Settings	View overall system memory capacity settings	Capacity On Demand > Memory > View Capacity Settings
On/Off CoD	View On/Off CoD memory settings	Capacity On Demand > Memory > On/Off CoD > View Capacity Settings
Trial CoD	View Trial CoD memory settings	Capacity On Demand > Memory > Trial CoD > View Capacity Settings
Manage On/Off CoD	Manage On/Off CoD memory	Capacity On Demand > Memory > On/Off CoD > Manage
Stop Trial CoD	Stop Trial CoD memory	Capacity On Demand > Memory > Trial CoD > Stop
Show History Log	Displays the CoD history log	Capacity On Demand > View History Log
Show Code Information	Displays the information used to generate CoD codes by CoD type	Capacity On Demand > Processor > CUoD > View Code Information Capacity On Demand > Processor > On/Off CoD > View Code Information Capacity On Demand > Processor > Trial CoD > View Code Information Capacity On Demand > Processor > Reserve CoD > View Code Information Capacity On Demand > Memory > CUoD > View Code Information Capacity On Demand > Memory > On/Off CoD > View Code Information Capacity On Demand > Memory > Trial CoD > View Code Information
Show Billing Information	Displays the billing information for On/Off CoD	Capacity On Demand > Processor > On/Off CoD > View Billing Information Capacity On Demand > Memory > On/Off CoD > View Billing Information

Task Name	Task Description	New Location
Virtualization Engine Technologies		Capacity On Demand > Advanced POWER Virtualization
Enter Activation Code	Copy the profile	Capacity On Demand > Advanced POWER Virtualization > Enter Activation Code Capacity On Demand > Enterprise Enablement > Enter Activation Code
Show Code Information	View or edit the profile properties	Capacity On Demand > Advanced POWER Virtualization > View Code Information Capacity On Demand > Enterprise Enablement > View Code Information
Show History Log	Delete the profile	Capacity On Demand > Advanced POWER Virtualization > View History Log Capacity On Demand > Enterprise Enablement > View History Log

Frame management

Frame Management has remained unchanged. Only a couple of the task names have changed and the tasks have been categorized not unlike the managed system and partition tasks.

Table 6. Frame management

Task Name	Task Description	New Location
Initiate Frames	Start all of the frames attached to the HMC	Operations > Initialize Frames
Properties	View or edit the frame properties	Properties
Rebuild Managed Frame	Rebuild the HMC's internal representation of the frame	Operations > Rebuild
Reset or Remove Connection	Reset the HMC connection to the managed frame	Operations > Reset Connection
Update Managed Frame Password	Update the HMC password for the managed frame	Operations > Change Password
I/O Unit	Power off the I/O units that are not currently owned by a Service Processor	Operations > Power Off I/O Units
Status	View the frame connection status	Operations > Bulk Power Assembly (BPA) Status

Utilization data management

The Utilization Data Management node has been removed, and the tasks are now targeted on a managed system basis. The utilization data tasks are located in the Operations category of your managed systems.

Table 7. Utilization data management

Task Name	Task Description	New Location
Change Settings for Utilization Data Collection	T[S] Enable or disable utilization data collection on the managed system	Operations > Utilization Data > Enable Operations > Utilization Data > Disable
View Utilization Data	T[S] View the utilization data information that has been collected	Operations > Utilization Data > View

System plans

System plan tasks have generally become targeted tasks. You can work with all of the system plans on the HMC in one view. Additional system plan tasks are available at the server level. For example, in the server container you can select a managed system and create a system plan by selecting the **Configuration > System Plans > Create** task.

The newly implemented System Plans container replaces the **Manage System Plans** task found in the WebSM System Plans container. You can now manage all of your system plans and perform actions on them from one view.

Table 8. System plans

Task Name	Task Description	New Location
Import System Plan	Import system plans from media or remote site	System Plans > Import System Plan
Deploy System Plan	T[S,SP] Deploy system plan to the system	System Plans > Deploy System Plan Servers > System Task - Configuration > System Plans > Deploy
Manage System Plans	Manage system plans (create, delete, import, export)	System Plans
Learn more about system planning	Information Center articles regarding system planning	Welcome Screen > Online Information > IBM System Support Welcome Screen > Online Information > Education and Tutorials

Licensed internal code maintenance

Licensed Internal Code Maintenance has been combined into one **Updates** node, which not only allows you to update the HMC with one click, but also all of the systems and frames being managed are seen along with their current code levels in one view. An **Update** task category has been created that will also allow you to perform code update tasks.

The Backup HMC Data, Save Upgrade Data, and Format Media tasks have been moved from the LIC categories into the **HMC Management** node. Also, you can view the entire HMC versioning information by clicking **HMC Version** at the top of the Service Management, HMC Management, and Welcome work panes.

Table 9. Licensed Internal Code Maintenance

Task Name	Task Description	New Location
HMC Code Update		

Table 9. Licensed Internal Code Maintenance (continued)

Task Name	Task Description	New Location
Backup Critical Console Data	Backup HMC console data	HMC Management > Backup HMC Data
Save Upgrade Data	Save HMC upgrade data information	HMC Management > Save Upgrade Data
Install Corrective Service	Install corrective service fix packs/updates	Updates > HMC Code Level > * Click Update HMC
Format Removable Media	Format removable media sources on the HMC (USB flash, diskette, etc)	HMC Management > Format Media
Remote Restore of Critical Console Data	Restore console data from a remote site	HMC Management > Restore HMC Data
Display HMC Version	Display complete HMC Version information such as serial number, bios level	Welcome Screen > HMC Version HMC Management > HMC Version Updates > HMC Code Level
Licensed Internal Code Updates		
Change Licensed Internal Code for the current release	T[S,U]Update the firmware code level on the managed system/frame	Updates > System Code Levels - Change Licensed Internal Code for the current release Servers > System Task – Updates > Change Licensed Internal Code for the current release
Flash Side Selection	T[S,U]Select flash side for update	Updates > System Code Levels > Flash Side Selection Servers > System Task – Updates > Flash Side Selection
Upgrade Licensed Internal Code to a new release	T[S,U]Upgrade to a new firmware code level	Updates > System Code Levels > Upgrade Licensed Internal Code to a new release Servers > System Task - Updates > Upgrade Licensed Internal Code to a new release
Check system readiness	T[S,U]Check the system readiness for code update/upgrade	Updates > System Code Levels > Check system readiness Servers > System Task – Updates > Check system readiness

HMC management

The Schedule Operations task has been altered to become a targeted task so that you can simply select a managed system or partition in the work area and start working with scheduled operations for that object.

Note: * System Task – indicates the task is available when a managed system is selected. * Partition Task – indicates the task is available when a partition is selected.

Table 10. HMC management

Task Name	Task Description	New Location
HMC Users		

Table 10. HMC management (continued)

Task Name	Task Description	New Location
Manage HMC Users and Access	Manage user and access	HMC Management > Manage User Profiles and Access
Manage Access Task Roles and Managed Resource Roles	Manage user roles	HMC Management > Manage Task and Resource Roles
Change User Password	Change password	HMC Management > Change User Password
HMC Configuration		
Customize HMC Date and Time	Set date, time, and time zone	HMC Management > Change Date and Time
View HMC Events	View console events	HMC Management > View HMC Events
Customize Network Settings	Configure network, firewall, DNS, and routes	HMC Management > Change Network Settings
Test Network Connectivity	Check that the network is configured	HMC Management > Test Network Connectivity
Schedule Operations	T[S,P,H] Configure scheduled operations	HMC Management > Schedule Operations * System Task – Operations > Schedule Operations *Partition Task – Operations > Schedule Operations
Enable or Disable Remote Command Execution	Allow Secure Socket Shell (SSH)	HMC Management > Remote Command Execution
Enable or Disable Remote Virtual Terminal	Allow virtual terminal	HMC Management > Remote Virtual Terminal
Change Current Language and Locale	Change language and locale	HMC Management > Change Language and Locale

Service applications

The Service Applications container has been renamed to **Service Management** and contains the majority of tasks that were found under the Service Applications nodes. The majority of tasks that are located in the Service Focal Point > Service Utilities dialogs have been moved to be targeted tasks located within the **Serviceability** task category for managed systems and partitions. You can select a managed system or partition, then select **Manage Serviceable Events** or select a system and perform a **Add FRU** task.

Note: * System Task – indicates the task is available when a managed system is selected. * Partition Task – indicates the task is available when a partition is selected.

Table 11. Service applications

Task Name	Task Description	New Location
Service Agent		
eService Registration	Registers system for use on the eService web site	Service Management > Manage eService Registration
Customer Notification	How the customer will be notified	Service Management > Manage Serviceable Event Notification
Transmit Service Information	Transmit HMC service information	Service Management > Transmit Service Information

Table 11. Service applications (continued)

Task Name	Task Description	New Location
Service Agent Connection Manager	Configure a connection manager for legacy SA clients	Service Management > Manage POWER4 Service Agent
Remote Support		
Customize Customer Information	Configure customer information	Service Management > Manage Customer Information
Customize Outbound Connectivity	Configure call-home settings	Service Management > Manage Outbound Connectivity
Customize Inbound Connectivity	Configure remote serve settings	Service Management > Manage Inbound Connectivity
Manage Remote Support Requests	View active RSF requests	Service Management > Manage Remote Support Requests
Manage Remote Connections	View active RCS requests	Service Management > Manage Remote Connections
Customer Service Settings	Configure service settings	Service Management > Manage Systems Call-Home
Service Focal Point		
Repair Serviceable Event	T[S,H,P] Repairs a problem. ** Manage and Repair have been combined into one task that is accessible from the System, Partition, and HMC level	Service Management > Mange Serviceable Events * Partition Task - Serviceability > Manage Serviceable Events * System Task - Serviceability > Manage Serviceable Events
Manage Serviceable Events	See Repair Service Event	
Install/Add/Remove Hardware		
Add Enclosure	T[S] Add Enclosure.	System Task - Serviceability > Hardware
Add FRU	T[S] Add FRU	System Task - Serviceability > Hardware
Remove Enclosure	T[S] Remove Enclosure.	System Task - Serviceability > Hardware
Remove FRU	T[S] Remove FRU	System Task - Serviceability > Hardware
Exchange Parts		
Replace Enclosure	T[S] Exchange Enclosure	System Task - Serviceability > Hardware
Replace FRU	T[S] Exchange FRU	System Task - Serviceability > Hardware
Service Utilities		
Create Serviceable Event	Creates a problem for the HMC	Service Management > Create Serviceable Event
Connection Monitoring	Configures connection errors to be sent to service agent	Service Management > Manage Connection Monitoring
Load Problems From XML	Load problems from a local XML file	Service Management > Load Serviceable Events

Table 11. Service applications (continued)

Task Name	Task Description	New Location
View Network Topology	Ping broadcasting to discover managed system, HMCs, etc.	HMC Management > View Network Topology
Create Serviceable Event	T[IS] Creates a problem for targeted system	System Task – Serviceability > Create Serviceable Event
Launch ASM Menu	T[IS] Launch browser to connect to ASM	System Task – Operations > Advanced System Management (ASM)
Manage Dumps	T[IS] Manage system dumps	System Task – Serviceability > Manage Dumps
Edit MTMS	T[IS] Modify MTMS	System Task – Serviceability > Edit MTMS
System Attention LED	T[IS] Turn System Attention LED on/off	System Task – Operations > LED Status
Identify LED processing	T[IS] Turn Identify LED on/off	System Task – Operations > LED Status
Lamp Test	T[IS] Blinks all LEDs on system	System Task – Operations > LED Status
Operator Panel Service Functions	T[IS] Mimics Op Panel functionality	System Task – Serviceability > Control Panel Functions
Power On/Off Unit	T[IS] Power system off/on	System Task – Serviceability > Hardware
View RIO Topology	T[IS] View the RIO cable connections	System Task – Hardware > View Topology
Service Processor Failover	T[IS] Configure FSP failover	System Task – Serviceability > FSP Failover
Collect VPD Information	T[IS] Collect VPD Information	System Task – Serviceability > Collect VPD

DLPAR changes

The following dynamic LPAR changes include:

Memory and Processors

The DLPAR operations have changed slightly in this version of the HMC. An overall change is that the Add and Remove operations for memory and processor resources have been combined into one task. For example, when you want to change the amount of memory that is assigned to the partition, you open the **Add/Remove memory** task and enter in the amount of memory you want to have assigned to the LPAR. When you want to move resources from one partition to the other, there is a separate task to facilitate that function, which is similar to the WebSM move operation.

Physical I/O

Physical I/O resources have combined the move and remove operation into one task so that you can optionally move the I/O resource that you are trying to remove to another partition.

Maybe DLPAR for AIX or Linux partitions without an RMC connection

Older HMC version supported DLPAR operations between two AIX or Linux partitions. These partitions did not have RMC connections. This function has been removed from the UI because these types of operations require multiple steps. You can still remove or add resources to a partition that does not have an RMC connection. However you will not be able to move resources between two AIX or Linux partitions that do not have active RMC connections.

The task will now display an indicator within the dialog for AIX and Linux partitions that alerts you that an RMC connection is missing. If you would still like to move resources between two AIX or Linux partitions that do not have RMC connections the command line **chhwres** command can still be used to facilitate the move operation.

Chapter 2. Using the Web-based user interface

This chapter explains how to use the web-based user interface to perform tasks on the Hardware Management Console (HMC) or on your managed resources. This user interface comprises several major components as shown in Figure 3 on page 20: the banner, the task bar, the navigation pane, the work pane, and the status bar.

The *banner*, across the top of the workplace window, identifies the product and logo. It is optionally displayed. Use the **Change User Interface Settings** task to change the setting.

The *task bar*, located below the banner, displays the names of any tasks that are running, the user ID you are logged in as, online help information, and the ability to logoff or disconnect from the console.

The *navigation pane*, in the left portion of the window, contains the primary navigation links for managing your system resources and the HMC. The items are referred to as nodes.

The *work pane*, in the right portion of the window, displays information based on the current selection from the navigation pane. For example, when **Welcome** is selected in the navigation pane, the Welcome window content is displayed in the work pane, as shown in Figure 3 on page 20.

The *status bar*, in the bottom left portion of the window, provides visual indicators of current overall system status. It also contains a status overview icon which may be selected to display more detailed status information in the work pane.

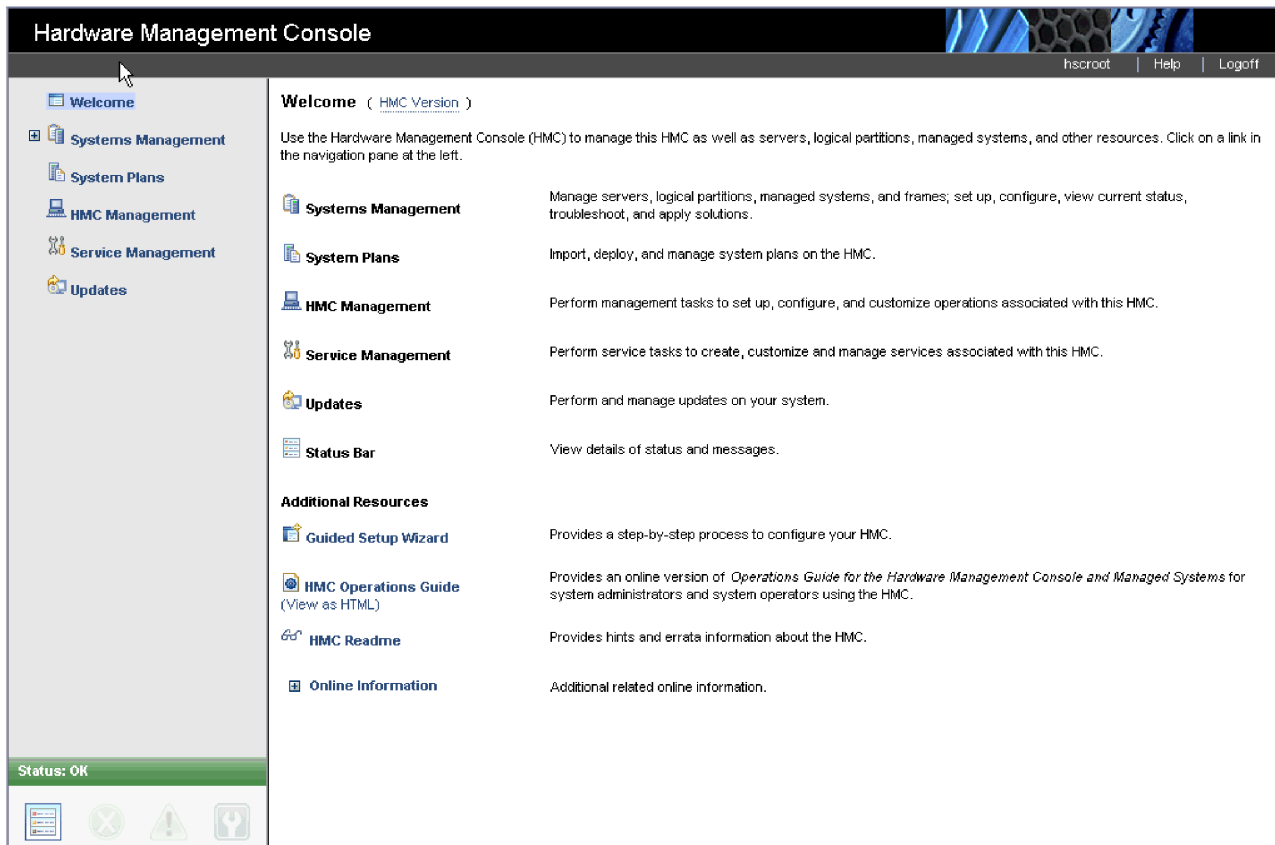


Figure 3. Web-based user interface HMC workplace window

You can resize the panes of the HMC workplace by moving the mouse pointer over the border that separates the navigation pane from the work pane until the mouse pointer changes to a double-pointed arrow. When the pointer changes shape, press and hold the left mouse button while dragging the mouse pointer to the left or right. Release the button and your navigation pane or work pane is now larger or smaller in size. You can also do this within the work pane border that separates the resources table from the tasks pad.

Task bar

The Task bar contains the Help and Logoff tasks and a button that represents each currently running task.

Navigation pane

The Navigation pane contains the primary links for managing your system resources and the HMC. These include Systems Management, System Plans, HMC Management, and Service Management.

Systems Management

Systems Management contains a view of system resources such as servers, frames, and Custom groups. Custom groups include the predefined groups 'All Partitions', 'All Objects', and any user-defined groups.

System Plans

System Plans contains plans to deploy and manage the HMC on a managed system.

HMC Management

HMC Management contains categorized HMC management tasks. Related tasks are categorized alphabetically by links including HMC and user customization, console tasks, connectivity, and settings.

Service Management

Service Management contains a categorized or alphabetic view of tasks and their descriptions used to service the Hardware Management Console.

Updates

Updates provides a way for you to access information on both HMC and system firmware code levels at the same time without running a task.

Welcome



Welcome is the initial window that is displayed when you log on to the HMC. The Welcome work pane lists the nodes of the navigation pane and their descriptions. It also includes the following **Additional Resources**:

Guided Setup Wizard

Provides a step-by-step process to configure your HMC.

HMC Operations Guide

Provides an online version of the *Operations Guide for the Hardware Management Console and Managed Systems* for system administrators and system operators using the HMC

If you are accessing the HMC remotely, you can view the publication in PDF format or in HTML format (click **View as HTML**). If you are accessing the HMC locally, you can view the publication in HTML format.

HMC Readme

Provides hints and errata information about the HMC.

Online Information

Provides information about the HMC.

Note: The following information is only available when you are accessing the HMC remotely.

IBM System Support

supplies support and technical information for IBM Systems

HMC Support

supplies support and technical information for the HMC

Education and Tutorials

supplies course materials for training and updating HMC skills

To see what level of the HMC you are currently working with, point your mouse over **HMC Version** found at the top of the work pane.

Systems Management

Systems Management contains a tree view of managed resources. Resources may include Servers, Frames, and Custom Groups.

Servers

The **Servers** node represents the servers that are managed by this HMC. To add servers, you can use the **Add Managed System** task under the **Connections** category in the tasks pad.

When you click **Servers** from the navigation pane a listing of individually defined servers is displayed in table form in the work pane, and under the **Servers** node in the navigation pane, as shown in Figure 4.

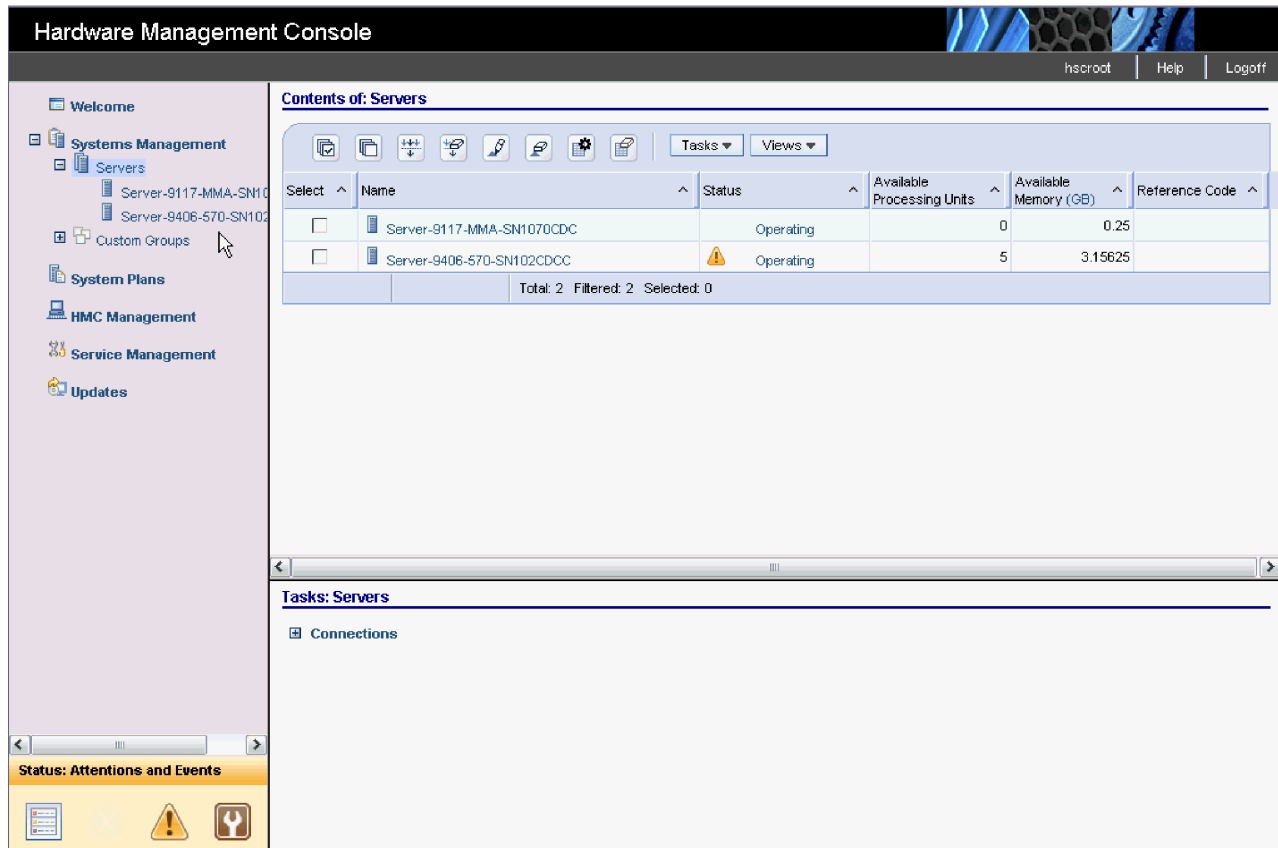


Figure 4. Systems Management servers window

Selecting a server: To work with a server, you can perform one of the following actions:

- Select a server under the **Servers** node from the navigation pane.
- Click on a server name from the work pane table.
- Click in the **Select** column next to the server name in the work pane table.

The Servers work pane table displays the following attributes by default.

Name Specifies the user-defined name of the managed system.

Status Displays the current status of the managed system (for example, Operating, Power off, Initializing) and, in addition, displays icons representing an unacceptable state or an active Attention LED. See “Status: Unacceptable” on page 37 or “Status: Attention LEDs” on page 38 for more information.

Available Processing Units

Displays the number of processing units that are available for assignment to logical partitions on the managed system. This is the total number of processing units that are activated on the managed system minus the number of processing units that are assigned to the logical partitions,

including the logical partitions that are shut down, on the managed system. This number does not include any processing units that have not yet been activated with Capacity on Demand (CoD).

Available Memory

Displays the amount of memory that is available for assignment to logical partitions on the managed system. This is the total amount of memory that is activated on the managed system minus the amount of memory needed by managed system firmware minus the amount of memory that is assigned to the logical partitions, including the logical partitions that are shut down, on the managed system. This number does not include any memory that has not yet been activated with Capacity on Demand (CoD). The available memory amount can be shown in MB or GB. Click **MB** or **GB** in the Available Memory column title.

Reference Code

Displays the system reference codes for the server. Click the reference code in the table for a detailed description.

The Servers work pane table can also display the following optional attributes in the table.

Configurable Processing Units

Displays the configured processing units. Configured - Licensed and usable (not guarded) processing units.

Configurable Memory

Displays the configured memory. Configured - Licensed and usable (not guarded) memory.

Serial Number

Displays the serial number of the managed system.

Type-Model

Displays the type and model number of the managed system (for example, 9117-MMA).

CoD Processor Capable

Displays whether the managed system supports Capacity on Demand (CoD) for processors.

CoD Memory Capable

Displays whether the managed system supports CoD for memory.

Permanent Processors

Specifies the number of permanent licensed processors.

On/Off CoD Processors State

Displays the On/Off CoD processor state.

Trial CoD Processor State

Displays the Trial CoD processor state.

Reserved CoD Processor State

Displays the Reserved CoD processor state.

Utility CoD Processor State

Displays the Utility CoD processor state.

Permanent Memory (GB)

Displays the amount of permanent activated memory.

On/Off CoD Memory State

Displays the On/Off CoD memory state.

Trial CoD Memory State

Displays the Trial CoD memory state.

To show optional attributes, select the **Column configuration** icon on the table toolbar. This function allows you to select additional attributes that you want displayed as columns in the table. It also allows you to reorder the columns, see “Column configuration” on page 35 for more information.

You can also use **Views** from the table toolbar to display the **Default** server attributes in the table or to display the **Capacity On Demand** server attributes in the table. See Figure 5 for a sample of using the Capacity On Demand view and “Views menu” on page 35 for more information.

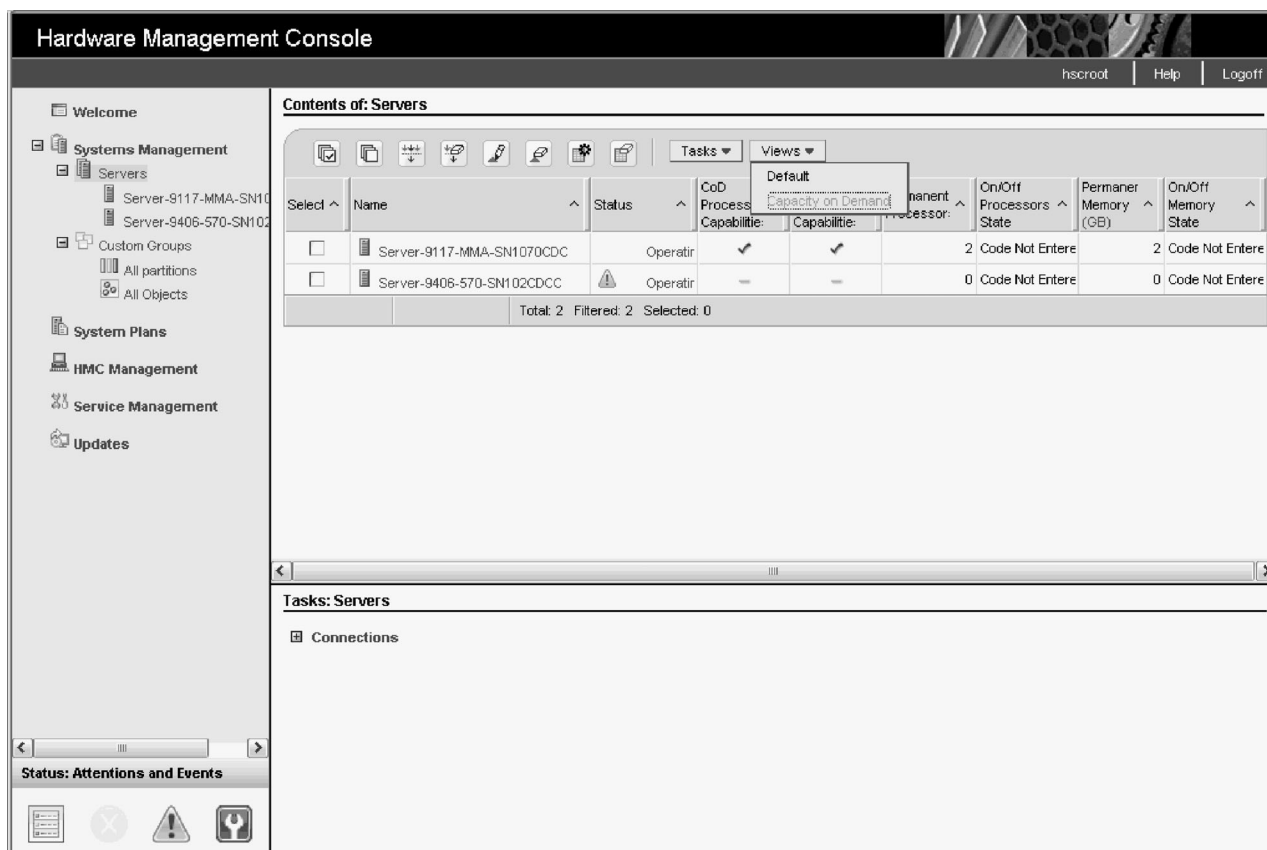


Figure 5. Capacity On Demand attributes

Displaying server details: To display details (properties) about a server, you can select the server by clicking in the **Select** column in the work pane table. Then you can either click **Properties** from the tasks pad or click on the double-arrow icon next to the server name and click **Properties** from the context menu. In both cases, the **Properties** window is displayed.

Launching tasks for managed objects: After you have chosen the objects to work with, you are ready to perform the appropriate tasks on them. The tasks that the objects can perform include the following task groups. Task groups are categorization nodes and are not tasks themselves.

- “Operations” on page 42
- “Configuration” on page 47
- “Connections” on page 51
- “Hardware (Information)” on page 54
- “Dynamic Logical Partitioning” on page 75
- “Updates” on page 56
- “Serviceability” on page 56
- “Capacity on Demand” on page 61

You can select a task from these task groups in a variety of ways. Some of these categories may also include sub categories. For more information see “Tasks pad.” Appropriate tasks for a selected object are listed in the tasks pad, in context menus, and in the **Tasks** menu.

Note: If a particular task cannot be performed on an object, the task will not display.

Tasks pad:

The Tasks pad appears below the Work pane when you have selected an object you want to work with. This view contains available tasks for selected managed object(s).

The tasks contained in this view meet the following characteristics:

- Tasks are available for the currently selected target object(s) in the Navigation pane tree or the Work pane table view. If multiple objects are selected in the Work pane table, the intersection of the selected objects’ tasks is displayed. If there are no selections in the table, tasks are displayed for the object selected in the Navigation pane.
- Tasks available are limited by the role of the currently logged in user

The Tasks pad is optionally displayed and is set by using the Change User Interface Settings task.

The following is an example of using the Tasks pad method:

1. In the Work pane table, select a server.
2. In the Tasks pad, select a task group by clicking on the expand button or clicking on the group name.
3. Select a task that appears under the task group that you want to perform on that server. The task window opens.

Context Menu:

The **Context menu** lists the task groups appropriate for the selected object. Context menus are available only for table selections. For example, in the **Select** column of the Servers Work pane table, select the object you want to work with. The Context menu button (double right arrows) appears next to the object name you have selected. Click the button and the task groups menu appears for that particular object, as shown in Figure 6 on page 26. Then select a task. If more than one object is selected, the tasks that appear in the Context menu(s) apply to all selections.

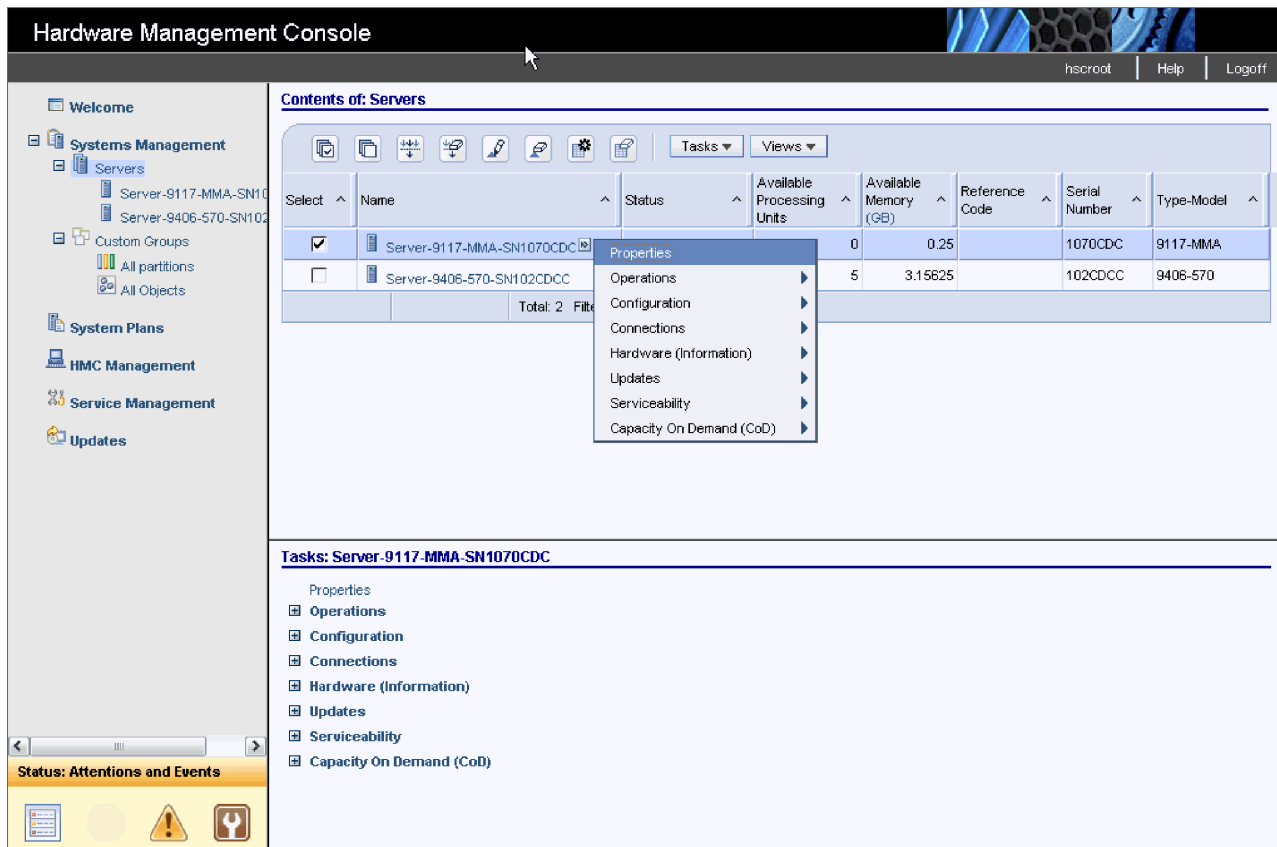


Figure 6. Context menu

Tasks menu:

The **tasks menu** is displayed on the table toolbar, as shown in Figure 7 on page 27. The tasks menu is available only for table selections. For example, in the **Select** column of the Servers work pane table, select the object you want to work with. Click **Tasks** for the list of the applicable task groups for the selected objects in the table. Select a task group, then select a task to open for the object. If more than one object is selected, the tasks that are displayed in the tasks menu apply to all selections.

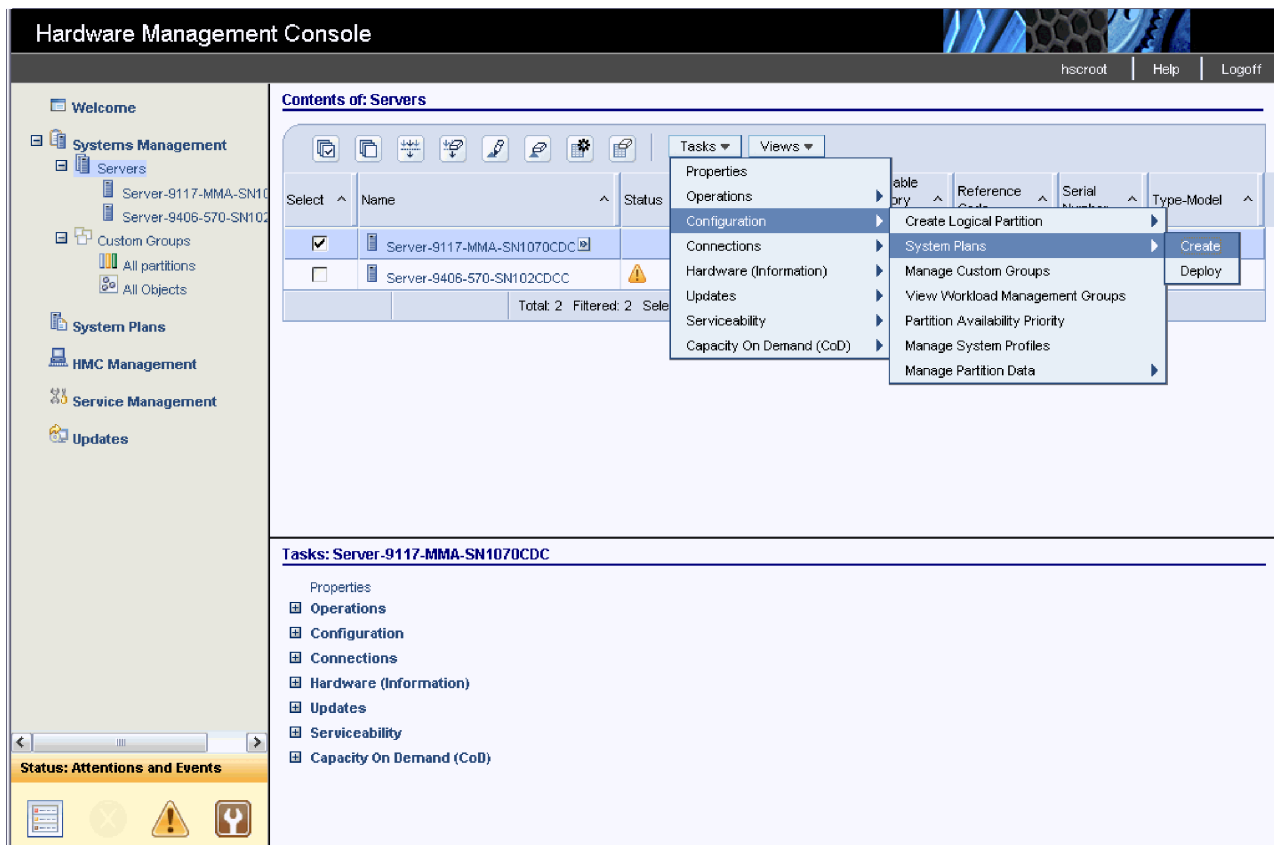


Figure 7. Tasks menu

Partitions: When you select a managed server in the navigation pane, the work pane displays the list of partitions defined on the server as shown in Figure 8 on page 28.

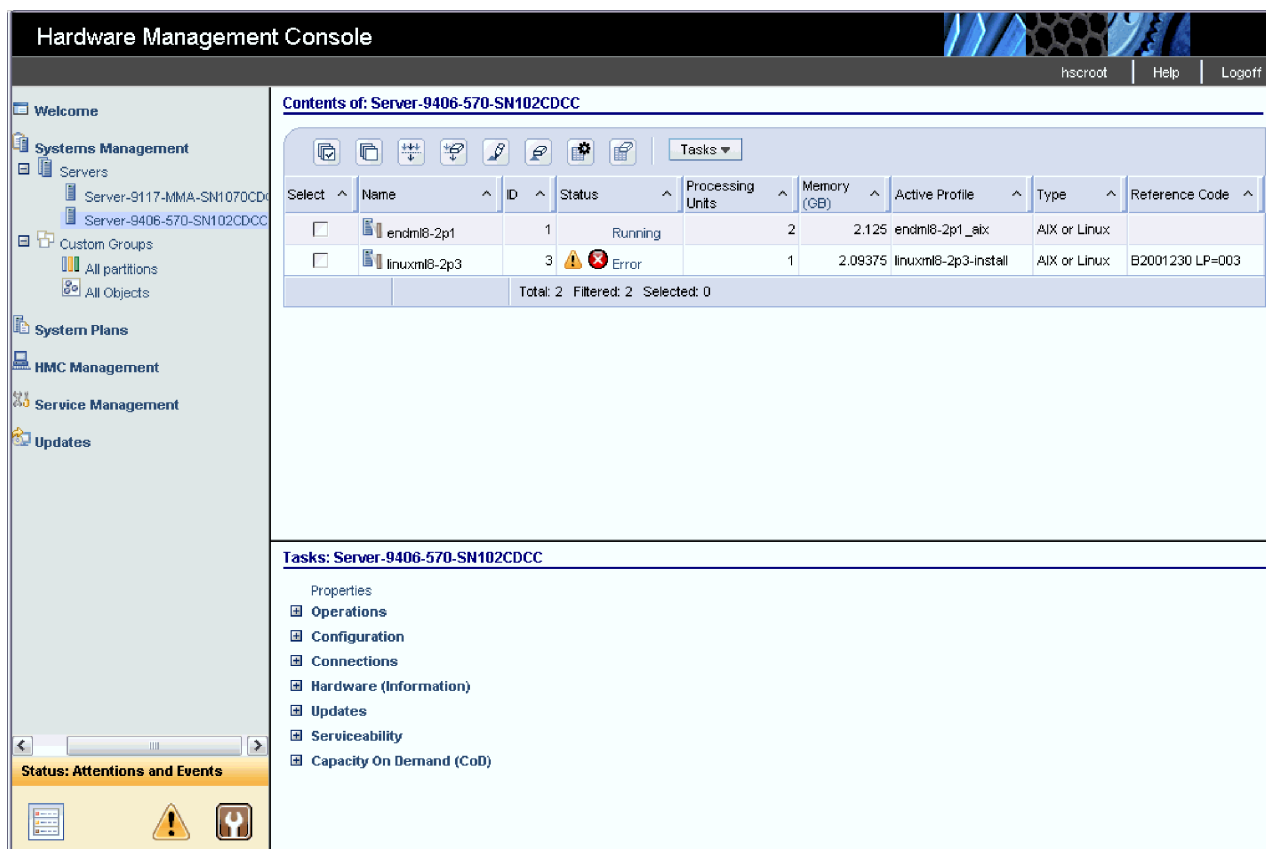


Figure 8. Partitions work pane

The Partitions work pane table displays the following attributes by default.

Name Specifies the user-defined name of the logical partition.

ID Specifies the ID of the partition

Status Displays the current status of the partition (for example, running, not activated) and, in addition, displays icons representing an unacceptable state or active Attention LED. See “Status: Unacceptable” on page 37 or “Status: Attention LEDs” on page 38 for more information.

Processing Units

Displays the unit of measure for shared processing power across one or more virtual processors. Processing power can be specified in fractions of a processor.

Memory

Specifies the amount of memory allocated to the partition currently. The memory amount can be shown in MB or GB. Click **MB** or **GB** in the Memory column title.

Active Profile

Specifies the profile that was used to activate the partition last.

Environment

Specifies the type of object, logical partition, server, frame (for example, i5/OS, AIX/Linux, Virtual I/O Server).

Reference Code

Displays the system reference codes for the partition. For POWER6 systems, click the reference code in the table for a detailed description.

The Partitions work pane table can also display the following optional attributes in the table.

Processor

If the partition is using dedicated processors, this value indicates the number of processors currently allocated to the partition. If the partition is using shared processors, this value represents the virtual processors currently allocated to the partition.

Service Partition

Specifies whether the partition has service authority.

Configured

Specifies whether a partition is configured with all the required resources to power on.

Default Profile

Specifies the profile that is configured as the default profile. When users perform the **Activate** task from the partition, this profile is selected by default.

Optional attributes can be displayed when you select the **Column configuration** icon on the table toolbar. This function allows you to select additional attributes that you want displayed as columns in the table. It also allows you to reorder the columns, see “Column configuration” on page 35 for more information.

Displaying partition details: To display details (properties) about a partition you can select the partition by clicking in the **Select** column in the work pane table. Then you can either, click **Properties** from the tasks pad or click on the double-arrow icon next to the partition name and click **Properties** from the context menu. You can also click on the partition name. In all cases the **Properties** window is displayed.

Frames

The **Frames** node identifies the frames managed by this HMC.

Note: Frames typically have dual Bulk Power Controllers (BPCs), however only one BPC is displayed as both BPCs share the same machine type, model, and serial number and function as redundant peers.

The Frames work pane table includes the following attributes.

Name Displays the defined name of the Frame.

Status Displays the status of the frame object. A frame is in an unacceptable state when it is in **No Connection** or **Incomplete** state. When either of these conditions occurs, a red X is displayed in the status cells next to the status text which identifies the state. Clicking on either the X or the status text opens information describing the unacceptable state and potential remedies.

Frame Number

Displays the number of the managed frame. You can modify the number.

Connection Status

Displays connection status of the frame (side A and B).

Custom Groups

The **Custom Groups** node provides a mechanism for you to group system resources together in a single view. In addition, groups may be nested to create custom “topologies” of system resources.

Custom groups include the predefined groups **All Partitions** and **All Objects** and any user-defined groups that you created using the **Manage Custom Groups** task under the **Configuration** category in the tasks pad. The **All Partitions** group includes all the partitions defined to all servers managed by the HMC. The **All Objects** group is a collection of all the managed servers, partitions, and frames.

These system-defined groups (All Partitions and All Objects) cannot be deleted. However, if you do not want **All Partitions** or **All Objects** displayed under **Custom Groups**, do the following:

1. Open the **Change User Interface Settings** task from the HMC Management work pane.
2. Deselect **All Partitions node** and **All Objects node** in the **User Interface Settings** window.

3. Click **OK** to save the changes and close the window. Those groups are no longer displayed under **Custom Groups** in the navigation pane.

You can use the **Views** menu on the table toolbar to display your preferred table column configuration, see “Views menu” on page 35 for more information.

User-defined groups:

You can use the **Manage Custom Groups** task under the Configuration category from the tasks pad to create your own group that you want to work with. This task allows you to create new groups and manage existing ones. To create a group:

1. Select one or more resources (for example: servers, partitions, frames) that you want to include in the group you want to work with.
2. Open the **Manage Custom Groups** task.
3. From the **Manage Groups** window, select **Create a new group**, specify a group name and description, click **OK** to complete. The new user-defined group is displayed in the navigation pane under the **Custom Groups** node.

You can also create a group by using the pattern match method:

1. Without selecting an object you can open the **Manage Custom Groups** task from the Custom Groups or Systems Management tasks pad.
2. From the **Create Pattern Match Group** window, select one or more group types that you want to create, specify a group name, description, and the pattern used to determine if an object should be part of the group, click **OK** to complete. The new user-defined group is displayed in the navigation pane under the **Custom Groups** node.

Note: Patterns specified in the **Managed Resource Pattern** input field are regular expressions. For example, if you specified **abc.***, all the resources that begin with **abc** will be included in that group.

See “Manage Custom Groups” on page 48 for more information.

System Plans



System Plans displays the plans and the tasks to deploy system plans to managed systems. A *system plan* contains a specification of the logical partition configuration of a single managed system. You can also use this node to import, export, and manage the files containing these system plans.

To display the plans and tasks:

1. Select the **System Plans** node in the navigation pane.
2. From the work pane, select a plan you want to work with by clicking in the **Select** column.
3. From the tasks pad, click one of the following tasks:
 - Create System Plan
 - Deploy System Plan
 - Export System Plan
 - Import System Plan
 - Remove System Plan
 - View System Plan

These tasks are described in further detail in “System Plans” on page 47. The table in the work pane displays the system plans that the HMC manages and attributes related to the system plans.

The following attributes are set as the defaults. However, you can select or deselect the attributes that you want displayed in the table by clicking the **Column configuration** icon on the table toolbar. You can also reorder the columns, see “Column configuration” on page 35 for more information.

Name Displays the system plan file name.

Description

Specifies a description of the system plan.

Source

Displays how the system plan was created.

Version

Displays version information about the system plan.

Last Modified Date

Specifies the date when the system plan was last modified.

The create and deploy System Plans tasks are also displayed for a server under the **Configuration** task group.

If there are no system plans available when you select the **System Plans** node, you can create or import a plan from the tasks listed in the tasks pad as shown in Figure 9.

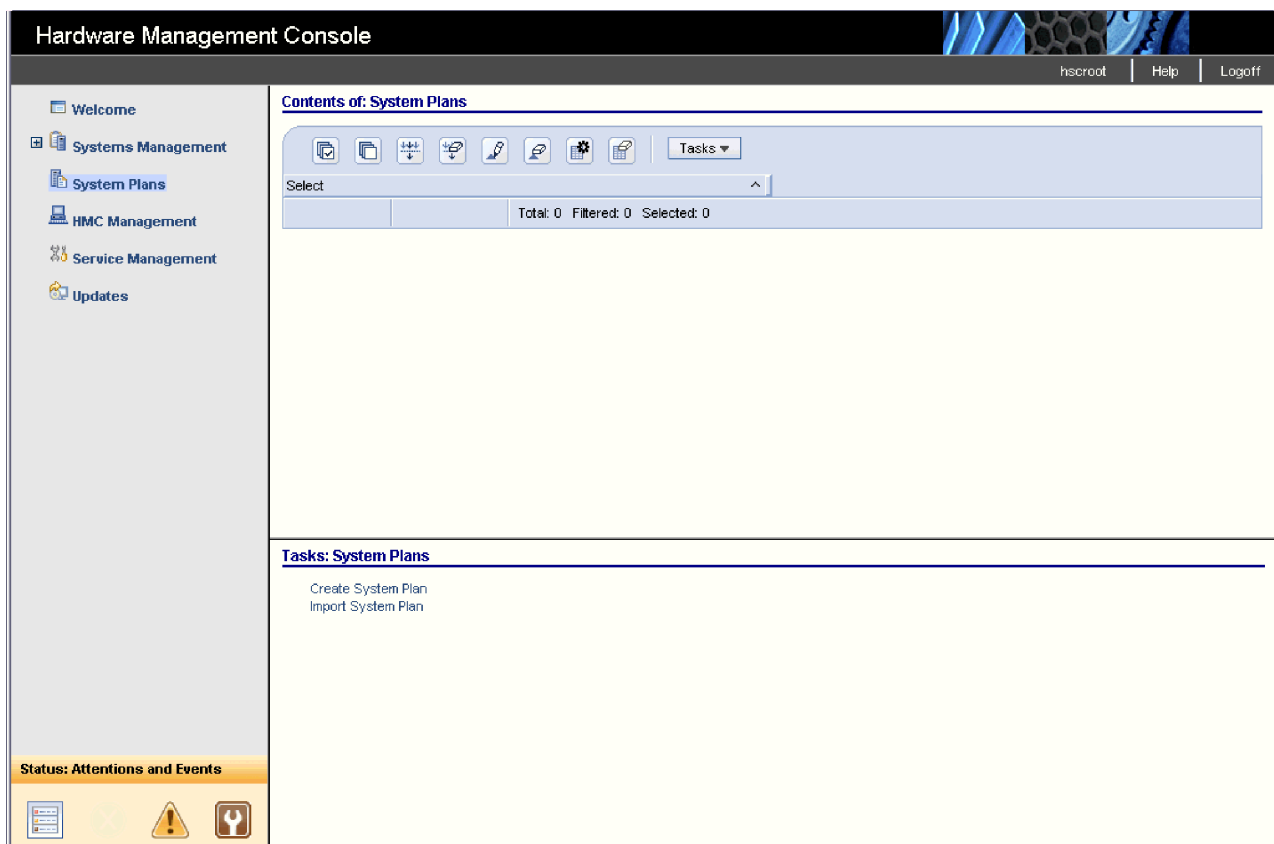


Figure 9. System Plans

HMC Management



HMC Management contains a categorized or alphabetic view of HMC management tasks and their descriptions. These tasks are used for setting up the HMC, maintaining its internal code, and securing the HMC.

To display the tasks in the work pane:

1. Select the **HMC Management** node in the navigation pane.
2. From the work pane, click on the task you want to perform.
3. By default, a categorized listing of the tasks is displayed. The categories include:
 - Operations
 - Administration

To see what level of the HMC you are currently working with, point your mouse over **HMC Version** found at the top of the work pane.

If you want an alphabetic listing of the tasks, click **Alphabetical List** in the upper right corner of the work pane. Click **Categorized List** to go back to the task categories.

Note: If you are accessing the HMC remotely, some tasks do not display.

The following alphabetic list of HMC Management tasks are displayed in the work pane depending on the task roles defined to your user ID. They are described in further detail in Chapter 7, “HMC Management tasks,” on page 93 and a listing of the tasks and the default user roles that can use them are shown in Table 12 on page 129.

- “Back up HMC Data” on page 93
- “Change Date and Time” on page 93
- “Change Language and Locale” on page 94
- “Change Network Settings” on page 94
- “Change User Interface Settings” on page 95
- “Change User Password” on page 96
- “Create Welcome Text” on page 96
- “Format Media” on page 96
- “Launch Guided Setup Wizard” on page 104
- “Launch Remote Hardware Management Console” on page 104
- “Lock HMC Screen” on page 104
- “Manage Certificates” on page 105
- “Manage Data Replication” on page 106
- “Manage Task and Resource Roles” on page 106
- “Manage User Profiles and Access” on page 107
- “Manage Users and Tasks” on page 108
- “Open 5250 Console” on page 108
- “Open Restricted Shell Terminal” on page 109
- “Remote Command Execution” on page 109
- “Remote Operation” on page 109
- “Remote Virtual Terminal” on page 109
- “Restore HMC Data” on page 109
- “Save Upgrade Data” on page 110
- “Schedule Operations” on page 110
- “Shut Down or Restart” on page 111
- “Test Network Connectivity” on page 111
- “Tip of the Day” on page 112
- “View HMC Events” on page 112
- “View Licenses” on page 113
- “View Network Topology” on page 113

Service Management



Service Management contains a categorized or alphabetic view of tasks and their descriptions used to service the HMC.

To display the tasks in the work pane:

1. Select the **Service Management** node in the navigation pane.
2. From the work pane, click on the task you want to perform.
3. By default, a categorized listing of the tasks appear. The category is Connectivity.

To see what level of the HMC you are currently working with, point your mouse over **HMC Version** found at the top of the work pane.

If you want an alphabetical listing of the tasks, click **Alphabetical List** in the upper right corner of the work pane. Click **Categorized List** to go back to the task categories.

The following alphabetic list of Service Management tasks are represented in the work pane depending on the task roles defined to your user ID. They are described in further detail in Chapter 8, “Service Management tasks,” on page 115 and a listing of the tasks and the default user roles that can use them are shown in Table 12 on page 129.

- “Create Serviceable Event” on page 115
- “Format Media” on page 96
- “Load Serviceable Events” on page 116
- “Manage Connection Monitoring” on page 116
- “Manage Customer Information” on page 116
- “Manage Dumps” on page 117
- “Manage eService Registration” on page 117
- “Manage Inbound Connectivity” on page 118
- “Manage Outbound Connectivity” on page 118
- “Manage POWER4 Service Agent” on page 119
- “Manage Remote Connections” on page 119
- “Manage Remote Support Requests” on page 119
- “Manage Serviceable Event Notification” on page 120
- “Manage Serviceable Events” on page 120
- “Manage Systems Call-Home” on page 120
- “Transmit Service Information” on page 121

Updates



Updates provides a way for you to access information on both HMC and system firmware code levels at the same time without running a task. The Updates work pane displays the HMC code level, and system code levels. It also allows you to install corrective service by clicking **Update HMC**.

Note: Before performing HMC updates, see “Update HMC” on page 123.

To display the tasks:

1. Select the **Updates** node in the navigation pane.
2. Select a managed object to apply updates on.
3. From the tasks pad, click on the task you want to perform.
4. The tasks pad provides the following tasks required to install corrective service:
 - “Change Licensed Internal Code for the current release” on page 125
 - “Upgrade Licensed Internal Code to a new release” on page 126
 - “Flash Side Selection” on page 127

- “Check system readiness” on page 127
- “View system information” on page 127

See Figure 10 for an example of the Updates work pane and tasks pad. The Updates tasks can also be displayed under the **Updates** task group when you are working with managed objects from the **Systems Management** node of the navigation pane.

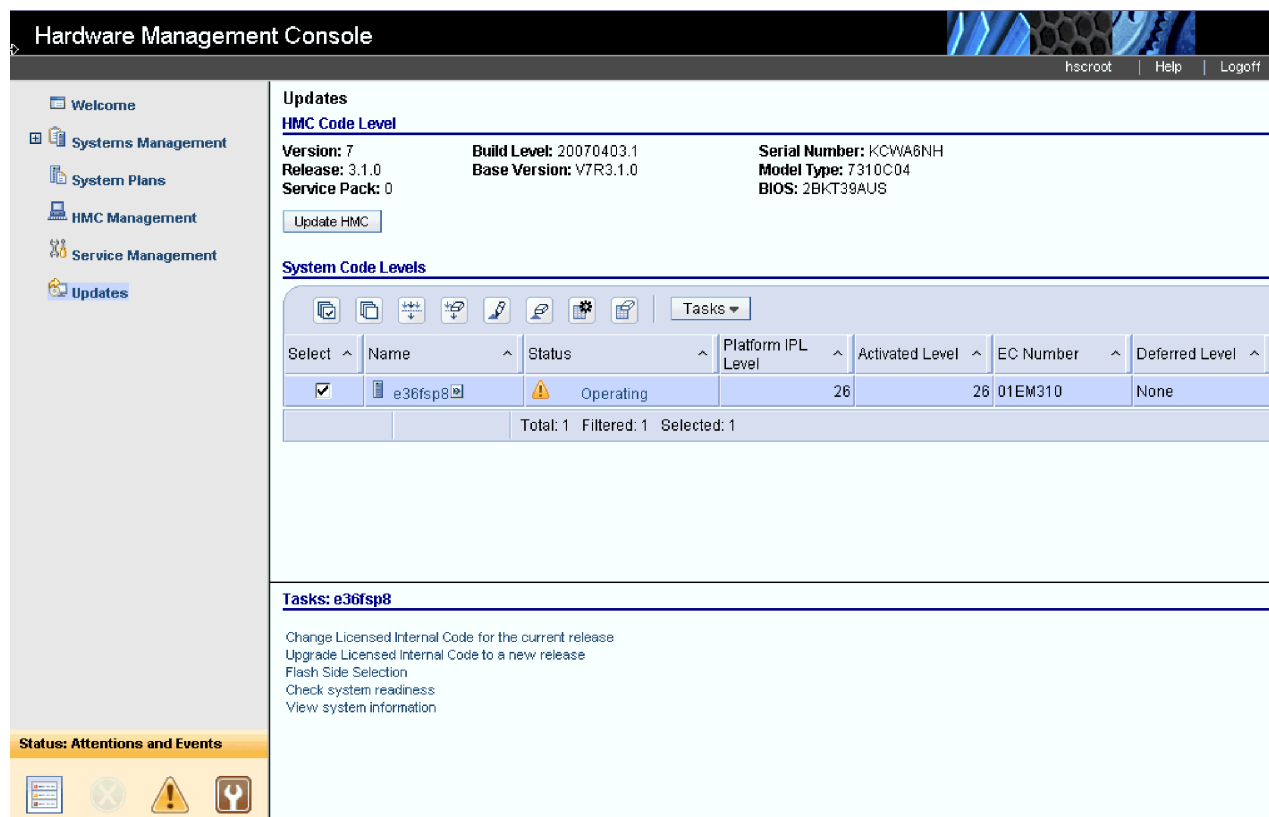


Figure 10. Updates

Work pane

The Work pane displays information based on the current selection in the Navigation pane or Status bar. For example, when you click an individual server, the Navigation pane displays a configurable table in the Work pane that displays a list of all the managed systems on that server.

Task pad

Selecting a task can be done in a number of ways. Tasks for selected objects are listed in the Work pane, Tasks pad, context menus, and in the Tasks drop-down menu on the table toolbar. When context sensitive tasks are listed at the bottom of the Work pane in the Tasks pad, only tasks applicable for selected objects are displayed.

Working with Tables

The tool bar at the top of the table contains buttons used to select, filter, sort, and arrange the entries in the table. Hovering over the toolbar buttons displays their functions. The toolbar also includes menus that are used with the information displayed in the tables. See “Tasks menu” on page 26 and “Views menu” on page 35 for more information.

Selecting Rows



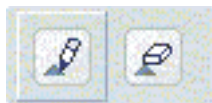
You can select more than one table row at any given time. Rows can be individually selected or a block of rows can be selected at once by first left-clicking the selection box of the first row in the desired block and then shift-clicking the selection box of the last row in the desired block. The **Select All** or **Deselect All** buttons can be used to select or deselect all objects in the table. The table summary at the bottom of the table includes the total number of items that are selected.

Filtering



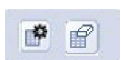
If you select the **Filter Row** button a row appears under the title row of the table. Select **Filter** under a column to define a filter for that column to limit the entries in a table. Tables can be filtered to show only those entries most important to you. The filtered view can be toggled on and off by selecting the check box next to the desired filter in the filter row. Select the **Clear All Filters** button to return to the complete listing. The table summary includes the total number of items that pass the filter criteria in addition to the total number of items.

Sorting



The **Edit Sort** and **Clear All Sorts** buttons are used to perform multi-column sorts of objects in the table in ascending or descending order. Click **Edit Sort** to define sorts for columns in a table. Alternatively, single column sorting can be performed by selecting the ^ in the column header to change from ascending to descending order. Click **Clear All Sorts** to return to the default ordering.

Column configuration



The column configuration buttons give you the ability to select which columns to display for folders in the Systems Management tree view. Click the **Configure Columns** button to arrange the columns in the table in a desired order or hide columns from view. All available columns are listed in the Columns list box by their column name. You select the columns you want displayed or hidden by checking or unchecking the box next to the column names. The column order is manipulated by clicking on a column name from the list box and using the arrow buttons to the right of the list to change the order of the selected column. When you have completed the configuration of the columns, click **OK**. The columns appear in the table as you specified. If you want to go back to the original layout of the table, click the **Reset Column Order, Visibility, and Widths** button from the table toolbar. Select one or more of the properties you want to reset. Click **OK** to save this setting.

Views menu

The **views menu** is displayed on the toolbar and is only available for table selections when working with servers, custom groups, exceptions view, or attention LEDs view. This table option allows you to display different sets of attributes (columns) in the table. Figure 11 on page 36 displays an example of the **Views** options when you are working with servers. Figure 12 on page 37 displays an example of the **Views** options when you are working with user-defined custom groups.

You can also change the attributes for each view. For example, if you choose **Default** from the views menu and you do not want Available Processing Units appearing in the table, use the **Configure columns** table toolbar button and deselect **Available Processing Units**, then click **OK**. Now, when you choose the **Default** view the view displays the table without the Available Processing Units column. To go back to the original default view for any of the views, use the **Reset Column Order, Visibility, and Widths** table toolbar button (see “Column configuration” on page 35).

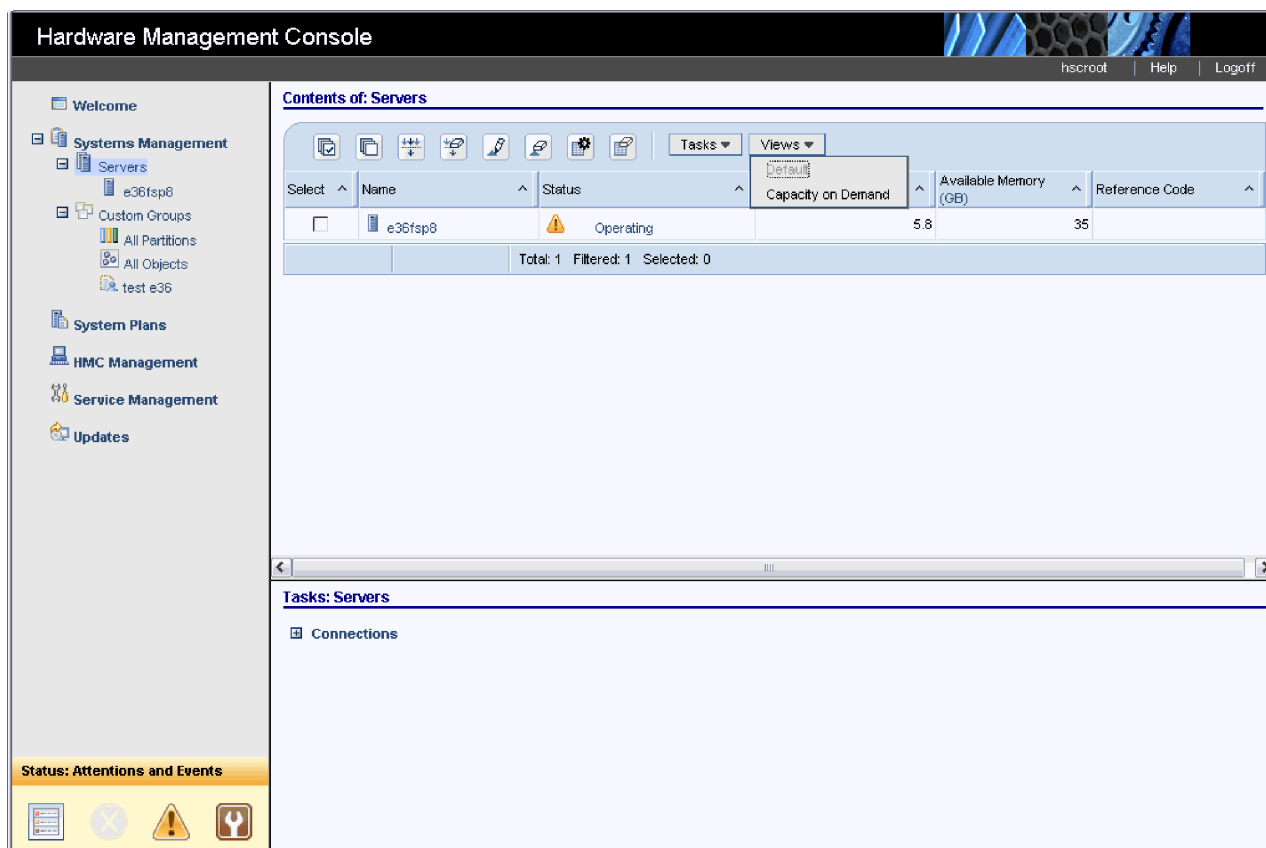


Figure 11. Views menu for servers

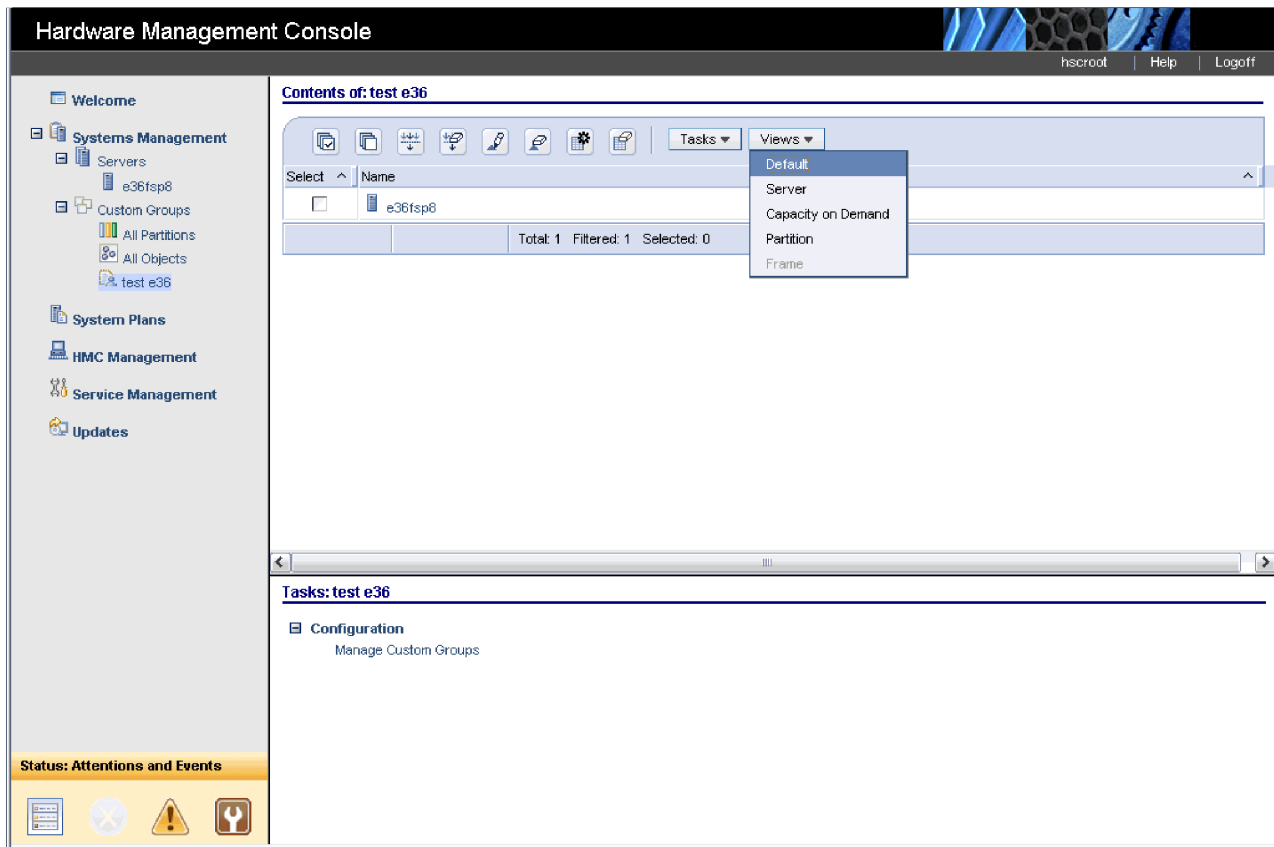


Figure 12. Views menu for user-defined custom groups

Status bar

The Status bar provides a visual cue for the current overall system status, including managed system resources and the HMC. Icons, text, and color of the Status bar indicate overall status. If the Status bar is green, there are no exceptions, hardware messages or operating system messages. When there are resources (such as a managed system or partition) in an exception state, the Status bar is red, the Exceptions icon appears, and Status: Exceptions is displayed. When messages are waiting for you to read, the Status bar displays the Hardware Messages and the Operating System messages icons. In addition, Status: Messages is displayed. The Status Overview icon is always available in the Status bar.

Status: Unacceptable



If any managed object is in unacceptable state, the Unacceptable indicator (icon) is activated on the status bar. When you select the **Unacceptable** indicator (icon), it displays a table in the work pane of only the objects in an unacceptable state. By clicking on the icon, help information is opened describing unacceptable status (Error state) of the server or partition. You can also use the **Views** menu to display your preferred table column configuration for these objects. For more information, see “Views menu” on page 35.

Status: Attention LEDs



If any managed object's Attention LED is activated, the Attention LED (icon) is activated in the status bar. When you select the **Attention LED** indicator (icon) it displays a table in the work pane of only the objects in Attention LED. By clicking on the icon, help information is opened guiding you in problem determination. You can also use the **Views** menu to display your preferred table column configuration for these objects, see "Views menu" on page 35 for more information.

Status: Serviceable Events



If at least one serviceable event for the HMC or a managed object is in open state, the serviceable event icon, is activated in the status bar. By clicking on the icon the **Manage Serviceable Events** task is accessed with the filter set to view all open events.

Status Overview



When you select the **Status Overview** icon, it displays a highly visible and detailed summary of system status in the work pane, as shown in Figure 13 on page 39. It displays details about any errors (objects with unacceptable state), attention LEDs active, or open serviceable events found for the HMC or managed objects. It also summarizes the total number of errors, attention LEDs, and open serviceable events by object type. Object types include the server, partition, frames, and the HMC. When any of these conditions are present, links are available to drill down and display all objects with the particular state in the work pane.

Note: Drilling down in the Status Overview work pane is the same as using the status bar indicators.

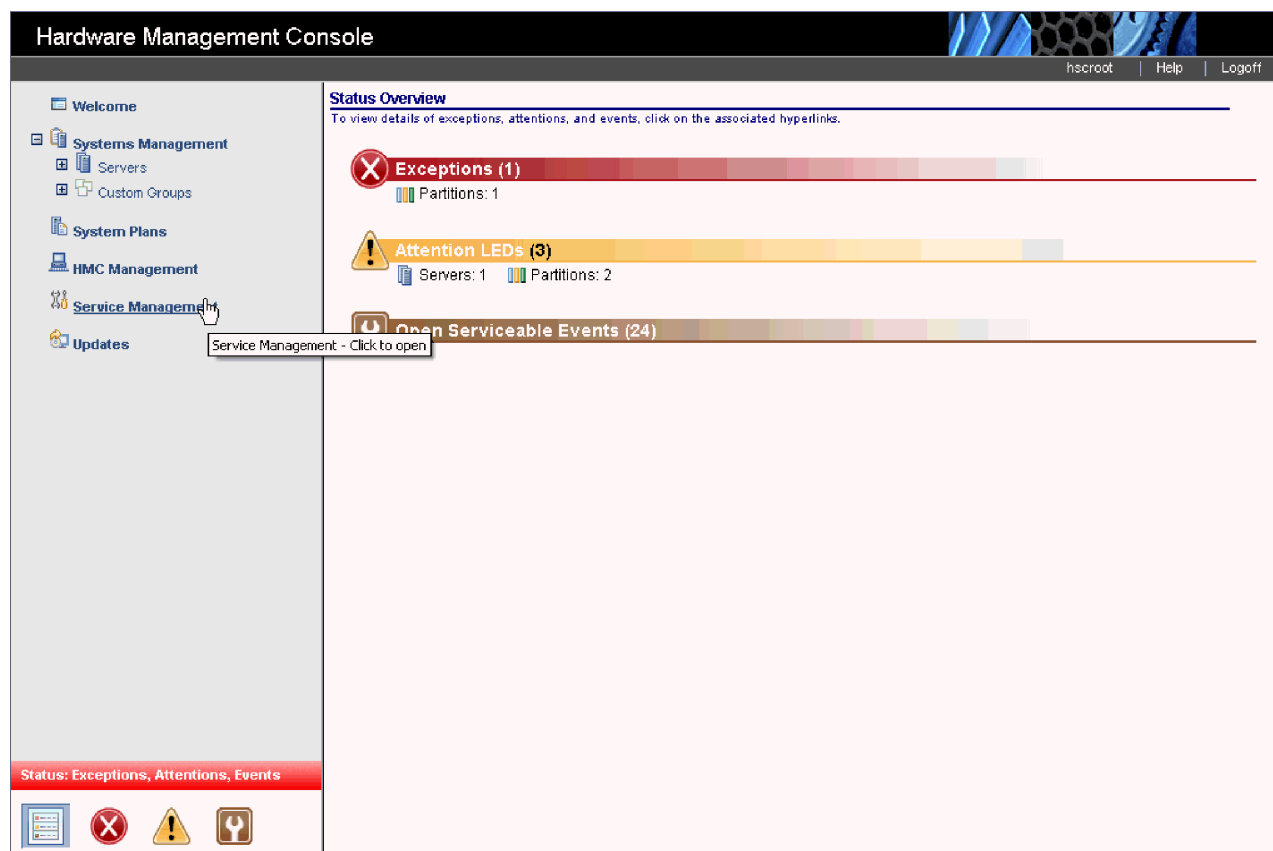


Figure 13. Status overview

Chapter 3. Systems Management - Servers

Systems Management displays tasks to manage servers, logical partitions, and frames. Use these tasks to set up, configure, view current status, troubleshoot, and apply solutions.



This chapter describes the tasks used when a server is selected.

To launch these tasks, see “Launching tasks for managed objects” on page 24. The following sets of tasks are represented in the menu:

- “Operations” on page 42
- “Configuration” on page 47
- “Connections” on page 51
- “Hardware (Information)” on page 54
- “Dynamic Logical Partitioning” on page 75
- “Updates” on page 56
- “Serviceability” on page 56
- “Capacity on Demand” on page 61

or context menu. The tasks listed in the tasks pad change as selections are made in the work area. The context is always listed at the top of the tasks pad in the format *Task: Object*. These tasks are listed when a managed system is selected.

Properties

The **Properties** task displays the selected managed system’s properties. This information is useful in system and partition planning and resource allocation. These properties include:

General

The **General** tab displays the system’s name, serial number, model and type, state, attention led state, service processor version, maximum number of partitions, assigned service partition (if designated), and power off policy information.

Processor

The **Processor** tab displays information about the managed system’s processors including maximum number of processors per partition, installed processing units, deconfigured processing units, available processing units, configurable processing units, minimum number of processing units per virtual processor and maximum number of shared processor pools. A table displays partition processor usage.

Memory

The **Memory** tab displays information about the managed system’s memory including installed memory, deconfigured memory, available memory, configurable memory, memory region size, current memory available for partition usage, and system firmware current memory. A table displays partition memory usage.

I/O

The **I/O** tab displays the physical I/O resources for the managed system. The assignment of I/O slots and partition and adaptor-type information are displayed, grouped by units. Select the link in the **Slot** column to display the physical I/O properties of each resource. Select **I/O Pools** to display all of the I/O pools found in the system and the partitions that are participating in the pools.

Power-On Parameters

The **Power-On Parameters** tab displays both the default manufacturing settings and the current managed system settings for boot mode. Changing these setting in the **Next** column will take effect on the next restart of the managed system.

Capabilities

The **Capabilities** tab displays the runtime capabilities of this server, such as Capacity On Demand, Micro-Partitioning, Huge Page memory, etc. Select **Help** for more information on the capabilities listed.

Advanced

The **Advanced** tab displays huge page memory capabilities on the managed system, including available huge page memory, configurable huge page memory, current page size, and current maximum huge page memory. To change memory allocation on systems with huge page table support, set the Requested huge page memory (in pages) field to the desired memory. To change the requested value for huge page memory, the system must be powered off.

Related HMC CLI commands:

- “chhwres” on page 155
- “chsyscfg” on page 167
- “lshwres” on page 197
- “lsled” on page 201
- “lssyscfg” on page 213

Update Password

Use the **Update Password** task to update HMC access and Advanced System Management Interface (ASMI) passwords on the managed system.

The first time you access a managed system using an HMC, the system prompts you to enter passwords for each of the following:

- Hardware Management Console: HMC access
- Advanced System Management Interface: General
- Advanced System Management Interface: Admin

If you are using an HMC to access the managed system before all required passwords have been set, enter the appropriate password for each password that is presented in the Update Password task.

If another HMC subsequently needs access to this managed system, upon attempting to access this HMC the user is presented with the Update Password Failed Authentication window, which will prompt for the HMC access password you entered.

In the event that the HMC access password changes while you are logged in to the managed system, your HMC will discover that it can no longer authenticate after it attempts to reconnect to that managed system. This will result in a state of *Failed Authentication* for that managed system. You will be required to enter the new password before any actions can be performed.

Operations

Operations contains the tasks for operating servers. The following are represented in the **Operations** tasks.

- “Restart” on page 70
- “Shut Down” on page 70
- “Power Off” on page 43
- “LED Status” on page 43
- “Schedule Operations” on page 44
- “Advanced System Management (ASM)” on page 46

- “Utilization Data” on page 46
- “Rebuild” on page 46
- “Change Password” on page 47

Power On

Use the **Power On** task to start a managed system.

Choose from three different options to start your managed system:

- **Partition standby:** When the Partition standby power-on is completed, the system will be in standby mode. Partition standby mode allows you to create and activate logical partitions.
- **System profile:** Powers on the system according to a predefined set of system profiles. Select the system profile that you want to use from the list.
- **Partition auto start:** Powers on the managed system to partition standby mode and then activates all partitions that are marked as auto start or those partitions that were running when the system shut down. For example, if you create a partition with four processors, dynamically remove one processor from the logical partition, and then shut down the system, the partition auto start option activates this partition with three processors because the three-processor configuration was the last configuration used. The HMC ignores whatever is specified in the profile for the partition. You can create and activate logical partitions in partition auto start mode.

Power Off

This task shuts down the managed system. Powering off the managed system will make all partitions unavailable until the system is again powered on.

Before you power off the managed system, ensure that all logical partitions have been shut down and that their states have changed from Running to Ready. For more information on shutting down a logical partition, see “Shut Down” on page 70

If you do not shut down all logical partitions on the managed system before you power off the managed system, the managed system shuts down each logical partition before the managed system itself powers off. This can cause a substantial delay in powering off the managed system, particularly if the logical partitions are not responsive. Further, the logical partitions might shut down abnormally, which could result in data loss and further delays when you activate the logical partitions once more.

Choose from the following options:

Normal power off

The Normal power off mode shuts down the system’s operations in a controlled manner. During the shutdown, programs running active jobs are allowed to perform cleanup (end-of-job processing).

Fast power off

The Fast power off mode shuts down the system by stopping all active jobs immediately. The programs running those jobs are not allowed to perform any cleanup. Use this option when you need to shut down the system because of an urgent or critical situation.

Related HMC CLI commands:

- “chsysstate” on page 174

LED Status

This task contains the tasks for viewing system attention LED information, lighting specific LEDs to identify a system component, and testing all LEDs on a managed system.

The system provides several LEDs that help identify various components, such as enclosures or field replaceable units (FRUs), in the system. For this reason, they are called *Identify* LEDs. Individual LEDs are

located on or near the components. The LEDs are located either on the component itself or on the carrier of the component (for example, memory card, fan, memory module, or processor). LEDs are either green or amber. Green LEDs indicate either of the following:

- Electrical power is present.
- Activity is occurring on a link. (The system could be sending or receiving information.)

Amber LEDs indicate a fault or identify condition. If your system or one of the components on your system has an amber LED turned on or blinking, identify the problem and take the appropriate action to restore the system to normal. For more information on troubleshooting an amber LED indicating a fault, see *System p Problem Analysis*, SA76-0111.

You can activate or deactivate the following types of identify LEDs:

Identify LED for an enclosure

If you want to add an adapter to a specific drawer (enclosure), you need to know the machine type, model, and serial number (MTMS) of the drawer. To determine whether you have the correct MTMS for the drawer that needs the new adapter, you can activate the LED for a drawer and verify that the MTMS corresponds to the drawer that requires the new adapter.

Identify LED for a FRU associated with a specified enclosure

If you want to attach a cable to a specific I/O adapter, you can activate the LED for the adapter that is a field replaceable unit (FRU), and then physically verify where to attach the cable. This can be especially useful when you have several adapters with open ports.

You can deactivate a system attention LED or a logical partition LED. For example, you might determine that a problem is not a high priority and decide to repair the problem at a later time. However, you want to be alerted if another problem occurs, so you must deactivate the system attention LED so that it can be activated again if another problem occurs.

Choose from the following options:

View System Attention LED

Displays the current system attention LED and corresponding partition LED states for the selected system. From this task, you can activate or deactivate system attention LEDs.

Identify LED

Displays the current Identify LED states for all the location codes contained in the selected enclosure. From this task, you can select a single location code or multiple location codes to operate against and activate or deactivate the LED(s) by selecting the corresponding button.

Test LED

Initiates an LED Lamp Test against the selected system. All LEDs will activate for several minutes.

Related HMC CLI commands:

- “chled” on page 162
- “lsled” on page 201

Schedule Operations

Use this task to create a schedule for certain operations to be performed on the managed system without operator assistance.

Scheduled operations are helpful for situations where automatic, delayed, or repetitious processing of system operations is necessary. A scheduled operation is started at a specified time, without operator assistance to perform the operation. A schedule can be set for one operation or repeated many times.

For example, you could schedule power on or off operations for a managed system.

The **Scheduled Operations** task displays the following information for each operation:

- The processor that is the object of the operation.
- The scheduled date
- The scheduled time
- The operation
- The number of remaining repetitions

From the **Scheduled Operations** window you can:

- Schedule an operation to run at a later time
- Define operations to repeat at regular intervals
- Delete a previously scheduled operation
- View details for a currently scheduled operation
- View scheduled operations within a specified time range
- Sort scheduled operations by date, operation, or managed system

An operation can be scheduled to occur one time or it can be scheduled to be repeated. You will be required to provide the time and date that you want the operation to occur. If the operation is scheduled to be repeated, you will be asked to select:

- The day or days of the week that you want the operation to occur. (optional)
- The interval, or time between each occurrence. (required)
- The total number of repetitions. (required)

The operations that can be scheduled for the managed system are:

Activate on a System Profile

Schedules an operation on a selected system for scheduling activation of a selected system profile.

Backup Profile Data

Schedules an operation to back up profile data for a managed system

Power Off Managed System

Schedules an operation for a system power off at regular intervals for one or more managed systems.

Power On Managed System

Schedules an operation for a system power on at regular intervals for one or more managed systems.

To schedule operations on the managed system:

1. Open **Systems Management** from the navigation pane.
2. Select one or more managed systems to work with from the work pane.
3. In the tasks pad, select the **Operations** task category, then open **Schedule Operations**. The **Schedule Operations** window is displayed.
4. From the **Schedule Operations** window, click **Options** from the menu bar to display the next level of options:
 - To add a scheduled operation, click **Options** and then click **New...**
 - To delete a scheduled operation, select the operation you want to delete, point to **Options** and then click **Delete**.
 - To update the list of scheduled operations with the current schedules for the selected objects, point to **Options** and then click **Refresh**.
 - To view a scheduled operation, select the operation you want to view, point to **View** and then click **Schedule Details...**
 - To change the time of a scheduled operation, select the operation you want to view, point to **View** and then click **New Time Range...**

- To sort the scheduled operations, point to **Sort** and then click one of the sort categories that appears.
5. To return to the HMC workplace, point to **Options** and then click **Exit**.

Use the online Help to get additional information for scheduling an operation.

Advanced System Management (ASM)

If configured to do so, the HMC connects directly to the Advanced System Management (ASM) interface for a selected system from this task.

ASM is an interface to the service processor that allows you to manage the operation of the server, such as auto power restart, and to view information about the server, such as the error log and vital product data.

To connect to the Advanced System Management interface:

1. From the **System Management** tasks list, select **Operations**.
2. From the **Operations** task list, select **Advanced System Management (ASM)**.

Related HMC CLI commands:

- “asmmenu” on page 147

Utilization Data

Use this task to set the HMC to collect resource utilization data for a specific managed system or for all systems the HMC manages. The HMC collects utilization data for memory and processor resources. You can use this data to analyze trends and make resource adjustments. The data is collected into records called events. Events are created at the following times:

- At periodic intervals (hourly, daily, and monthly)
- When you make system-level and partition-level state and configuration changes that affect resource utilization
- When you start up, shut down, and change the local time on the HMC

You must set the HMC to collect utilization data for a managed system before utilization data can display for the managed system.

- Use the **Enable** task to enable the collection of utilization data on a selected managed system.
- Use the **Disable** task to disable the collection of utilization data on a selected managed system.
- Use the **View** task and specify the time span desired to view the collected data for a selected managed system. Restrict the amount of data returned by specifying a maximum number of events.

Related HMC CLI commands:

- “chlparyl” on page 163
- “lslpararyl” on page 204
- “rmlpararyl” on page 230

Rebuild

Use the **Rebuild** task to extract the configuration information from the managed system and rebuild the information on the Hardware Management Console. The **Rebuild** operation does not disrupt the operation of the running server.

Rebuilding the managed system updates, or refreshes, the information on the HMC about the managed system. Rebuilding the managed system is useful when the state of the managed system is **Incomplete**. The **Incomplete** state means that the HMC cannot gather complete information from the managed system about logical partitions, profiles, or resources.

Rebuilding the managed system is different from simply refreshing the HMC window. When the managed system is rebuilt, the HMC extracts the information from the managed system. You cannot start other tasks while the HMC rebuilds the managed system. This process can take several minutes.

Related HMC CLI commands:

- “chsysstate” on page 174

Change Password

Use the **Change Password** task to change the HMC access password on the selected managed system. After the password is changed, you must update the HMC access password for all other HMCs from which you want to access this managed system.

Enter the current password. Then enter a new password and verify it by entering it again.

Related HMC CLI commands:

- “chsyspwd” on page 173

Configuration

Configuration contains the tasks for configuring your managed system and partitions. The following are represented in the **Configuration** tasks:

- “Create Logical Partition”
- “System Plans”
- “Manage Custom Groups” on page 48
- “View Workload Management Groups” on page 48
- “Partition Availability Priority” on page 48
- “Manage System Profiles” on page 49
- “Manage Partition Data” on page 49

Create Logical Partition

Use this task to create a new AIX or Linux logical partition (LPAR) on your managed system. The Create LPAR Wizard helps you create a new logical partition and a default profile for the partition.

Ensure you have logical partition planning information before you use this wizard. Logical partition planning information can be found at the System Planning Tool (SPT) website at <http://www.ibm.com/systems/support/tools/systemplanningtool/>. The SPT is available to assist you in system planning, design, validation and to provide a system validation report that reflects your system requirements while not exceeding system recommendations.

Use the online Help for additional information on logical partition creation.

Related HMC CLI commands:

- “mksyscfg” on page 219

System Plans

These tasks record or import specifications for logical partitions, partition profiles, or hardware specifications on a chosen system.

A *system plan* is a specification of the logical partition configuration of a single managed system. A system plan is stored in a file that is called a *system-plan* file and has a file suffix of *.sysplan*. A system-plan file can contain more than one system plan, although multiple plans in a single file are not common.

The **System Plans** task creates a record of the hardware and partition configuration of a managed system at a given time. It records specifications for the logical partitions and partition profiles on the selected system. It can also record hardware specifications that the HMC is able to detect.

To maximize the information that the HMC can obtain from the managed system, power on the managed system and activate the logical partitions on the managed system before creating the new system plan.

The **System Plans** tasks are the same tasks that are available from the **System Plans** node from the navigation pane and are documented here: Chapter 6, “System Plans,” on page 89.

Manage Custom Groups

Groups comprise logical collections of objects. You can report status on a group basis, allowing you to monitor your system in a way that you prefer.

You can also nest groups (a group contained within a group) to provide hierarchical or topology views.

One or more user-defined groups might already be defined on your HMC. Default groups are listed under the **Custom Groups** node under **Server Management**. The default groups are **All Partitions** and **All Objects**. You can create others, delete the ones that were created, add to created groups, create groups using the pattern match method, or delete from created groups by using the **Manage Custom Groups** task.

Use the online Help if you need additional information for working with groups.

View Workload Management Groups

This task displays a detailed view of the workload management groups you have specified for this managed system. Each group displays the total number of processors, processing units for partitions using shared mode processing, and the total amount of memory allocated to the partitions in the group.

Related HMC CLI commands:

- “lshwres” on page 197
- “lssyscfg” on page 213

Partition Availability Priority

Use this task to specify the partition-availability priority of each logical partition on this managed system.

The managed system uses partition-availability priorities in the case of processor failure. If a processor fails on a logical partition, and there are no unassigned processors available on the managed system, the logical partition can acquire a replacement processor from logical partitions with a lower partition-availability priority. This allows the logical partition with the higher partition-availability priority to continue running after a processor failure.

You can change the partition availability priority for a partition by selecting a partition and choosing an availability priority from those listed.

Use the online Help if you need additional information about prioritizing partitions.

Related HMC CLI commands:

- “chsyscfg” on page 167
- “lssyscfg” on page 213
- “mksyscfg” on page 219

Manage System Profiles

A system profile is an ordered list of partition profiles that is used by the HMC to start the logical partitions on a managed system in a specific configuration.

When you activate the system profile, the managed system attempts to activate each partition profile in the system profile in the order specified. A system profile helps you activate or change the managed system from one complete set of logical partition configurations to another.

You can create a system profile that has a partition profile that has overcommitted resources. You can use the HMC to validate the system profile against the currently available system resources and against the total system resources. Validating your system profile ensures that your I/O devices and processing resources are not overcommitted, and it increases the likelihood that the system profile can be activated. The validation process estimates the amount of memory needed to activate all of the partition profiles in the system profile. It is possible that a system profile can pass validation and yet not have enough memory to be activated.

Use this task to:

- **Create** new system profiles.
- Create a **Copy** of a system profile.
- **Validate** the resources specified in the system profile against the resources available on the managed system. The validation process indicates whether any of the logical partitions in the system profile are already active and whether the uncommitted resources on the managed system can meet the minimum resources specified in the partition profile.
- View the **Properties** of a system profile. From this task, you can view or change an existing system profile.
- **Delete** a system profile.
- **Activate** a system profile. When you activate a system profile, the managed system will attempt to activate the partition profiles in the order specified in the system profile.

Use the online Help if you need additional information about managing system profiles.

Related HMC CLI commands:

- “chsyscfg” on page 167
- “chsysstate” on page 174
- “lssyscfg” on page 213
- “mksyscfg” on page 219
- “rmsyscfg” on page 231

Manage Partition Data

A partition profile is a record on the HMC that specifies a possible configuration for a logical partition. When you activate a partition profile, the managed system attempts to start the logical partition using the configuration information in the partition profile.

A partition profile specifies the desired system resources for the logical partition and the minimum and maximum amounts of system resources that the logical partition can have. The system resources specified within a partition profile includes processors, memory, and I/O resources. The partition profile can also specify certain operating settings for the logical partition. For example, you can set a partition profile so that, when the partition profile is activated, the logical partition is set to start automatically the next time that you power on the managed system.

Each logical partition on a managed system that is managed by an HMC has at least one partition profile. You can create additional partition profiles with different resource specifications for your logical partition. If you create multiple partition profiles, you can designate any partition profile on the logical partition to

be the default partition profile. The HMC activates the default profile if you do not select a specific partition profile to be activated. Only one partition profile can be active at one time. To activate another partition profile for a logical partition, you must shut down the logical partition before you activate the other partition profile.

A partition profile is identified by partition ID and profile name. Partition IDs are whole numbers used to identify each logical partition that you create on a managed system, and profile names identify the partition profiles that you create for each logical partition. Each partition profile on a logical partition must have a unique profile name, but you can use a profile name for different logical partitions on a single managed system. For example, logical partition 1 cannot have more than one partition profile with a profile name of normal, but you can create a profile named normal for each logical partition on the managed system.

When you create a partition profile, the HMC shows you all of the resources available on your system. The HMC does not verify if another partition profile is currently using a portion of these resources. Therefore, it is possible for you to overcommit resources. When you activate a profile, the system attempts to allocate the resources that you assigned to the profile. If you have overcommitted resources, the partition profile will not be activated.

For example, you have four processors on your managed system. Partition 1 profile A has three processors, and partition 2 profile B has two processors. If you attempt to activate both of these partition profiles at the same time, partition 2 profile B will fail to activate because you have overcommitted processor resources.

When you shut down a logical partition and reactivate the logical partition using a partition profile, the partition profile overlays the resource specifications of the logical partition with the resource specifications in the partition profile. Any resource changes that you made to the logical partition using dynamic logical partitioning are lost when you reactivate the logical partition using a partition profile. This is desirable when you want to undo dynamic logical partitioning changes to the logical partition. However, this is not desirable if you want to reactivate the logical partition using the resource specifications that the logical partition had when you shut down the managed system. Therefore, keep your partition profiles up to date with the latest resource specifications. You can save the current configuration of the logical partition as a partition profile. This allows you to avoid having to change partition profiles manually.

If you shut down a logical partition whose partition profiles are not up to date, and the logical partition is set to start automatically when the managed system starts, you can preserve the resource specifications on that logical partition by restarting the entire managed system using the partition autostart power-on mode. When the logical partitions start automatically, the logical partitions have the resource specifications that the logical partitions had when you shut down the managed system.

Use the Manage Partition Data tasks to:

- **Restore** partition data. If you lose partition profile data, use the **Restore** task in one of three ways:
 - Restore partition data from a backup file. Profile modifications performed after the selected backup file was created will be lost.
 - Restore merged data from your backup file and recent profile activity. The data in the backup file takes priority over recent profile activity if the information conflicts.
 - Restore merged data from recent profile activity and your backup file. The data from recent profile activity takes priority over your backup file if the information conflicts.
- **Initialize** a partition profile. Initializing the partition data for a managed system will delete all of the currently defined system profiles, partitions, and partition profiles.
- **Backup** a partition profile to a file.
- **Delete** a backup of partition data.

Use the online Help if you need additional information about managing partition data.

Related HMC CLI commands:

- “bkprofdata” on page 148
- “rmprofdata” on page 231
- “rstprofdata” on page 236

Connections

Connections tasks allow you to view the HMC connection status to service processors or frames, reset those connections, connect another HMC to the selected managed system, or connect another managed system to the HMC.

If you have selected a managed system in the work area, the following tasks pertain to that managed system. If you have selected a frame, the tasks pertain to that frame. For managed systems, the tasks are:

- **Service Processor Status** displays the HMC connection status to the service processor of a selected managed system. If you have selected a frame, **Service Processor Status** displays the state of the connection from the HMC to side A and side B of the bulk power assembly.

Related HMC CLI commands:

- “lssyscfg” on page 213
- “lssysconn” on page 215

- Use the **Reset or Remove Connections** task to remove or reset a managed system from the Contents area of the HMC.

Related HMC CLI commands:

- “rmsysconn” on page 232

- **Disconnect another HMC** drops the connection between the selected HMC and the selected managed system. The disconnected HMC will try to reconnect. If the disconnected HMC has a lock on the managed server, this task forces the selected HMC to release its lock.
- The **Add Managed System** task guides you through adding systems in the network to systems managed by this HMC.

Related HMC CLI commands:

- “mksysconn” on page 225

Correcting a connection problem

To correct a connection problem between the HMC and the managed system or to correct the state of a managed system in *No Connection*, *Incomplete*, *Recovery*, *Error*, or *Failed Authentication* state, follow the procedures below.

Correcting a No connection state for a managed system

The **No connection** state can occur when the HMC is not connected, or the handshake with the managed system failed.

Use this procedure for a system that was previously connected to the same HMC and is now in No connection state. If you have a new system, a new HMC, or have moved your system to a different HMC, refer to Correcting a connection problem between the HMC and a managed system.

1. From the **Systems Management - Servers** work pane, select the managed system.
2. Select **Connections - Service Processor Status**. Record the IP address of the service processor.
3. From the **HMC Management** work pane, select **Test Network Connectivity**.
4. Enter the IP address of the service processor and select **Ping**.
5. Choose from the following options:
 - If the ping is successful, go to step 6.
 - If the ping is not successful, go to step 7.

6. If the ping test is successful, perform the following steps:
 - a. In the **Systems Management - Servers** work pane, ensure that there are no reference codes displayed in the **Reference Code** column for the server in Incomplete state. **Note:** A steady reference code could indicate a hardware problem. If the reference code is a clickable link, click the reference code to display possible procedures to correct the problem. If the reference code is not a link or a solution is not presented, contact your next level of support or your hardware service provider.
 - b. Restart the HMC. For more information on restarting the HMC, see “Shut Down or Restart” on page 111.
 - c. If restarting the HMC does not resolve the problem, contact your next level of support or your hardware service provider.
7. If the ping test is not successful, perform the following steps:
 - a. In the **Systems Management - Servers** work pane, ensure that there are no reference codes displayed in the **Reference Code** column for the server in Incomplete state. **Note:** A steady reference code could indicate a hardware problem. If the reference code is a clickable link, click the reference code to display possible procedures to correct the problem. If the reference code is not a link or a solution is not presented, contact your next level of support or your hardware service provider.
 - b. If your system has a control panel, check to see if the power light is on. Choose from the following options:
 - If there is power to the managed system, go to step 8.
 - If there is no power to the managed system, “Power On” on page 43 the managed system. After the power is restored, wait 5 minutes for the service processor to re-IPL and the HMC to re-establish contact. If the system is equipped with redundant service processors, allow up to 20 minutes for this step.
8. Verify physical network connectivity:
 - a. Verify that the HMC and the service processor are correctly connected to your Ethernet network.
 - b. Verify that Ethernet link status is good on all network segments which exist between the HMC and the managed system.
 - c. If you think the network might be the problem, connect a cable from the HMC to the service processor and try pinging the failing system. Then choose from the following options:
 - If the ping is successful, put the cables back the way they were and correct the network problem. After the network problem is resolved, repeat this entire procedure.
 - If the ping is not successful, put the cables back the way they were and continue with step 8.d.
 - d. Reset the service processor using the following steps:
 - 1) “Power Off” on page 43 the server.
 - 2) Unplug the AC power cord and re-plug it back in.
 - 3) “Power On” on page 43 the server.
9. If the problem is not resolved by any of the above steps, contact your next level of support or your hardware service provider.

Correcting an Incomplete state for a managed system

The **Incomplete** state can occur when the HMC failed to get all of the necessary information from the managed system.

To correct an **Incomplete** state, perform the following steps:

1. From the **Systems Management - Servers** work pane, select the managed system.
2. In the tasks pad, select **Operations - Rebuild**.
3. Select **Yes** to refresh the internal representation of the managed system on the HMC.
 - If the state remains **Incomplete**, rebuild the managed system several more times

- If the state goes to **Recovery**, see “Correcting a Recovery state for a managed system.”
 - If the state does not remain in **Incomplete** or go to **Recovery**, continue with the next step.
4. In the tasks pad, select **Connections - Reset or Remove Connections** to reset the connection from the managed system to the HMC. If this fails, continue to the next step.
 5. Restart the HMC. For more information on restarting the HMC, see “Shut Down or Restart” on page 111.
 - If the state goes to **Recovery**, see “Correcting a Recovery state for a managed system.”
 - If the state remains **Incomplete**, perform the following steps:
 - Verify that there is a redundant HMC.
 - Verify that no one is entering commands from the alternate HMC.
 - Repeat step 1 through 5. If it still fails, continue with the next step.
 6. If the problem persists, contact your next level of support or your hardware service provider.

Correcting a Recovery state for a managed system

The **Recovery** state can occur when the save area in the service processor assembly is not synchronized with the HMC.

To recover from the **Recovery** state, perform the following steps:

1. Restore partition data. For details, see the **Restore** task in “Manage Partition Data” on page 49. If this solves the problem, this ends the procedure.
2. If the problem is not resolved after restoring partition data, choose the option that describes what happened:
 - If the state remains **Recovery**, retry restoring partition data. If it fails a second time, follow the problem determination procedure for any reference codes you receive.
 - If the state changed to **Incomplete**, refer to “Correcting an Incomplete state for a managed system” on page 52.
 - If the state changed to **No Connection**, refer to “Correcting a No connection state for a managed system” on page 51.
3. If the problem persists, contact your next level of support or your hardware service provider.

Correcting an Error state for a managed system

The **Error** state automatically generates a call to the service support center if the function is enabled.

If the automatic call support function is not enabled, contact your next level of support or your hardware service provider.

Correcting a Failed Authentication state for a managed system

The **Failed Authentication** state can occur when the HMC access password for the managed system is not valid.

1. Do you have an HMC password?
 - **Yes:** Enter the HMC password and choose from the following options:
 - If the managed system goes to **Operating**, **Power Off**, or **Standby** state, the authentication was successful. This ends the procedure.
 - If the managed system goes to **No connection**, **Incomplete**, **Recovery**, or **Error** state, refer to Correcting the managed system operating state.
 - **No:** Do you have an ASMI admin password?
 - **Yes:** Continue with step 2.
 - **No:** Contact your next level of support to request CE login. Then continue with step 2, using CE login instead of admin password for step 2.a.
2. Perform the following steps:

- a. Login to the ASMI with admin authority. See “Advanced System Management (ASM)” on page 46.
- b. Select **Login Profile**.
- c. Select **Change Password**.
- d. In the **User ID to change field**, select **HMC**.
- e. Enter the ASMI’s admin password in the **Current password for user ID admin** field. **Note:** Do not enter the HMC user password.
- f. Enter the ASMI’s admin password.
- g. Enter a new HMC access password twice and click **Continue**.
- h. From the **Systems Management - Servers** work pane, select the managed system.
- i. Select **Update password**.
- j. Input the new password that was set in step 2.g. This ends the procedure.

Correcting a new connection problem between the HMC and a managed system

Use this procedure in the following situations:

- You have a new HMC
- You have a new system
- You moved your system to a different HMC

If your system was previously connected to the same HMC and is now in **No connection** state, refer to “Correcting a No connection state for a managed system” on page 51.

1. From the **Systems Management - Servers** work pane, select **Connections - Add Managed System** from the tasks pad. For more information, see “Connections” on page 51. Does the system appear in the work pane?
 - **Yes:** This ends the procedure.
 - **No:** Continue with step 2.
2. Check for network problems, cables, switches, link lights on the service processor, and so on. Was there a problem?
 - **Yes:** Correct the problem and return to step 1.
 - **No:** Continue with step 3.
3. Reset the service processor to force it to request a new IP address using the following steps:
 - a. “Power Off” on page 43 the server.
 - b. Unplug the AC power cord and re-plug it back in.
 - c. “Power On” on page 43 the server.
4. Did resetting the service processor resolve the problem?
 - **Yes:** This ends the procedure.
 - **No:** Contact your next level of support.

Hardware (Information)

Hardware (Information) tasks are used to display information about the hardware attached to a selected managed system.

The following are represented in the **Hardware (Information)** tasks:

- “View Hardware Topology” on page 56

Adapters

Use the **Adapters** tasks to view information about the Host Ethernet Adapters (HEA, also referred to as Integrated Virtual Ethernet adapters) or Host Channel Adapters (HCA) for a selected managed system.

Host Ethernet Adapter (HEA)

A Host Ethernet Adapter (HEA) allows multiple logical partitions to share a single physical Ethernet adapter.

Unlike most other types of I/O devices, you can never assign the HEA itself to a logical partition. Instead, multiple logical partitions can connect directly to the HEA and use the HEA resources. This allows these logical partitions to access external networks through the HEA without having to go through an Ethernet bridge on another logical partition.

Use the **Host Ethernet** task to display or configure the ports of the physical HEAs on a selected managed system.

To configure a physical port on an HEA, select the port from the list and select Configure.

Use the online Help for additional information on configuring HEA ports.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Host Channel Adapter (HCA)

Host Channel Adapters provide a managed system with port connections to other InfiniBand devices. That port can be connected to another HCA, a target device, or an InfiniBand switch that redirects the data coming in on one of its ports out to a device attached to another of its ports.

Use the **Host Channel** task to show a list of the HCAs for the managed system. You can select an HCA from the list to display the current partition usage for the HCA.

From this task you can display:

- The physical location of each HCA on the managed system.
- The number of globally unique identifiers (GUIDs) that are in use on each HCA.
- The number of GUIDs on each HCA that are available to be assigned to logical partitions.
- HMC management status. HCAs that are unable to be managed by an HMC are in an error state.
- The logical partition usage for a selected HCA.

Related HMC CLI commands:

- “lshwres” on page 197

Virtual IO Adapters

Use the **Virtual IO Adapters** commands to view the topology of currently configured virtual scsi and virtual ethernet adapters on a selected partition.

Use the **SCSI** task to view the topology of virtual SCSI adapters on a partition. Displayed are:

- Adapter name
- Backing device
- Remote partition
- Remote Adapter
- Remote Backing Device

Use the **Ethernet** task to view the current virtual ethernet configuration for the partition.

- Adapter name
- Virtual LANs
- I/O Server
- Server Virtual Adapter

- Shared Adapter

Partitions assigned to a VLAN that is bridged have access to a external network via a physical shared ethernet adapter owned by a Virtual I/O Server.

View Hardware Topology

This task displays the current hardware topology for the selected managed system and any discrepancies between the current topology and the last valid topology.

High Speed Link (HSL), also known as Remote I/O (RIO), resources provide the connection between system I/O busses and the system processor. HSL/RIO resources are normally configured in loops with the system unit having an HSL/RIO controller resource that handles routing of the data between the system processor and the system I/O busses. System I/O busses connect to the loop with HSL I/O adapter or RIO adapter resources.

Use this task to display the current RIO topology of the selected managed system. Current Topology displays the current topology. Any discrepancies between the current topology and the last valid topology are identified as errors. The following information is shown:

- The starting location of the physical RIO cable and the RIO connection (cable to port)
- The ending location of the physical RIO cable and the RIO connection (cable to port)
- Starting Node Type Displays the values of the node. Possible values are Local Bridge, Local NIC, Remote Bridge, and Remote NIC
- Link Status Displays the leading port status
- Cable Length Displays the length of the RIO cables. Errors occur when the actual cable lengths are different from the expected cable lengths
- The serial number of the power-controlling managed system
- The serial number of the function-controlling managed system

Updates

Updates tasks perform a guided update of managed system, power, or I/O Licensed Internal Code.

These **Update** tasks are the same tasks that are available from the Updates node of the navigation pane and are documented here: “Managed System Updates” on page 124.

Serviceability

Problem Analysis on the HMC automatically detects error conditions and reports to you any problem that requires service to repair it. These problems are reported to you as serviceable events. Use the **Manage Events** task to view specific events for selected systems. However, if you notice a problem occurred or you suspect a problem is affecting the system but Problem Analysis has not reported it to you, use the **Create Serviceable Event** task to report the problem to your service provider.

The following are represented in the **Serviceability** tasks:

- “Manage Serviceable Events” on page 120
- “Create Serviceable Event” on page 115
- “Reference Code History” on page 58
- “Control Panel Functions” on page 58
- “Hardware” on page 58
- “Manage Dumps” on page 60
- “Collect VPD” on page 60
- “Edit MTMS” on page 61
- “FSP Failover” on page 61

Manage Serviceable Events

Problems on your managed system are reported to the HMC as serviceable events. The **Manage Serviceable Events** task allows you view the problem, manage problem data, call home the event to your service provider, or repair the problem.

To set the criteria for the serviceable events you to view:

1. Open the **Manage Serviceable Events** task from the tasks pad.
2. From the **Manage Serviceable Events** window provide event criteria, error criteria, and FRU criteria.
3. Click **OK** when you have specified the criteria you want for the serviceable events you want to view.
4. Select **ALL** if you do not want the results filtered.

The **Serviceable Events Overview** panel displays all of the events that match your criteria. The information displayed in the compact table view includes:

- Problem Number
- PMH Number
- Reference Code - Click on the Reference code to display a description of the problem reported and actions that may be taken to fix the problem.
- Status of the problem
- Last reported time of the problem
- Failing MTMS of the problem

The full table view includes more detailed information, including reporting MTMS, first reported time, and serviceable event text.

Select a serviceable event and use the **Selected** drop down menu to:

- **View event details:** FRUs associated with this event and their descriptions.
- **Repair the event:** Launch a guided repair procedure, if available.
- **Call home the event:** Report the event to your service provider.
- **Manage event problem data:** View, call home, or offload to media data and logs associated with this event.
- **Close the event:** After the problem is solved, add comments and close the event.

Use the online Help if you need additional information on managing serviceable events.

Create Serviceable Event

Use this task to report a problem on your managed system to your service provider or to test problem reporting on your managed system.

Submitting a problem is dependent upon whether you have customized your HMC to use the Remote Support Facility (RSF) and if it is authorized to automatically call for service. If so, the problem information and service request is sent to the service provider automatically with a modem transmission.

To report a problem on your managed system:

1. Open the **Create Serviceable Event** task from the Service Management work pane.
2. From the **Report a Problem** window, enter a brief description of your problem in the **Problem Description** input field and then click **Request Service**.

or

To test problem reporting from the **Report a Problem** window:

1. Select **Test automatic problem reporting** and enter *This is just a test* in the **Problem Description** input field.
2. Click **Request Service**.

The problems are reported to the service provider for the managed system. Reporting a problem sends to the service provider the information you provide on the **Report a Problem** window, and machine information that identifies the console.

Use the online Help if you need additional information for reporting a problem or testing if problem reporting works.

Reference Code History

Reference codes provide general diagnostic, troubleshooting, and debugging information.

The most recent reference codes are displayed. To view a history of reference codes, enter the number of codes to retrieve from the history and select **Go**. If detailed information is available on the managed system you are viewing, select the desired reference code to view the details of a specific reference code.

Related HMC CLI commands:

- “lsrefcode” on page 210

Control Panel Functions

This task displays the available virtual control panel functions for the managed system selected.

(20) Type, Model, Feature displays the managed system’s machine type, model, and feature code. Also displayed are the CEC IPL Type and the FSP IPL Type for the managed system.

Related HMC CLI commands:

- “lssyscfg” on page 213

Hardware

These tasks are used to add, exchange, or remove hardware from the managed system. From the hardware tasks you can display a list of installed FRUs or enclosures and their locations. Select a FRU or an enclosure and launch a step-by-step procedure to add, exchange, or remove the unit.

Hardware tasks include:

- “Add FRU”
- “Add Enclosure” on page 59
- “Exchange FRU” on page 59
- “Exchange Enclosure” on page 59
- “Remove FRU” on page 59
- “Remove Enclosure” on page 59
- “Power On/Off IO Unit” on page 60

Add FRU

Use the **Add FRU** task to locate and add a Field Replaceable Unit (FRU).

To add a FRU:

1. Select an enclosure type from the drop down list.
2. Select an FRU type from the list.
3. Click **Next**.
4. Select a location code from the displayed list.
5. Click **Add** to add the selected enclosure location to **Pending Actions**.
6. Click **Launch Procedure** to begin adding the selected FRU type to the enclosure locations identified in Pending Actions.
7. Click **Finish** when you have completed the FRU installation process.

Add Enclosure

Use the **Add Enclosure** task to locate and add an enclosure.

To add an enclosure:

1. Select an enclosure type, then click **Add** to add the selected enclosure type's location code to **Pending Actions**.
2. Click **Launch Procedure** to begin adding the enclosures identified in **Pending Actions** to the selected system.
3. Click **Finish** when you have completed the enclosure installation process.

Exchange FRU

Use the **Exchange FRU** task to exchange one FRU with another.

To exchange a FRU:

1. Select an installed enclosure type from the drop down list.
2. From the displayed list of FRU types for this enclosure, select an FRU type.
3. Click **Next** to display a list of locations for the FRU type.
4. Select a location code for a specific FRU.
5. Click **Add** to add the FRU location to **Pending Actions**.
6. Select **Launch Procedure** to begin replacing the FRUs listed in **Pending Actions**.
7. Click **Finish** when you have completed the installation.

Exchange Enclosure

Use the **Exchange Enclosure** task to exchange one enclosure for another.

To exchange an enclosure:

1. Select an installed enclosure, then click **Add** to add the selected enclosure's location code to **Pending Actions**.
2. Click **Launch Procedure** to begin replacing the enclosures identified in **Pending Actions** in the selected system.
3. Click **Finish** when you have completed the enclosure replacement process

Remove FRU

Use the **Remove FRU** task to remove a FRU from your managed system.

To remove a FRU:

1. Select an enclosure from the drop down list to display a list FRU types currently installed in the selected enclosure.
2. From the displayed list of FRU types for this enclosure, select an FRU type.
3. Click **Next** to display a list of locations for the FRU type.
4. Select a location code for a specific FRU.
5. Click **Add** to add the FRU location to **Pending Actions**.
6. Select **Launch Procedure** to begin removing the FRUs listed in **Pending Actions**.
7. Click **Finish** when you have completed the removal procedure.

Remove Enclosure

Use the **Remove Enclosure** task to remove an enclosure.

To remove an enclosure:

1. Select an enclosure type, then click **Add** to add the selected enclosure type's location code to **Pending Actions**.

2. Click **Launch Procedure** to begin removing the enclosures identified in **Pending Actions** from the selected system.
3. Click **Finish** when you have completed the enclosure removal process.

Power On/Off IO Unit

Use the **Power On/Off IO Unit** task to power on or off an IO unit.

Only units or slots that reside in a power domain can be powered on or off. The corresponding power on/off buttons will be disabled for location codes that are not controllable by the HMC.

Manage Dumps

These tasks are used to manage system, service processor, and power subsystem dumps for systems managed by the HMC.

system dump

A collection of data from server hardware and firmware, either after a system failure or a manual request. Only perform a system dump under the direction of your next level of support or your service provider.

service processor dump

A collection of data from a service processor either after a failure, external reset, or manual request.

power subsystem dump

A collection of data from Bulk Power Control service processor. This is only applicable to certain models of managed systems.

Use the **Manage Dumps** task to:

- Initiate a system dump, a service processor dump, or a power subsystem dump (if applicable).
- Modify the dump capability parameters for a dump type before initiating a dump.
- Delete a dump.
- Copy a dump to media such as a DVD-RAM.
- Copy a dump to another system using FTP.
- Call home a dump by using the Call Home feature to transmit the dump back to your service provider, for example IBM Remote Support, for further analysis.
- View the offload status of a dump as it progresses.

Use the online Help if you need additional information for managing dumps.

Collect VPD

Use this task to copy Vital Product Data (VPD) to removable media.

The managed system has VPD that is stored internally. The VPD consists of information such as how much memory is installed, and how many processors are installed. These records can provide valuable information which can be used by remote service and service representatives so that they can help you keep the firmware and software on your managed system up to date.

The information in the VPD file can be used to complete the following types of orders for your managed system:

- Install or remove a sales feature
- Upgrade or downgrade a model
- Upgrade or downgrade a feature

Using this task, this information can be sent to removable media (diskette, DVD-RAM, or memory key) for use by you or your service provider.

Use the online Help if you need additional information for collecting VPD.

Edit MTMS

Use this task to display or edit the model, type, machine serial (MTMS) or configuration ID of an enclosure.

The MTMS value or configuration ID for an expansion unit may need to be edited during a replacement procedure.

Use the online Help if you need additional information for editing MTMS.

FSP Failover

Use the **FSP Failover** task to enable a secondary service processor if your managed system's primary service processor fails.

FSP Failover capability is designed to eliminate customer outages due to service processor hardware failures. If a redundant service processor is supported for the current system configuration, use the **Setup** task to set up FSP Failover for the selected managed system. Use the **Initiate** task to initiate FSP Failover for the selected managed system.

Capacity on Demand

Capacity on Demand (CoD) tasks activate inactive processors or memory that are installed on your managed server.

Capacity on Demand (COD) allows you to nondisruptively activate (no boot required) processors and memory. Capacity on Demand also gives you the option to temporarily activate capacity to meet intermittent performance needs, to activate additional capacity on a trial basis, and to access capacity to support operations in times of need.

The following are represented in the **Capacity on Demand** tasks:

- "Capacity Upgrade on Demand" on page 62
- "On/Off Capacity on Demand" on page 62
- "Trial Capacity on Demand" on page 63
- "Utility Capacity on Demand" on page 64
- "Reserve Capacity on Demand" on page 64
- "Advanced POWER Virtualization" on page 65
- "Enterprise Enablement" on page 66
- "Other Advanced Functions" on page 67

Use the **Enter CoD Code** task to enter any CoD codes that you have obtained for your system.

This code can be any of the following types of CoD codes:

- CUoD processor activation code
- CUoD memory activation code
- Trial CoD processor code
- Trial CoD memory code
- On/Off CoD processor enablement code
- On/Off CoD memory enablement code
- On/Off CoD capacity termination code
- Reserve CoD capacity prepaid code
- Utility CoD enablement code

- Utility CoD reporting code
- Utility CoD termination code

Use the **View History Log** task to see the CoD history log for your system. The CoD history log contains information about the CoD events that have occurred on your system. The entries are shown in chronological order, starting with the most recent entry. You can see the date and time that each event occurred and a description of each event.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Capacity Upgrade on Demand

Capacity Upgrade on Demand (CUoD) is permanent capacity for nondisruptive growth.

You can permanently activate inactive processors and memory units by purchasing an activation feature and entering the provided activation code. Capacity Upgrade on Demand (CUoD) enables you to permanently activate one or more inactive processors or memory units without requiring you to restart your server or interrupt your business.

You can order activation features for a new server, a server model upgrade, or an installed server. After you place your order, you will receive a code that activates inactive processors or memory units. For a new server or a server model upgrade, your order can contain one or more activation features for processors or memory units, which results in one or more activation codes. In this case, the activation codes are entered before the server is sent to you.

When you order Capacity Upgrade on Demand (CUoD) activation features for an installed server, you must determine whether you want to permanently activate some or all of your inactive processors or memory units. You must order one or more activation features and then use the resulting one or more activation codes to activate your inactive processors or memory units.

Contact your IBM Business Partner or IBM sales representative to place your order for one or more activation features.

Notes:

- It can take several days to process an order. You can use a one-time no-charge Trial Capacity on Demand for 30 days to satisfy workload requirements while your order for permanent activation of additional capacity is being fulfilled. For more information, see [Ordering Trial Capacity on Demand](#).
- An order for activation features will process more quickly if you do not include any miscellaneous features with the order.

Use the **View Code Information** task to view the information used to generate a CUoD processor activation code for the selected managed system. If you want to save this information to a file, select **Save**.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

On/Off Capacity on Demand

On/Off Capacity on Demand (On/Off CoD) is temporary capacity for fluctuating workloads.

You can activate processors or memory units for a number of days, as your business peaks demand, by using inactive resources on a temporary basis. With On/Off CoD, you can temporarily activate and deactivate processors and memory units to satisfy business peaks. After you request that a number of

processors or memory units be made temporarily available for a specified number of days, those processors and memory units are available immediately. You can start and stop requests for On/Off CoD, and you can also change the number of resources or days in a running On/Off request. This offering has contract requirements.

To take advantage of On/Off Capacity on Demand (CoD), you must order an On/Off CoD enablement feature. The enablement feature provides the On/Off CoD enablement code that allows you to request temporary activation of inactive processors or memory units by entering the code on your server.

To order On/Off Capacity on Demand (CoD), contact your IBM Business Partner or IBM sales representative. Your IBM Business Partner or IBM sales representative guides you through the completion of the required On/Off CoD contracts with IBM and places a customer order for an On/Off CoD enablement feature.

Use the **Manage** task to activate or deactivate processors or memory units or to change the number or resources or days in a running On/Off CoD request.

Use the **View Capacity Settings** task to view:

- The On/Off CoD state on the selected managed system.
- The number of active On/Off CoD processors or memory and inactive processors or memory on the managed system.
- The number of processor or memory days and hours remaining in the current On/Off CoD request.
- The number of unreturned On/Off CoD processors or memory from a previous On/Off CoD request.
- The number of processor or memory days available for new On/Off CoD requests.

Use the **View Billing Information** task to view or save information used to manually report On/Off CoD processor or memory billing information.

Use the **View Code Information** task to view the information used to generate a On/Off CoD processor or memory enablement code for the selected managed system. If you want to save this information to a file, select **Save**.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Trial Capacity on Demand

Trial Capacity on Demand is temporary capacity for workload testing or any one time need.

You can evaluate the use of inactive processors, memory, or both, at no charge using Trial CoD. After it is started, the trial period is available for 30 power-on days. This means the trial period advances only while the server is powered on. You can use the HMC to stop a current CoD trial for processors or memory units before the trial automatically expires. If you choose to stop the trial before it expires, you cannot restart it and you forfeit any remaining days.

You can activate your inactive processors or memory for a trial period by obtaining and entering a trial processor code or a trial memory code with Trial Capacity on Demand (CoD).

Before the trial period expires, you must either enter a Capacity Upgrade on Demand activation code to permanently activate the Trial CoD resources, or you must return the Trial CoD resources.

Use the **Stop** task to terminate Trial CoD.

Use the **View Capacity Settings** task to view the following settings for the selected managed system:

- The Trial CoD state.
- The number of activated Trial CoD processors or memory.
- The total number of power-on days and hours remaining until the current Trial CoD period expires.

Use the **View Code Information** task to view the information used to generate a Trial CoD code for the selected managed system. If you want to save this information to a file, select **Save**.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Utility Capacity on Demand

Utility Capacity on Demand (Utility CoD) allows you to activate the inactive processors that are installed on your managed system to meet the variable workload demands of your business.

When you use Utility CoD, activated Utility CoD processors are placed in the shared processor pool and are used only as needed by uncapped partitions. If all non-Utility CoD processors in the shared processor pool are being used, and one or more uncapped partitions require additional resources, then the managed system allows the uncapped partitions to use one Utility CoD processor for one minute, and one Utility CoD processor minute of use is recorded. The managed system continues to use this Utility CoD processor and record processor minutes until the Utility CoD processor is no longer needed. The managed system continuously monitors the processor utilization within the shared processor pool. If additional processor resources are needed, the managed system automatically uses additional Utility CoD processors and records processor minutes for those processors. You pay only for the number of processor minutes that the Utility CoD processors are used. Optionally, you may prepay for Utility CoD usage.

Use the **Manage Utility CoD** task to:

- View the Utility CoD state
- Change the number of Utility CoD processors in the shared processor pool
- Set a processor minute usage limit

Use the **View Capacity Settings** task to see current information about Utility CoD, including usage and reporting information.

Use the **View Code Information** task to view the information used to generate a Utility CoD code for the selected managed system. If you want to save this information to a file, select **Save**.

Use the **View Shared Processor Utilization** task to view the distribution and utilization of processors in the shared processor pool.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Reserve Capacity on Demand

Reserve Capacity on Demand (CoD) provides prepaid temporary capacity that is automatically used by the server to help meet the demands of business peaks.

With Reserve CoD, you can purchase a reserve capacity prepaid feature that represents a number of processor days. You can then activate the inactive processors using Reserve CoD as your business requires.

The reserve processors are put in the server shared processor pool, where they are used as needed by uncapped partitions. Whenever the capacity of the non-Reserve CoD processors in the shared processor

pool reaches the maximum capacity of those processors and is no longer sufficient to support the server workload, then the Reserve CoD processors are used.

When a Reserve CoD processor is used, one processor day is subtracted from the prepaid number of processor days. You pay only for the number of processor days that the reserve processors are actually used. The processors can remain active until all of the reserve processor days that you have paid for have been used.

Because you have already paid for the reserve capacity before you use it, contracts and reporting are not necessary.

Use the **View Shared Processor Utilization** task to view the distribution and utilization of processors in the shared processor pool.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Advanced POWER Virtualization

Advanced POWER Virtualization is a set of comprehensive systems technologies and services designed to enable you to aggregate and manage resources through a consolidated, logical view.

Advanced POWER enables the system for these features:

- Virtual I/O hosting
- Partition Load Manager
- Micro-Partitioning

Use the **Enter Activation Code** task to enter any Capacity on Demand advanced functions activation codes that you have obtained for your system. Specify the appropriate code in the Code field to activate any of the following on-demand functions:

- **Advanced POWER Virtualization:** Permanently activates the Advanced POWER Virtualization capabilities, which can include Virtual I/O Server and Micro-Partitioning.
- **Enterprise Enablement:** Permanently activates the Enterprise Enablement capabilities, which can include 5250 Commercial Processing Workload (5250 CPW) capacity for application processing.

Use the **View History Log** task to see the activation history log for Capacity on Demand advanced functions on your system. The history log contains information about the activations of Capacity on Demand advanced functions that have occurred on your system. Capacity on Demand advanced functions include Advanced POWER Virtualization and Enterprise Enablement.

A log entry is created each time an activation code is entered successfully, and an additional log entry is created for each capability that is enabled by the activation code. For each entry in the Capacity on Demand advanced functions activation history log, this table shows the date and time on the system when the entry was logged and a description of the log entry. The entries are shown in chronological order, starting with the most recent entry.

If the history log has wrapped, a message is shown at the bottom of the window. The history log can contain as many as eight activation code entries. (For each activation code entry, an additional log entry is created for each capability that is enabled by the activation code.) When eight activation code entries have been logged to the history log, the next entry causes the history log to wrap (that is, the newest entry overlays the oldest entry).

Use the **View Code Information** task to view the information used to generate a CoD advanced functions activation code for the selected managed system. If you want to save this information to a file, select **Save**.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Enterprise Enablement

Use the **Enterprise Enablement** tasks to enter an Enterprise Enablement activation code, view Enterprise Enablement code information, or view a history log of Enterprise Enablement activation activity.

Use the **Enter Activation Code** task to enter any Capacity on Demand advanced functions activation codes that you have obtained for your system. Specify the appropriate code in the Code field to activate any of the following on-demand functions:

- **Advanced POWER Virtualization:** Permanently activates the Advanced POWER Virtualization capabilities, which can include Virtual I/O Server and Micro-Partitioning.
- **Enterprise Enablement:** Permanently activates the Enterprise Enablement capabilities, which can include 5250 Commercial Processing Workload (5250 CPW) capacity for application processing.

Use the **Enter Activation Code** task to enter any Capacity on Demand advanced functions activation codes that you have obtained for your system. Specify the appropriate code in the Code field to activate any of the following on-demand functions:

- **Advanced POWER Virtualization:** Permanently activates the Advanced POWER Virtualization capabilities, which can include Virtual I/O Server and Micro-Partitioning.
- **Enterprise Enablement:** Permanently activates the Enterprise Enablement capabilities, which can include 5250 Commercial Processing Workload (5250 CPW) capacity for application processing.

Use the **View History Log** task to see the activation history log for Capacity on Demand advanced functions on your system. The history log contains information about the activations of Capacity on Demand advanced functions that have occurred on your system. Capacity on Demand advanced functions include Advanced POWER Virtualization and Enterprise Enablement.

A log entry is created each time an activation code is entered successfully, and an additional log entry is created for each capability that is enabled by the activation code. For each entry in the Capacity on Demand advanced functions activation history log, this table shows the date and time on the system when the entry was logged and a description of the log entry. The entries are shown in chronological order, starting with the most recent entry.

If the history log has wrapped, a message is shown at the bottom of the window. The history log can contain as many as eight activation code entries. (For each activation code entry, an additional log entry is created for each capability that is enabled by the activation code.) When eight activation code entries have been logged to the history log, the next entry causes the history log to wrap (that is, the newest entry overlays the oldest entry).

Use the **View Code Information** task to view the information used to generate a CoD advanced functions activation code for the selected managed system. If you want to save this information to a file, select **Save**.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Other Advanced Functions

Use the **Other Advanced Functions** tasks to enter an advanced function activation code, view advanced function code information, or view a history log of advanced function activation activity.

Use **Enter Activation Code** to enter any Capacity on Demand advanced functions activation codes that you have obtained for your system. Specify the appropriate code in the Code field to activate any of the following on-demand functions:

- **Advanced POWER Virtualization:** Permanently activates the Advanced POWER Virtualization capabilities, which can include Virtual I/O Server and Micro-Partitioning.
- **Enterprise Enablement:** Permanently activates the Enterprise Enablement capabilities, which can include 5250 Commercial Processing Workload (5250 CPW) capacity for application processing.

Use the **View History Log** task to see the activation history log for Capacity on Demand advanced functions on your system. The history log contains information about the activations of Capacity on Demand advanced functions that have occurred on your system. Capacity on Demand advanced functions include Advanced POWER Virtualization and Enterprise Enablement.

A log entry is created each time an activation code is entered successfully, and an additional log entry is created for each capability that is enabled by the activation code. For each entry in the Capacity on Demand advanced functions activation history log, this table shows the date and time on the system when the entry was logged and a description of the log entry. The entries are shown in chronological order, starting with the most recent entry.

If the history log has wrapped, a message is shown at the bottom of the window. The history log can contain as many as eight activation code entries. (For each activation code entry, an additional log entry is created for each capability that is enabled by the activation code.) When eight activation code entries have been logged to the history log, the next entry causes the history log to wrap (that is, the newest entry overlays the oldest entry).

Use the **View Code Information** task to view the information used to generate a CoD advanced functions activation code for the selected managed system. If you want to save this information to a file, click Save.

Related HMC CLI commands:

- “chcod” on page 150
- “lscod” on page 191

Chapter 4. Systems Management - Partitions

Systems Management displays tasks to manage servers, logical partitions, and frames. Use these tasks to set up, configure, view current status, troubleshoot, and apply solutions.



This chapter describes the tasks displayed when a partition is selected.

To launch these tasks, see “Launching tasks for managed objects” on page 24. The following sets of tasks are represented in the tasks pad, tasks menu, or context menu. The tasks listed in the tasks pad change as selections are made in the work area. The context is always listed at the top of the tasks pad in the format Task: Object. These tasks are listed when a partition is selected and the context is Tasks: *partition name*.

Properties

The **Properties** task displays the selected partition’s properties. This information is useful in resource allocation and partition management. These properties include:

General

The **General** tab displays the partition’s name, id, environment, state, resource configuration, operating system, the current profile used when starting the partition, and the system on which the partition is located.

Hardware

The **Hardware** tab displays the current usage of processors, memory, and I/O on the partition.

Virtual Adapters

The **Virtual Adapters** tab displays the current configuration of virtual adapters. Virtual adapters allow for the sharing of resources between partitions. From this tab, you can view, create, and edit virtual adapters on the partition.

Settings

The **Settings** tab displays the boot mode and keylock position of the partition. Also displayed are the current service and support settings for the partition.

Other The **Other** tab displays the partition’s Workload Management Group (if applicable), and the partition’s Power controlling partitions.

Change Default Profile

Use the **Change Default Profile** task to change the default profile for the partition.

Select a profile from the drop down list to be the new default profile.

Related HMC CLI commands:

- “chsyscfg” on page 167

Operations

Operations contains the tasks for operating partitions. The following are represented in the **Operations** tasks.

- “Activate” on page 70
- “Restart” on page 70

- “Shut Down”
- “Manage Attention LED” on page 71
- “Schedule Operations” on page 71
- “Delete” on page 72

Activate

Use the **Activate** task to activate a partition on your managed system in the **Not Activated** state.

A list of profiles is displayed that are valid to start the selected partition. Select from the list of profiles and click OK to activate the partition. Check **Open a terminal window or console** to do so.

Restart

Use this task to restart the selected logical partition or partitions.

For i5/OS logical partitions, use this window only if you cannot restart the i5/OS logical partition from the command line of the operating system. Using this window to restart an i5/OS logical partition will result in an abnormal IPL.

Choose one of the following options (the Operating System option and the Operating System Immediate option are only enabled if Resource Monitoring and Control (RMC) is up and configured):

Dump The HMC shuts down the logical partition and initiates a main storage or system memory dump. For AIX and Linux logical partitions, the HMC also notifies the logical partition that it will be shut down. For i5/OS logical partitions, the processors are stopped immediately. After the shutdown is complete, the logical partition is immediately restarted. (i5/OS logical partitions are restarted multiple times so that the logical partition can store the dump information.) Use this option if a portion of the operation system appears hung and you want a dump of the logical partition for analysis.

Operating System

The HMC shuts down the logical partition normally by issuing a shutdown -r command to the logical partition. During this operation, the logical partition performs any necessary shutdown activities. After the shutdown is complete, the logical partition is immediately restarted. This option is only available for AIX logical partitions. Immediate: The HMC shuts down the logical partition immediately. The HMC ends all active jobs immediately. The programs running in those jobs are not allowed to perform any job cleanup. This option might cause undesirable results if data has been partially updated. Use this option only after a controlled end has been unsuccessfully attempted.

Operating System Immediate

The HMC shuts down the logical partition immediately by issuing a shutdown -Fr command to the logical partition. During this operation, the logical partition bypasses messages to other users and other shutdown activities. After the shutdown is complete, the logical partition is immediately restarted. This option is only available for AIX logical partitions.

Dump Retry

The HMC retries a main storage or system memory dump on the logical partition. After this is complete, the logical partition is shut down and restarted. Use this option only if you have previously tried the Dump option without success. This option is only available for i5/OS logical partitions.

Related HMC CLI commands:

- “chsysstate” on page 174

Shut Down

Use this task to shut down the selected logical partition or partitions.

For i5/OS logical partitions, use this window only if you cannot shut down the i5/OS logical partition from the command line of the operating system. Using this window to shut down an i5/OS logical partition will result in an abnormal IPL.

Choose from the following options:

Delayed

The HMC shuts down the logical partition using the delayed power-off sequence. This allows the logical partition time to end jobs and write data to disks. If the logical partition is unable to shut down within the predetermined amount of time, it will end abnormally and the next restart may be longer than normal.

Immediate

The HMC shuts down the logical partition immediately. The HMC ends all active jobs immediately. The programs running in those jobs are not allowed to perform any job cleanup. This option might cause undesirable results if data has been partially updated. Use this option only after a controlled shutdown has been unsuccessfully attempted.

Operating System

The HMC shuts down the logical partition normally by issuing a shutdown command to the logical partition. During this operation, the logical partition performs any necessary shutdown activities. This option is only available for AIX logical partitions.

Operating System Immediate

The HMC shuts down the logical partition immediately by issuing a shutdown -F command to the logical partition. During this operation, the logical partition bypasses messages to other users and other shutdown activities. This option is only available for AIX logical partitions.

Related HMC CLI commands:

- “chsysstate” on page 174

Manage Attention LED

Use the **Manage Attention LED** to activate or deactivate an attention LED on your partition.

All attention LEDs for the partitions on the managed system are listed. Select an LED and choose to activate or deactivate.

Schedule Operations

Use this task to create a schedule for certain operations to be performed on the logical partition without operator assistance.

Scheduled operations are helpful for situations where automatic, delayed, or repetitious processing of system operations is necessary. A scheduled operation is started at a specified time, without operator assistance to perform the operation. A schedule can be set for one operation or repeated many times.

For example, you could schedule an operation to remove resources from a logical partition or move resources from one logical partition to another.

The **Scheduled Operations** task displays the following information for each operation:

- The processor that is the object of the operation.
- The scheduled date
- The scheduled time
- The operation
- The number of remaining repetitions

From the **Scheduled Operations** window you can:

- Schedule an operation to run at a later time
- Define operations to repeat at regular intervals
- Delete a previously scheduled operation
- View details for a currently scheduled operation
- View scheduled operations within a specified time range
- Sort scheduled operations by date, operation, or managed system

An operation can be scheduled to occur one time or it can be scheduled to be repeated. You will be required to provide the time and date that you want the operation to occur. If the operation is scheduled to be repeated, you will be asked to select:

- The day or days of the week that you want the operation to occur. (optional)
- The interval, or time between each occurrence. (required)
- The total number of repetitions. (required)

The operations that can be scheduled for a logical partition are:

Activate on an LPAR

Schedules an operation on a selected profile for activation of the selected logical partition.

Dynamic Reconfiguration

Schedules an operation for adding, removing, or moving a resource (processors or megabytes of memory).

Operating System Shutdown (on a partition)

Schedules a shutdown of the selected logical partition.

To schedule operations on the HMC:

1. Open **Systems Management** from the navigation pane.
2. Select one or more partitions to work with from the work pane.
3. In the tasks pad, select the **Operations** task category, then open **Schedule Operations**. The **Schedule Operations** window is displayed.
4. From the **Schedule Operations** window, click **Options** from the menu bar to display the next level of options:
 - To add a scheduled operation, point to **Options** and then click **New...**
 - To delete a scheduled operation, select the operation you want to delete, point to **Options** and then click **Delete**.
 - To update the list of scheduled operations with the current schedules for the selected objects, point to **Options** and then click **Refresh**.
 - To view a scheduled operation, select the operation you want to view, point to **View** and then click **Schedule Details...**
 - To change the time of a scheduled operation, select the operation you want to view, point to **View** and then click **New Time Range...**
 - To sort the scheduled operations, point to **Sort** and then click one of the sort categories that appears.
5. To return to the HMC workplace, point to **Options** and then click **Exit**.

Use the online Help to get additional information for scheduling an operation.

Delete

Use the **Delete** task to delete the selected partition.

The Delete task deletes the selected partition and all of the partition profiles associated with the partition from the managed system. When you delete a partition, all hardware resources currently assigned to that partition become available to other partitions.

Configuration

Configuration contains the tasks for configuring your partitions. The following are represented in the **Configuration** tasks:

- “Manage Profiles”
- “Manage Custom Groups”
- “Save Current Configuration”

Manage Profiles

Use the **Manage Profiles** task to create, edit, copy, delete, or activate a profile for the selected partition.

A partition profile contains the resource configuration for the partition. You can modify the processor, memory, and adapter assignments for a profile by editing the profile.

The default partition profile for a logical partition is the partition profile that is used to activate the logical partition if no other partition profile is selected. You cannot delete the default partition profile unless you first designate another partition profile as the default partition profile. The default profile is defined in the status column.

Choose **Copy** to create an exact copy of the selected partition profile. This allows you to create multiple partition profiles that are nearly identical to one another by copying a partition profile and changing the copies as needed.

Manage Custom Groups

Groups are comprised of logical collections of objects. You can report status on a group basis, allowing you to monitor your system in a way that you prefer.

You can also nest groups (a group contained within a group) to provide hierarchical or topology views.

One or more user-defined groups might already be defined on your HMC. Default groups are listed under the **Custom Groups** node under **Server Management**. The default groups are **All Partitions** and **All Objects**. You can create others, delete the ones that were created, add to created groups, create groups using the pattern match method, or delete from created groups by using the **Manage Custom Groups** task.

Use the online Help if you need additional information for working with groups.

Save Current Configuration

Use this task to save the current configuration of a logical partition to a new partition profile by entering a new profile name.

This procedure is useful if you change the configuration of a logical partition using dynamic logical partitioning and you do not want to lose the changes when you restart the logical partition. You can perform this procedure at any time after you initially activate a logical partition.

Related HMC CLI commands:

- “mksyscfg” on page 219

Hardware (Information)

Hardware (Information) tasks are used to display information about the hardware attached to a selected managed system.

The following are represented in the **Hardware (Information)** tasks:

- “View Hardware Topology” on page 56

Adapters

Use the **Adapters** tasks to view information about the Host Ethernet Adapters (HEA, also referred to as Integrated Virtual Ethernet adapters) or Host Channel Adapters (HCA) for a selected managed system.

Host Ethernet Adapter (HEA)

A Host Ethernet Adapter (HEA) allows multiple logical partitions to share a single physical Ethernet adapter.

Unlike most other types of I/O devices, you can never assign the HEA itself to a logical partition. Instead, multiple logical partitions can connect directly to the HEA and use the HEA resources. This allows these logical partitions to access external networks through the HEA without having to go through an Ethernet bridge on another logical partition.

Use the **Host Ethernet** task to display or configure the ports of the physical HEAs on a selected managed system.

To configure a physical port on an HEA, select the port from the list and select **Configure**.

Use the online Help for additional information on configuring HEA ports.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Host Channel Adapter (HCA)

Host Channel Adapters provide a managed system with port connections to other InfiniBand devices. That port can be connected to another HCA, a target device, or an InfiniBand switch that redirects the data coming in on one of its ports out to a device attached to another of its ports.

Use the **Host Channel** task to show a list of the HCAs for the managed system. You can select an HCA from the list to display the current partition usage for the HCA.

From this task you can display:

- The physical location of each HCA on the managed system.
- The number of globally unique identifiers (GUIDs) that are in use on each HCA.
- The number of GUIDs on each HCA that are available to be assigned to logical partitions.
- HMC management status. HCAs that are unable to be managed by an HMC are in an error state.
- The logical partition usage for a selected HCA.

Related HMC CLI commands:

- “lshwres” on page 197

Switch Network Interface

Use the **Switch Network Interface** task to display a list of the Switch Network Interface (SNI) adapters for the selected managed system.

Displayed is the SNI adapter handle, the name of the partition to the adapter is assigned, the physical location of the adapter, and the host name or IP address of the adapter.

Dynamic Logical Partitioning

Dynamic Logical Partitioning (DLPAR) tasks dynamically add or remove processors, memory, and adapters to and from logical partitions.

The following are represented in the **Dynamic Logical Partitioning** tasks:

- “Processor”
- “Memory”
- “Virtual Adapter” on page 76
- “Host Ethernet” on page 76

Processor

Use DLPAR **Processor** tasks to add or remove processor resources from a logical partition or to move processor resources from one logical partition to another.

Use the **Add or Remove** task to add processor resources to or remove processor resources from the selected logical partition without restarting the logical partition.

Use the **Move** task to move processor resources from the selected logical partition to another logical partition without restarting either logical partition.

Use the online Help for more information on adding, removing, or moving processor resources.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Memory

Use DLPAR **Memory** tasks to add or remove memory resources from a logical partition or to move memory resources from one logical partition to another.

Use the **Add or Remove** task to add memory to or remove memory from the selected logical partition without restarting the logical partition.

Use the **Move** task to move memory from the selected logical partition to another logical partition without restarting either logical partition.

Use the online Help for more information on adding, removing, or moving processor resources.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Physical Adapters

Use the DLPAR Physical Adapters tasks to add I/O slots to a logical partition without restarting the partition or to move or remove I/O slots from a logical partition without restarting the partition.

Use the **Add** task to add I/O slots to a logical partition without restarting the partition. When you add an I/O slot to a logical partition, the I/O adapter in that I/O slot and the devices that are controlled by

the I/O adapter can be used by the logical partition. This function is typically used to share infrequently used devices among logical partitions by moving these devices from one logical partition to another.

Use the **Move or Remove** task to remove I/O slots from a logical partition or move I/O slots between logical partitions without restarting the logical partitions. When you remove an I/O slot from a logical partition, the I/O adapter in that I/O slot and the devices that are controlled by the I/O adapter are also removed from the logical partition. If you choose to move the I/O slot to another logical partition, the I/O adapter and the devices that are controlled by the I/O adapter are also moved to the other logical partition. This function is typically used to share infrequently used devices among logical partitions by moving these devices from one logical partition to another.

Vary off the I/O slot and all I/O adapters and devices connected to the I/O slot before you remove the I/O slot from the logical partition.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Virtual Adapter

This task displays a list of all of the virtual adapters that currently exist for this logical partition or partition profile.

Use this task to create, change, or remove a virtual adapter on a logical partition or in a partition profile.

From this task you can:

- Display the properties of a virtual adapter.
- Edit the properties of a virtual adapter.
- Create a new virtual adapter.
- Delete a virtual adapter.

Use the online Help for more information on managing virtual adapters.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Host Ethernet

Use **Host Ethernet** tasks to add Logical Host Ethernet Adapter (LHEA) logical ports dynamically to a running logical partition.

Use the **Add** task to add LHEA logical ports dynamically to a running logical partition. These logical ports allow the logical partition to access and use the physical port resources on a physical Host Ethernet Adapter (HEA).

Some operating system or system software versions do not allow you to add logical ports dynamically. Consult the documentation for the operating system or system software for more information.

To add logical ports dynamically to the logical partition, select the HEA whose resources you want to use, select the physical port for which you want to create a logical port, and click **Configure**. You can then configure the logical port and return to this window. If you change your mind about adding a logical port to the logical partition, select the physical port that corresponds to the logical port and click **Reset**. You can then configure a different logical port for that physical port.

When you are done adding logical ports to the running logical partition, click **OK**.

Use the **Move or Remove** task to move LHEA logical ports dynamically from the selected logical partition.

These logical ports allow the logical partition to access and use the physical port resources on a physical HEA. You can move the logical ports dynamically to another running logical partition, or you can leave the logical ports as unassigned.

Some operating system or system software versions do not allow you to move or remove logical ports dynamically. Consult the documentation for the operating system or system software for more information.

To remove logical ports dynamically from the logical partition, select the HEA whose logical ports you want to remove, select the physical port whose logical ports you want to remove and click **OK**.

To move logical ports dynamically from the logical partition to another running logical partition, select the HEA whose logical ports you want to remove, select the physical port whose logical ports you want to move, select the destination logical partition in Logical Partition, and click **OK**.

Related HMC CLI commands:

- “chhwres” on page 155
- “lshwres” on page 197

Console window

Use the **Open Terminal Window** task to open a terminal window to the operating system running on the selected partition.

Use the **Close Terminal Connection** task to close the connection.

Use the **Open Shared 5250 Console** task to open a shared console with an i5/OS partition.

Use the **Open Dedicated 5250 Console** task to open a dedicated console with an i5/OS partition.

Serviceability

Problem Analysis on the HMC automatically detects error conditions and reports to you any problem that requires service to repair it. These problems are reported to you as serviceable events. Use the **Manage Events** task to view specific events for selected systems. However, if you notice a problem occurred or you suspect a problem is affecting the system but Problem Analysis has not reported it to you, use the **Create Serviceable Event** task to report the problem to your service provider.

The following are represented in the **Serviceability** tasks:

- “Manage Serviceable Events” on page 120
- “Create Serviceable Event” on page 115
- “Reference Code History” on page 58
- “Control Panel Functions” on page 58
- “Hardware” on page 58
- “Manage Dumps” on page 60
- “Collect VPD” on page 60
- “Edit MTMS” on page 61
- “FSP Failover” on page 61

Manage Serviceable Events

Problems on your managed system are reported to the HMC as serviceable events. The **Manage Serviceable Events** task allows you view the problem, manage problem data, call home the event to your service provider, or repair the problem.

To set the criteria for the serviceable events you to view:

1. Open the **Manage Serviceable Events** task from the tasks pad.
2. From the **Manage Serviceable Events** window provide event criteria, error criteria, and FRU criteria.
3. Click **OK** when you have specified the criteria you want for the serviceable events you want to view.
4. Select **ALL** if you do not want the results filtered.

The **Serviceable Events Overview** panel displays all of the events that match your criteria. The information displayed in the compact table view includes:

- Problem Number
- PMH Number
- Reference Code - Click on the Reference code to display a description of the problem reported and actions that may be taken to fix the problem.
- Status of the problem
- Last reported time of the problem
- Failing MTMS of the problem

The full table view includes more detailed information, including reporting MTMS, first reported time, and serviceable event text.

Select a serviceable event and use the **Selected** drop down menu to:

- **View event details:** FRUs associated with this event and their descriptions.
- **Repair the event:** Launch a guided repair procedure, if available.
- **Call home the event:** Report the event to your service provider.
- **Manage event problem data:** View, call home, or offload to media data and logs associated with this event.
- **Close the event:** After the problem is solved, add comments and close the event.

Use the online Help if you need additional information on managing serviceable events.

Reference Code History

Use the **Reference Code History** task to view reference codes that have been generated for the selected logical partition. Reference codes are diagnostic aids that help you determine the source of a hardware or operating system problem.

By default, only the most recent reference codes that the logical partition has generated are displayed. To view more reference codes, enter the number of reference codes that you want to view into **View history** and click **Go**. The window displays that number of the latest reference codes, with the date and time at which each reference code was generated. The window can display up to the maximum number of reference codes stored for the logical partition.

Control Panel Functions

This task displays the available virtual control panel functions for the partition selected. The tasks are:

(21) Activate Dedicated Service Tools

Starts Dedicated Service Tools (DST) on the partition.

(65) Disable Remote Service

Deactivates remote service on the partition.

(66) Enable Remote Service

Activates remote service on the partition.

(67) Disk Unit IOP Reset/Reload

Disk unit IOP reset/reload is enabled only by specific disk unit error conditions.

(68) Concurrent Maintenance Power Off Domain

Concurrent maintenance power domain Power Off.

(69) Concurrent Maintenance Power On Domain

Concurrent maintenance power domain Power On.

(70) IOP Control Storage Dump

This IOP dump function is enabled by specific error conditions.

Chapter 5. Systems Management - Frames

Systems Management displays tasks to manage servers, logical partitions, and frames. Use these tasks to set up, configure, view current status, troubleshoot, and apply solutions.



This chapter describes the tasks used when a frame is selected.

To launch these tasks, see “Launching tasks for managed objects” on page 24. The following sets of tasks are represented in the tasks pad, tasks menu, or context menu. The tasks listed in the tasks pad change as selections are made in the work area. The context is always listed at the top of the tasks pad in the format Task: Object. These tasks are listed when a managed system is selected and the context is Tasks: *Frame Name*.

Properties

The **Properties** task displays the selected frame properties. These properties include:

General

The **General** tab displays the frame name and number, state, type, model, and serial number.

Managed Systems

The **Managed Systems** tab displays all of the managed systems contained in the frame and their cage numbers. A cage is a division of the enclosure that holds the managed systems, the I/O units, and the bulk power assemblies (BPAs).

I/O Units

The **I/O Units** tab displays all of the I/O units contained in the frame, their cage numbers, and their assigned managed systems. A cage is a division of the enclosure that holds the managed systems, the I/O units, and the bulk power assemblies (BPAs). “Not owned” in the System column indicates that the corresponding I/O unit has not been assigned to a managed system.

Update Password

Use the **Update Password** task to update HMC access and Advanced System Management Interface (ASMI) passwords on the managed system.

The first time you access a managed system using an HMC, the system prompts you to enter passwords for each of the following:

- Hardware Management Console: HMC access
- Advanced System Management Interface: General
- Advanced System Management Interface: Admin

If you are using an HMC to access the managed system before all required passwords have been set, enter the appropriate password for each password that is presented in the Update Password task.

If another HMC subsequently needs access to this managed system, upon attempting to access this HMC the user is presented with the Update Password Failed Authentication window, which will prompt for the HMC access password you entered.

In the event that the HMC access password changes while you are logged in to the managed system, your HMC will discover that it can no longer authenticate after it attempts to reconnect to that managed

system. This will result in a state of *Failed Authentication* for that managed system. You will be required to enter the new password before any actions can be performed.

Operations

Operations contains the tasks for operating frames. The following are represented in the **Operations** tasks.

- “Initialize”
- “Rebuild”
- “Change Password”
- “Power On/Off IO Unit”

Initialize

Use the **Initialize** task to initialize a frame.

When you initialize a managed frame, all of the frames managed by the HMC are powered on. As each individual frame is powered on, the I/O units that are contained within the frame are powered on as well. When all the I/O units for the frame have been powered on, then the managed systems that are contained within the frame are powered on. The complete initialization process may take several minutes to complete.

Note: Managed systems that are already powered on will not be affected (meaning they will not be powered off and back on again).

Rebuild

Use the **Rebuild** task to rebuild frame information on the HMC.

Updating, or rebuilding, the frame acts much like a refresh of the frame information. Rebuilding the frame is useful when the system’s state indicator in the Work pane of the HMC is shown as *Incomplete*. The *Incomplete* indicator signifies that the HMC cannot gather complete resource information from the managed system within the frame.

No other tasks can be performed on the HMC during this process, which may take several minutes.

Change Password

Use the **Change Password** task to change the HMC access password on the selected managed frame. After the password is changed, you must update the HMC access password for all other HMCs from which you want to access this managed frame.

Enter the current password. Then enter a new password and verify it by entering it again.

Related HMC CLI commands:

- “chsyspwd” on page 173

Power On/Off IO Unit

Use the **Power On/Off IO Unit** task to power off an IO unit.

Only units or slots that reside in a power domain can be powered off. The corresponding power on/off buttons will be disabled for location codes that are not controllable by the HMC.

Configuration

Configuration contains the tasks for configuring your frame. You can manage custom groups using the Configuration task.

Manage Custom Groups

Groups comprise logical collections of objects. You can report status on a group basis, allowing you to monitor your system in a way that you prefer.

You can also nest groups (a group contained within a group) to provide hierarchical or topology views.

One or more user-defined groups might already be defined on your HMC. Default groups are listed under the **Custom Groups** node under **Server Management**. The default groups are **All Partitions** and **All Objects**. You can create others, delete the ones that were created, add to created groups, create groups using the pattern match method, or delete from created groups by using the **Manage Custom Groups** task.

Use the online Help if you need additional information for working with groups.

Connections

Connections tasks allow you to view the HMC connection status to frames or reset those connections.

Bulk Power Assembly (BPA) Status

Use the **Bulk Power Assembly Status** task to view the state of the connection from the Hardware Management Console (HMC) to side A and side B of the bulk power assembly. The HMC will operate normally with a connection to either side A or side B. However, for code update operations and some concurrent maintenance operations, the HMC needs connections to both sides.

Displayed are:

- IP address
- BPA Role
- Connection Status
- Connection Error code

If the status is not Connected, the Connection status may be:

Starting/Unknown

One of the bulk power assemblies (BPAs) contained in the frame is in the process of starting. The state of the other BPA cannot be determined.

Standby/Standby

Both of the bulk power assemblies (BPAs) contained in the frame are in the standby state. A BPA in the standby state is operating normally.

Standby/Starting

One of the bulk power assemblies (BPAs) contained in the frame is operating normally (in standby state). The other BPA is in the process of starting.

Standby/Not Available

One of the bulk power assemblies (BPAs) contained in the frame is operating normally (in the standby state), but the other BPA is not operating normally.

Pending frame number

A change to the frame number is in progress. No operations can be performed when the frame is in this state.

Failed Authentication

The HMC access password for the frame is not valid. Enter a valid password for the frame.

Pending Authentication - Password Updates Required

The frame access passwords have not been set. You must set the required passwords for the frame, to enable secure authentication and access control from the HMC.

No Connection

The HMC cannot connect to the frame.

Incomplete

The HMC failed to get all of the necessary information from the managed frame. The frame is not responding to requests for information.

Reset

Use the **Reset** task to reset the connection between the HMC and the selected managed frame.

When you reset the connection with a managed frame, the connection is broken and then reconnected. Reset the connection with the managed frame if the managed frame is in a No Connection state and you have verified that the network settings are correct on both the HMC and the managed frame.

Hardware (Information)

Hardware (Information) tasks are used to display information about the hardware attached to a selected managed frame.

The following are represented in the **Hardware (Information)** tasks:

- “View RIO Topology”

View RIO Topology

This task displays the current RIO topology for the selected managed frame and any discrepancies between the current topology and the last valid topology.

High Speed Link (HSL), also known as Remote I/O (RIO), resources provide the connection between system I/O busses and the system processor. HSL/RIO resources are normally configured in loops with the system unit having an HSL/RIO controller resource that handles routing of the data between the system processor and the system I/O busses. System I/O busses connect to the loop with HSL I/O adapter or RIO adapter resources.

Use this task to display the current RIO topology of the selected managed system. Current Topology displays the current topology. Any discrepancies between the current topology and the last valid topology are identified as errors. The following information is shown:

- The starting location of the physical RIO cable and the RIO connection (cable to port)
- The ending location of the physical RIO cable and the RIO connection (cable to port)
- Starting Node Type Displays the values of the node. Possible values are Local Bridge, Local NIC, Remote Bridge, and Remote NIC
- Link Status Displays the leading port status
- Cable Length Displays the length of the RIO cables. Errors occur when the actual cable lengths are different from the expected cable lengths
- The serial number of the power-controlling managed system
- The serial number of the function-controlling managed system

Serviceability

Problem Analysis on the HMC automatically detects error conditions and reports to you any problem that requires service to repair it. These problems are reported to you as serviceable events. Use the **Manage Serviceable Events** task to view specific events for selected systems. Use the **Hardware** tasks to add, remove, or exchange a Field Replaceable Unit (FRU).

The following are represented in the **Serviceability** tasks:

- “Manage Serviceable Events” on page 85

- “Hardware”

Manage Serviceable Events

Problems on your managed frame are reported to the HMC as serviceable events. The **Manage Serviceable Events** task allows you to view the problem, manage problem data, call home the event to your service provider, or repair the problem.

To set the criteria for the serviceable events you to view:

1. Open the **Manage Serviceable Events** task from the tasks pad.
2. From the **Manage Serviceable Events** window provide event criteria, error criteria, and FRU criteria.
3. Click **OK** when you have specified the criteria you want for the serviceable events you want to view.
4. Select **ALL** if you do not want the results filtered.

The **Serviceable Events Overview** panel displays all of the events that match your criteria. The information displayed in the compact table view includes:

- Problem Number
- PMH Number
- Reference Code - Click on the Reference code to display a description of the problem reported and actions that may be taken to fix the problem.
- Status of the problem
- Last reported time of the problem
- Failing MTMS of the problem

The full table view includes more detailed information, including reporting MTMS, first reported time, and serviceable event text.

Select a serviceable event and use the **Selected** drop down menu to:

- **View event details:** FRUs associated with this event and their descriptions.
- **Repair the event:** Launch a guided repair procedure, if available.
- **Call home the event:** Report the event to your service provider.
- **Manage event problem data:** View, call home, or offload to media data and logs associated with this event.
- **Close the event:** After the problem is solved, add comments and close the event.

Use the online Help if you need additional information on managing serviceable events.

Hardware

These tasks are used to add, exchange, or remove hardware from the managed frame. From the hardware tasks you can display a list of installed FRUs or enclosures and their locations. Select a FRU or an enclosure and launch a step-by-step procedure to add, exchange, or remove the unit.

Hardware tasks include:

- “Add FRU”
- “Add Enclosure” on page 86
- “Exchange FRU” on page 86
- “Exchange Enclosure” on page 59
- “Remove FRU” on page 86
- “Remove Enclosure” on page 87

Add FRU

Use the **Add FRU** task to locate and add a Field Replaceable Unit (FRU).

To add a FRU:

1. Select an enclosure type from the drop down list.

2. Select an FRU type from the list.
3. Click **Next**.
4. Select a location code from the displayed list.
5. Click **Add** to add the selected enclosure location to **Pending Actions**.
6. Click **Launch Procedure** to begin adding the selected FRU type to the enclosure locations identified in Pending Actions.
7. Click **Finish** when you have completed the FRU installation process.

Add Enclosure

Use the **Add Enclosure** task to locate and add an enclosure.

To add an enclosure:

1. Select an enclosure type, then click **Add** to add the selected enclosure type's location code to **Pending Actions**.
2. Click **Launch Procedure** to begin adding the enclosures identified in **Pending Actions** to the selected system.
3. Click **Finish** when you have completed the enclosure installation process.

Exchange FRU

Use the **Exchange FRU** task to exchange one FRU with another.

To exchange a FRU:

1. Select an installed enclosure type from the drop down list.
2. From the displayed list of FRU types for this enclosure, select an FRU type.
3. Click **Next** to display a list of locations for the FRU type.
4. Select a location code for a specific FRU.
5. Click **Add** to add the FRU location to **Pending Actions**.
6. Select **Launch Procedure** to begin replacing the FRUs listed in **Pending Actions**.
7. Click **Finish** when you have completed the installation.

Exchange Enclosure

Use the **Exchange Enclosure** task to exchange one enclosure for another.

To exchange an enclosure:

1. Select an installed enclosure, then click **Add** to add the selected enclosure's location code to **Pending Actions**.
2. Click **Launch Procedure** to begin replacing the enclosures identified in **Pending Actions** in the selected system.
3. Click **Finish** when you have completed the enclosure replacement process

Remove FRU

Use the **Remove FRU** task to remove a FRU from your managed system.

To remove a FRU:

1. Select an enclosure from the drop down list to display a list FRU types currently installed in the selected enclosure.
2. From the displayed list of FRU types for this enclosure, select an FRU type.
3. Click **Next** to display a list of locations for the FRU type.
4. Select a location code for a specific FRU.
5. Click **Add** to add the FRU location to **Pending Actions**.

6. Select **Launch Procedure** to begin removing the FRUs listed in **Pending Actions**.
7. Click **Finish** when you have completed the removal procedure.

Remove Enclosure

Use the **Remove Enclosure** task to remove an enclosure.

To remove an enclosure:

1. Select an enclosure type, then click **Add** to add the selected enclosure type's location code to **Pending Actions**.
2. Click **Launch Procedure** to begin removing the enclosures identified in **Pending Actions** from the selected system.
3. Click **Finish** when you have completed the enclosure removal process.

Chapter 6. System Plans

System Plans displays the tasks used to record or import specifications for logical partitions, partition profiles, or hardware specifications on a chosen system.

To display the tasks available for a system plan, select a system plan from the System Plan work pane table. The following tasks are available:

- “View System Plan”
- “Create System Plan”
- “Deploy System Plan” on page 90
- “Export System Plan” on page 90
- “Import System Plan” on page 91
- “Remove System Plan” on page 91

Related HMC CLI commands:

- “cpsysplan” on page 179
- “defsysplanres” on page 181
- “deploysysplan” on page 181
- “lssysplan” on page 215
- “lssysplanres” on page 216
- “mksysplan” on page 226
- “rmsysplan” on page 234
- “rmsysplanres” on page 234

View System Plan

This task is used to review the detailed information in the selected system plan.

The System Plan Viewer consists of four main areas:

Title pane

Displays basic information about the System Plan Viewer and the application from which you accessed the viewer.

Navigation pane

Provides a navigation tree of the system plan that you are viewing.

Contents pane

Provides the detailed view of the information in the system plan that you are viewing.

Actions pane

Contains action buttons that allow you to work with the system plan.

Use the navigation tree to determine which aspects of the system plan to view. Some levels of the tree can be expanded or collapsed to reveal more entries.

Use the online Help for more information on viewing a system plan.

Related HMC CLI commands:

- “lssysplan” on page 215
- “lssysplanres” on page 216

Create System Plan

This task is used to create a new system plan for a system that this HMC manages. The new system plan contains specifications for the logical partitions and partition profiles of the managed system that you used to create the plan.

The new system plan also can contain hardware information that the HMC is able to obtain from the selected managed system. However, the HMC might not be able to detect all system hardware and partition settings. For example, the HMC is not able to detect the types of disk drives installed on the managed system unless the HMC uses Resource Monitoring and Control (RMC) to monitor resources on the managed system.

To maximize the information that the HMC can obtain from the managed system, power on the managed system and activate the logical partitions on the managed system before creating the new system plan.

When you use the HMC to create a system plan for a managed system, you can capture partition configuration information and a limited amount of associated hardware configuration information. Additionally, you can set up Resource Monitoring and Control (RMC) prior to creating a system plan to capture more detailed information. Although it may cause the creation of the system plan to take several more minutes to finish processing, by using RMC you can capture disk drive and tape drive configuration information for a managed system in the system plan.

Use the online Help for more information on creating a system plan.

Related HMC CLI commands:

- “defsysplanres” on page 181
- “mksysplan” on page 226

Deploy System Plan

This task is used to select the system plan that you want to deploy and the name of the managed system on which you want to deploy the plan.

This task uses the Deploy System Plan wizard to perform the following actions, depending on the contents of the system plan:

- If the system plan contains logical partition information, you can use the wizard to create the specified logical partitions on the managed system. You can choose to create all the logical partitions specified within the system plan, or you can choose which logical partitions in the system plan that you want to create.
- If the system plan contains operating environment installation information, you can use the wizard to install the operating environment for a specified partition. You can use the wizard to specify the resource location that the wizard needs for installing the operating system environment, as well as to specify or change operating environment installation settings. Currently, the wizard provides support for installing a Virtual I/O Server (VIOS) operating environment only.
- If the system plan contains VIOS provisioning information for a partition, you can use the wizard to provision the partition. The wizard can configure one or more client partitions and provision certain resources for the partitions when the system plan contains this type of provisioning information.

Use the online Help for more information on deploying a system plan.

Related HMC CLI commands:

- “deploysysplan” on page 181

Export System Plan

This task is used to export a system plan to other systems or other HMCs.

You have three options for exporting the selected system-plan file:

- You can export the system file to the local system on which you are running the browser to access the HMC.

- You can export the system-plan file to removable media that is currently mounted to the HMC, such as optical discs or USB Mass Storage devices.
- You can export the system-plan file to a remote file transfer protocol (FTP) site. Exporting a system-plan file by means of FTP allows you to import the system-plan file into a different HMC. You can then deploy a system plan in the file to a system that the other HMC manages.

Use the online Help for more information on exporting a system plan.

Import System Plan

This task is used to import a system plan to other systems or other HMCs.

You can save this system plan and import the plan on other systems that this HMC manages that have hardware that is identical to the hardware in the system plan. You can import the system plan on another HMC and use it to deploy the system plan to other systems the target HMC manages that have hardware that is identical to the hardware in the system plan.

You can also import a system plan created using the System Planning Tool (SPT) at <http://www.ibm.com/systems/support/tools/systemplanningtool/>. The SPT is available to assist you in system planning, design, validation and to provide a system validation report that reflects your system requirements while not exceeding system recommendations. The SPT is a PC-based browser application designed to be run in a standalone environment. The SPT emulates an LPAR configuration and validates that the planned partitions are valid. It allows you to test the placement of hardware within the system to ensure that the placement is valid. When you have prepared your partitioning plan using the SPT, you can save this plan in a system plan file. You can import this file into your HMC and deploy the system plan to a managed system that is managed by the HMC. When you deploy the system plan, the HMC creates the logical partitions from the system plan on the managed system.

You can import a system-plan file from one of three sources:

- You can import a system file from the local system on which you are running the browser to access the HMC.
- You can import a system-plan file from removable media that is currently mounted to the HMC, such as optical discs or USB Mass Storage devices.
- You can import a system-plan file from a remote file transfer protocol (FTP) site. Importing a system-plan file by means of FTP allows you to deploy a system plan from a source other than the current HMC.

Use the online Help for more information on importing a system plan.

Remove System Plan

This task is used to permanently remove the specified system plan from the HMC.

Note: Removing the system plan from the HMC does not undo any partition or hardware configuration changes that occurred if the specified system plan was deployed on a managed system.

Use the online Help for more information on removing a system plan.

Related HMC CLI commands:

- “rmsysplan” on page 234
- “rmsysplanres” on page 234

Chapter 7. HMC Management tasks

This chapter alphabetically describes the tasks that are available on the Hardware Management Console (HMC) for the **HMC Management** tasks.

To open these tasks, see “HMC Management” on page 31.

Note: Depending on the task roles assigned to your user ID you may not have access to all the tasks. See Table 12 on page 129 for a listing of the tasks and the user roles allowed to access them.

Back up HMC Data

This task backs up (or archives) the data that is stored on your HMC hard disk that is critical to support HMC operations.

Back up the HMC data after changes have been made to the HMC or information associated with logical partitions.

The HMC data stored on the HMC hard drive can be saved to a DVD-RAM on a local system, a remote system mounted to the HMC file system (such as NFS), or sent to a remote site using File Transfer Protocol (FTP).

Using the HMC, you can back up all important data, such as the following:

- User-preference files
- User information
- HMC platform-configuration files
- HMC log files
- HMC updates through Install Corrective Service.

Note: Use the archived data only in conjunction with a reinstallation of the HMC from the product CDs.

To back up the HMC critical data:

1. Open the **Back up HMC Data** task from the HMC Management work pane.
2. From the **Back up HMC Data** window, choose the archive option you want to perform.
3. Click **Next**, then follow the appropriate instructions depending on the option you chose.
4. Click **OK** to continue with the backup process.

Use the online Help if you need additional information for backing up the HMC data.

Related HMC CLI commands:

- “bkconsdata” on page 147

Change Date and Time

This task enables you to change the time and date of the battery-operated HMC clock and to add or remove time servers for the Network Time Protocol (NTP) service.

Use this task:

- If the battery is replaced in the HMC.
- If your system is physically moved to a different time zone.

Note: The time setting will adjust automatically for daylight saving time in the time zone you select.

To change the date and time:

1. Open the **Change Date and Time** task from the HMC Management work pane.
2. Select the **Customize Console Date and Time** tab. The **Customize Console Date and Time** pane is displayed.
3. Enter the date and time information in the appropriate fields.
4. Click **OK** to apply the new information.

To change the time server information:

1. Open the **Change Date and Time** task from the HMC Management work pane.
2. Select the **NTP Configuration** tab. The **NTP Configuration** pane is displayed.
3. Provide the appropriate information for the time server.
4. Click **OK** to apply the new information.

Use the online Help if you need additional information for changing the date and time of the HMC or for adding or removing time servers for the Network Time Protocol (NTP) service.

Related HMC CLI commands:

- “chhmc” on page 100
- date
- “lshmc” on page 103

Change Language and Locale

This task sets the language and location for the HMC. After you select a language, you can select a locale associated with that language.

The language and locale settings determine the language, the character set, and other settings specific to the country or region (such as formats for date, time, numbers, and monetary units). Changes made in the **Change Language and Locale** window affect only the language and locale for the HMC itself. If you access the HMC remotely, the language and locale settings on your browser determine the settings that the browser uses to display the HMC interface.

To change the language and locale on the HMC:

1. Open the **Change Language and Locale** task from the HMC Management Work pane.
2. From the **Change Language and Locale** window, choose the applicable language and locale.
3. Click **OK** to apply the change.

Use the online Help if you need additional information for changing the language and locale of the HMC.

Related HMC CLI commands:

- “chhmc” on page 100
- “lshmc” on page 103

Change Network Settings

This task allows you to view the current network information for the HMC and to change network settings.

1. Open the **Change Network Settings** from the HMC Management work pane.
2. From the **Change Network Settings** window, you can work with the following tabs:

Identification

Contains the host name and domain name of the HMC.

Console name

Your HMC user name, the name that identifies your console to other consoles on the network. This is the short host name, for example: hmcibm1.

Domain name

A name that Domain Name Services (DNS) can translate to the IP address. For example, DNS might translate the domain name www.example.com to 198.105.232.4. (The long host name consists of the console name plus a period plus the domain name, for example: hmc.endicott.yourcompany.com.)

Console description

This is for your use only. An example might be: Main HMC for customer finance.

LAN Adapters

A summarized list of all (visible) Local Area Network (LAN) adapters. You can select any of these and click **Details...** to open a window allowing you to change addressing, routing, other LAN adapter characteristics, and firewall settings.

Name Services

Specify the Domain Name Services (DNS) and domain suffix values for configuring the console network settings.

Routing

Specify the routing information and default gateway information for configuring the console network settings.

The **Gateway address** is the route to all networks. The default gateway address (if defined) informs this HMC where to send data if the target station does not reside on the same subnet as the source. If your machine can reach all stations on the same subnet (usually a building or a sector within a building), but cannot communicate outside the area, it is usually because of an incorrectly configured default gateway.

You can assign a specific LAN to be the **Gateway device** or you can choose “any.”

You can select **Enable ‘routed’** to start the routed daemon, which allows it to run and allows any routing information to be exported from the HMC.

3. Click **OK** when you have completed this task.

Note: Depending on the type of change that you make, the network or console automatically restarts or the console automatically reboots.

Use the online Help to get additional information for customizing the network settings.

Related HMC CLI commands:

- “chhmc” on page 100
- “lshmc” on page 103

Change User Interface Settings

This task enables you to customize settings that control how the HMC interface appears. You can display or hide certain user interface components and icons, display or hide specific navigation nodes, and determine whether or not to save user interface settings changes.

Note: User interface changes apply to the currently logged on user ID only.

To change user interface settings:

1. Open the **Change User Interface Settings** task from the HMC Management work pane. Optionally, you can also open the task by clicking on the logged on user name link displayed in the task bar below the banner. By default, all items are selected in the **Change User Interface Settings** task window.

2. You can deselect any item that you do not want displayed on your interface, then click **Apply** or **OK** for the change to take affect.
3. When Save settings as my defaults at logoff is selected, any customization to the following items are saved when the user logs off:
 - Displayed user interface components, such as the banner and tasks pad
 - Displayed navigation and work pane icons
 - Displayed nodes in the navigation pane
 - Table view customization, such as filters, sorts, column sizing, ordering, and visibility settings
4. To restore all of the user interface settings to the original defaults, click **Factory Defaults**.

Use the online Help to get additional information for changing the user interface settings.

Change User Password

This task allows you to change your existing password used for logging onto the HMC. A password verifies your user ID and your authority to log in to the console.

To change your password:

1. Open the **Change User Password** task from the HMC Management work pane.
2. From the **Change User Password** window specify your current password, specify a new password you want to use, and respecify the new password to confirm in the fields provided.
3. Click **OK** to proceed with the changes.

Use the online Help if you need additional information for changing your password.

Related HMC CLI commands:

- "chhmcusr" on page 154

Create Welcome Text

This task allows you to customize the welcome message or to display a warning message that appears on the **Welcome** window before you log onto the HMC. You can use this text to notify users of certain corporate policies or security restrictions applying to the system.

To create a message:

1. Open the **Create Welcome Text** task from the HMC Management work pane.
2. From the **Create Welcome Text** window, enter a message in the input area.
3. Click **OK** to apply the change. The next time you log in to the HMC, your message is displayed.

Use the online Help to get additional information about displaying a message before logging onto the HMC.

Related HMC CLI commands:

- "chusrtea" on page 178

Format Media

This task formats a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key.

You can use this task to format the following DVD-RAMs:

- Backup/restore
- Service data.

You can format a diskette by supplying a user-specified label.

To format a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key:

1. Open the **Format Media** task from the HMC Management work pane.
2. From the **Format Media** window, select the type of media you want to format, then click **OK**.
3. Make sure your media has been correctly inserted, then click **Format**. The **Format Media** progress window is displayed. When the media is formatted, the **Format Media Completed** window is displayed.
4. Click **OK** and then click **Close** to end the task.

Use the online Help if you need additional information for formatting a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key.

KDC Configuration

Use the **KDC Configuration** task to view the Key Distribution Center (KDC) servers that are used by this HMC for Kerberos remote authentication.

From this task you can:

- View existing KDC servers.
- Modify existing KDC server parameters including realm, ticket lifetime, and clock skew.
- Add and configure a KDC server on the HMC.
- Remove a KDC server.
- Import a service key.
- Remove a service key.

Kerberos is a network authentication protocol designed to provide strong authentication for client/server applications by using secret-key cryptography.

Under Kerberos, a client (generally either a user or a service) sends a request for a ticket to the Key Distribution Center (KDC). The KDC creates a ticket-granting ticket (TGT) for the client, encrypts it using the client's password as the key, and sends the encrypted TGT back to the client. The client then attempts to decrypt the TGT, using its password. If the client successfully decrypts the TGT (i.e., if the client gave the correct password), it keeps the decrypted TGT, which indicates proof of the client's identity.

The tickets have a time availability period. Kerberos requires the clocks of the involved hosts to be synchronized. If the HMC clock is not synchronized with the clock of KDC server, authentication will fail.

A Kerberos realm is an administrative domain, site, or logical network that uses Kerberos remote authentication. Each realm uses a master Kerberos database that is stored on a KDC server and that contains information about the users and services for that realm. A realm might also have one or more slave KDC servers, which store read-only copies of the master Kerberos database for that realm.

To prevent KDC spoofing, the HMC can be configured to use a service key to authenticate to the KDC. Service key files are also known as keytabs. Kerberos verifies the TGT requested was issued by the same KDC that issued the service key file for the HMC. Before you can import a service key file into an HMC, you must generate a service key for the host principal of the HMC client.

Note: For MIT Kerberos V5 *nix distributions, create a service key file by running the `kadmin` utility on a KDC and using the `ktadd` command. Other Kerberos implementations may require a different process to create a service key.

You can import a service key file from one of these sources:

- Removable media that is currently mounted to the HMC, such as optical discs or USB Mass Storage devices. You must use this option locally at the HMC (not remotely), and you must mount the removable media to the HMC before using this option.

- A remote site using secure FTP. You can import a service-key file from any remote site that has SSH installed and running.

To use Kerberos remote authentication for this HMC, complete the following:

- You must enable the Network Time Protocol (NTP) service on the HMC and set the HMC and the KDC servers to synchronize time with the same NTP server. You can enable the NTP service on the HMC by accessing the **“Change Date and Time”** on page 93 task under **HMC Management**.
- You must set the user profile of each remote user to use Kerberos remote authentication instead of local authentication. A user that is set to use Kerberos remote authentication will always use Kerberos remote authentication, even when the user logs onto the HMC locally.

Note: You do not need to set all users to use Kerberos remote authentication. You can set some user profiles so that the users can use local authentication only.

- Use of a service key file is optional. Before using a service key file, you must import it into the HMC. If a service key is installed on the HMC, realm names must be equivalent to the network domain name. The following is an example of creating the service key file on a Kerberos server using the `kadmin.local` command assuming the HMC hostname is `hmc1`, the DNS domain is `example.com`, and the Kerberos realm name is `EXAMPLE.COM`:

```
- # kadmin_local kadmin.local: ktadd -k /etc/krb5.keytab host/hmc1.example.com@EXAMPLE.COM
```

Using the Kerberos `ktutil` on the Kerberos server, verify the service key file contents. The output should look like the following:

```
- # ktutil
ktutil: rkt /etc/krb5.keytab
ktutil: l
slot KVNO Principal
-----
1    9    host/hmc1.example.com@EXAMPLE.COM
2    9    host/hmc1.example.com@EXAMPLE.COM
```

- The HMC Kerberos configuration can be modified for SSH (Secure Shell) login without a password using GSSAPI. For remote login without a password through Kerberos to an HMC, configure the HMC to use a service key. Once the configuration is completed use `kinit -f principal` to obtain forwardable credentials on a remote Kerberos client machine. Then issue the following command to log in to the HMC without having to enter a password: `$ ssh -o PreferredAuthentications=gssapi-with-mic user@host`

Related HMC CLI commands:

- **“chhmc”** on page 100

View KDC Server

To view existing KDC Servers on your HMC, open the **KDC Configuration** task from the **HMC Management** work pane. If no servers exist and NTP has not yet been enabled, a warning panel message will be displayed. Enable the NTP service on the HMC and configure a new KDC server as desired.

Related HMC CLI commands:

- **“lshmc”** on page 103

Modify KDC Server

To modify existing KDC Server parameters:

1. Open the **KDC Configuration** task from the **HMC Management** work pane.
2. Select a KDC Server.
3. Select a value to modify:

- **Realm** - A realm is an authentication administrative domain. Normally realms always appear in upper case letters. It is good practice to create a realm name that is the same as your DNS domain (in upper case letters). A user belongs to a realm if and only if the user shares a key with the authentication server of that realm. Realm names must be equivalent to the network domain name if a service key file is installed on the HMC.
- **Ticket Lifetime** - Ticket lifetime sets the lifetime for credentials. The format is an integer number followed by one of **s** seconds, **m** minutes, **h** hours, or **d** days. Enter a Kerberos lifetime string such as *2d4h10m*.
- **Clock skew** - Clock skew sets the maximum allowable amount of clock skew between the HMC and the KDC server before Kerberos considers messages invalid. The format is an integer number that represents number of seconds.

4. Click **OK**.

Related HMC CLI commands:

- “chhmc” on page 100

Add KDC server

To add a new KDC server:

1. Open the **KDC Configuration** task from the **HMC Management** work pane.
2. From the **Actions** drop down list, select **Add KDC Server**.
3. Enter the host name or IP address of the KDC server.
4. Enter the KDC server realm.
5. Click **OK**.

To modify the default values for ticket lifetime or clock skew, see “Modify KDC Server” on page 98.

Related HMC CLI commands:

- “chhmc” on page 100

Remove KDC server

Kerberos authentication on the HMC remains enabled until all KDC servers are removed.

To remove a KDC server:

1. Open the **KDC Configuration** task from the **HMC Management** work pane.
2. Select the KDC server from the list.
3. From the **Actions** drop down list, select **Remove KDC Server**.
4. Click **OK**.

Import Service Key

Before you can import a service key file into an HMC, a service key file must first be created on the Kerberos server for the HMC host. The service key file contains the host principal of the HMC client, for example, *host/example.com@EXAMPLE.COM*. In addition to KDC Authentication, the host service key file is used to enable password-less SSH (Secure Shell) login using GSSAPI.

Note: For MIT Kerberos V5 *nix distributions, create a service key file by running the *kadmin* utility on a KDC and using the *ktadd* command. Other Kerberos implementations may require a different process to create a service key.

To import a service key:

1. Open the **KDC Configuration** task from the **HMC Management** work pane.
2. From the **Actions** drop down list, select **Import Service Key**.

3. Select from one of the following:
 - **Local** - The service key must be located on removable media currently mounted on the HMC. You must use this option locally at the HMC (not remotely), and you must mount the removable media to the HMC before using this option. Specify the full path of the service key file on the media.
 - **Remote** - The service key must be located on a remote site available to the HMC via secure FTP. You can import a service key file from any remote site that has SSH (Secure Shell) installed and running. Specify the hostname of the site, a user ID and password for the site, and the full path of the service key file on the remote site.
4. Click **OK**.

Implementation of the service key file will not take effect until the HMC is rebooted. For information on rebooting the HMC, see “Shut Down or Restart” on page 111.

Remove Service Key

To remove the service key from the HMC:

1. Open the **KDC Configuration** task from the **HMC Management** work pane.
2. From the **Actions** drop down list, select **Remove Service Key**.
3. Click **OK**.

You must reboot the HMC after removing the service key. Failure to reboot may cause login errors. For information on rebooting the HMC, see “Shut Down or Restart” on page 111.

chhmc

Change Hardware Management Console configuration information.

Synopsis

To change remote access settings:

```
chhmc -c {ssh | xntp} -s {enable | disable} [--help]
```

To add or remove an entry in the syslog configuration file:

```
chhmc -c syslog -s {add | remove} {-a IP-address | -h host-name} [--help]
```

To add or remove an entry in the network time protocol configuration file:

```
chhmc -c xntp -s {add | remove} {-a IP-address | -h host-name} [--ntpversion 1 | 2] [-nm network-mask] [-i interface] [--help]
```

To configure whether keyboard mapping configuration will occur at the next reboot:

```
chhmc -c kbdcfg -s {enable | disable} [--help]
```

To configure the network as a startup device:

```
chhmc -c netboot -s {enable | disable} [--help]
```

To configure an alternate disk partition on HMC as a startup device:

```
chhmc -c altdiskboot -s {enable | disable} --mode {install | upgrade} [--help]
```

To permit or deny IP addresses from utilizing HMC services:

chhmc -c {ssh | service} -s {add | remove} -a IP-address [-nm network-mask] [-i interface] [--help]

If **-nm** is omitted, the default network mask will be **255.255.255.255**.

If **-i** is omitted, the rule will be applied to all interfaces.

To add or remove entries from the DNS server search order or the domain suffix search order:

chhmc -c network -s {add | remove} [-ns DNS-server] [-ds domain-suffix] [--help]

To change network settings for a specific network interface:

chhmc -c network -s modify -i interface [-a IP-address] [-nm network-mask] [--lparcomm {on | off}] [--help]

To change other network settings:

chhmc -c network -s modify [-h host-name] [-d network-domain-name] [-g gateway] [--help]

To change the locale for the HMC:

chhmc -c locale -s modify -l locale [--help]

To change the HMC date and time, or time zone:

chhmc -c date -s modify [--datetime date-time] [--clock {local | utc}] [--timezone {time-zone | none}] [--help]

To setup a Kerberos realm for the first time:

chhmc -c kerberos -s add [--realm EXAMPLE.COM] [--h kdc1.example.com] [--help]

To remove a Kerberos realm:

chhmc -c kerberos -s remove [--realm EXAMPLE.COM] [--h kdc1.example.com] [--help]

To change the Kerberos default realm:

chhmc -c kerberos -s modify [--defaultrealm EXAMPLE2.COM] [--help]

To change the Kerberos clock skew (in seconds):

chhmc -c kerberos -s modify [--clockskew 240] [--help]

To change the Kerberos ticket lifetime (Kerberos lifetime string = Integer followed by one of s seconds, m minutes, h hours, or d days):

chhmc -c kerberos -s modify [--ticketlifetime 1d12h30m] [--help]

Description

chhmc changes Hardware Management Console (HMC) configuration information, such as remote access settings and network settings.

Options

- c** The type of configuration to be modified. Valid values are **ssh**, **syslog**, **xntp**, **network**, **kbdcfg**, **kerberos**, **netboot**, **altdiskboot**, **locale**, **service**, and **date**.
- s** The new state value of the configuration. Valid values are **enable**, **disable**, **add**, **modify**, and **remove**.
- i** The interface to configure, such as **eth0**.
- a** The network IP address.
- nm** The network mask.
- lparcomm**
The LPAR communication setting for the network interface.
- d** The network domain name.
- h** The host name.
- g** The default gateway IP address.
- ns** The nameserver IP address to add or remove.
- ds** The domain suffix to add or remove.
- ntpversion**
The ntp version if the server is not at NTP version 3 and above.
- mode**
The mode to use when startup from the alternate disk partition. Default value is **upgrade**. Valid values are **install** and **upgrade**.
- l** The locale. For a list of all locales supported by the HMC, issue the **lshmc -L** command.

For the new locale to take effect for the local HMC console, you must log off the console and log back on. For the new locale to take effect for the HMC command line, you must reboot the HMC.
- datetime**
The new date and time to set on the HMC's clock. *datetime* must be specified using the following format:

MMDDhhmm[[CC]YY][.ss]

where *MM* is the month, *DD* is the day, *hh* is the hour in 24 hour format, *mm* is the minutes, *CC* is the century, *YY* is the year, and *ss* is the seconds.

This option is required when the **--clock** option is specified.

You must reboot the HMC after setting the date and time.
- clock**
The BIOS clock type. Valid values are **local** and **utc**.
- timezone**
The time zone to set for the HMC. *timezone* must be specified in *continent/city* format. Specify **none** to remove the time zone setting.

You must reboot the HMC after setting the time zone.
- realm**
The Kerberos realm name.
- defaultrealm**
The default Kerberos realm name.
- clockskew**
The Kerberos clock skew value.

--ticketlifetime

The Kerberos ticket lifetime value.

--sshprotocol

The ssh protocol value.

--help Display the help text for this command and exit.

lshmc

List Hardware Management Console configuration information.

Synopsis

```
lshmc {-b | -l | -L | -n | -r | -v | -V} [-F [attribute-names]] [--header] [--help]
```

Description

lshmc lists Hardware Management Console (HMC) configuration information. This command can be used to list the BIOS level, current locale, supported locales, network settings, remote access settings, Vital Product Data (VPD) information, and version information for the HMC.

Options

-b List the BIOS level of the HMC.

This option cannot be specified with the **-l**, **-L**, **-n**, **-r**, **-v**, or **-V** options.

-l List the current locale for the HMC.

This option cannot be specified with the **-b**, **-L**, **-n**, **-r**, **-v**, or **-V** options.

-L List all of the locales supported for the HMC.

This option cannot be specified with the **-b**, **-l**, **-n**, **-r**, **-v**, or **-V** options.

-n List the network settings for the HMC.

This option cannot be specified with the **-b**, **-l**, **-L**, **-r**, **-v**, or **-V** options.

-r List the remote access settings for the HMC.

This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-v**, or **-V** options.

-v List the VPD information for the HMC.

This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-r**, or **-V** options.

-V List the version information for the HMC.

This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-r**, or **-v** options.

-F A delimiter separated list of attribute names representing the desired attribute values to display. If this option is specified without any attribute names, then all of the attributes for the type of HMC configuration information specified will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Launch Guided Setup Wizard

This task uses a wizard to set up your system and HMC.

1. Open the **Launch Guided Setup Wizard** from the HMC Management work pane.
2. From the **Launch Guided Setup Wizard - Welcome** window it is recommended that you have certain prerequisites on hand. Click **Prerequisites** in the **Launch Guided Setup Wizard - Welcome** window for the information. When you have completed that, this wizard takes you through the following tasks required to set up your system and HMC. As you complete each task, click **Next** to proceed.
 - a. Change HMC Date and Time
 - b. Change HMC passwords
 - c. Create additional HMC users
 - d. Configure HMC Network Settings (This task cannot be performed if you are accessing the **Launch Guided Setup Wizard** remotely.)
 - e. Specify contact information
 - f. Configure connectivity information
 - g. Authorize users to use Electronic Service Agent and configure notification of problem events.
3. Click **Finish** when you have completed all the tasks in the wizard.

Use the online Help or see the *Installation and Configuration Guide for the Hardware Management Console*, SA76-0084, if you need additional information using the HMC setup wizard.

Launch Remote Hardware Management Console

This task is used to start a session to another Hardware Management Console (HMC).

Note: You cannot perform this task remotely.

To open another HMC:

1. Open the **Launch Remote Hardware Management Console** task from the HMC Management work pane.
2. From the **Remote Hardware Management Console Addressing Information** window, specify the TCP/IP address or host name of the remote HMC to be contacted.
3. Click **OK** to proceed.

Use the online Help if you need additional information for contacting another HMC.

Lock HMC Screen

This task is used to lock the HMC screen.

Note: You cannot perform this task remotely.

To lock the HMC screen:

1. Open the **Lock HMC Screen** task from the HMC Management work pane. The HMC screen is immediately locked.
2. To unlock the screen and get back to the HMC workplace:
 - a. Press the Enter key
 - b. Specify the password of the user ID you are logged in as

Logoff or Disconnect

Note: This task is located on the right side of the task bar, click **Logoff** to access. The **Choose to Logoff or Disconnect** window appears.

This task allows you to end the current user session and logs off the HMC or it allows you to disconnect while your tasks continue running. If you disconnect, you can reconnect at a later time to continue working. However, a disconnected session is eventually ended. (This is because disconnected sessions exist only while the HMC application is running. If the HMC is restarted or the console is shut down or rebooted, all session information is lost.) If you log off, this means you no longer need access to the HMC. Logging off the console does not affect the status of the managed systems.

To log off or disconnect from the HMC:

1. Click **Logoff** from the task bar or click the red **X** in the upper right corner of the workplace. The **Choose to Logoff or Disconnect** window appears.
2. Select whether you want to logoff or disconnect, click **OK** to proceed. After you log off or disconnect, the **Welcome to the HMC** window is displayed.

If you chose to disconnect rather than logoff, when you login again, the **Choose a Disconnected Session** window appears. You can do one of the following:

- Select the disconnected session to continue working (click **Reconnect**)
- Start a new session (click **New Session**)
- Delete a selected session (click **Delete**)
- Cancel from connecting (click **Cancel**)

Note: The number of windows displayed when you reconnect depends on the state of the session when it was disconnected. One of the windows is the main user interface; additional windows are for each task that was running when the session was disconnected.

Manage Certificates

Use this task to manage the certificates used on your HMC. It provides the capability of getting information on the certificates used on the console. This task allows you to create a new certificate for the console, change the property values of the certificate, and work with existing and archived certificates or signing certificates.

All remote browser access to the HMC must use Secure Sockets Layer (SSL) encryption. With SSL encryption required for all remote access to the HMC, a certificate is required to provide the keys for this encryption. The HMC provides a self-signed certificate that allows this encryption to occur.

To manage your certificates:

1. Open the **Manage Certificates** task from the HMC Management work pane.
2. Use the menu bar from the **Manage Certificates** window for the actions you want to take with the certificates:
 - To create a new certificate for the console, click **Create**, then select **New Certificate**. Determine whether your certificate will be self-signed or signed by a Certificate Authority (CA), then click **OK**.
 - To modify the property values of the self-signed certificate, click **Selected**, then select **Modify**. Make the appropriate changes, then click **OK**.
 - To work with existing and archived certificates or signing certificates, click **Advanced**. Then you can choose the following options:
 - Delete existing certificates
 - Work with archived certificates
 - Import certificates
 - View issuer certificates

3. Click **Apply** for all changes to take effect.

Use the online Help if you need additional information for managing your certificates and see Appendix B, “Remote operations,” on page 135 for more information on remotely accessing the HMC.

Manage Data Replication

This task enables or disables customized data replication. Customized data replication allows another HMC to obtain customized console data from or send data to this HMC.

The following types of data can be configured:

- Customer information data
 - Administrator information (customer name, address, telephone number, etc.)
 - System information (administrator name, address, telephone of your system)
 - Account information (customer number, enterprise number, sales branch office, etc.)
- Group data
 - All user-defined group definitions.
- Modem configuration data
 - Configure modem for remote support.
- Outbound connectivity data
 - Configure local modem to RSF
 - Enable an internet connection
 - Configure to an external time source.

Note: Customizable console data is accepted from other HMCs only after specific HMCs and their associated allowable customizable data types have been configured.

For more detailed information on customizing console data for data replication, see Appendix C, “Customizable data replication,” on page 141.

Use the online Help to get additional information for enabling or disabling customizable data replication.

Manage Task and Resource Roles

Use this task to define and customize user roles.

Note: Predefined roles (default roles) cannot be modified.

A *user role* is a collection of authorizations. A user role can be created to define the set of tasks allowed for a given class of user (*task roles*) or it can be created to define the set of managed objects that are manageable for a user (*managed resource roles*). Once you have defined or customized the user roles you can use the **Manage User Profiles and Access** task to create new users with their own permissions. (See “Manage User Profiles and Access” on page 107.)

The predefined managed resource roles include:

- All System Resources

The predefined task roles include:

- hmcshervicerep (Service Representative)
- hmcviewer (Viewer)
- hmcoperator (Operator)
- hmcpe (Product Engineer)
- hmcshervicerep (Super Administrator)

To customize managed resource roles or task roles:

1. Open the **Manage Task and Resource Roles** task from the HMC Management work pane.
2. From the **Manage Task and Resource Roles** window, select either **Managed Resource Roles** or **Task Roles**.
3. To add a role, click **Edit** from the menu bar, then click **Add...** to create a new role.
or
To copy, remove, or modify an existing role, select the object you want to customize, click **Edit** from the menu bar, then click **Copy...**, **Remove**, or **Modify...**
4. Click **Exit** when you have completed the task.

Use the online Help to get additional information for customizing managed resource roles and task roles.

Related HMC CLI commands:

- “chaccfg” on page 149
- “lssacfg” on page 211
- “mkaccfg” on page 218
- “rmaccfg” on page 229

Manage User Profiles and Access

Use this task to manage your system users that log on to the HMC. A user profile is a combination of a user ID, server authentication method, permissions, and a text description. Permissions represent the authority levels assigned to the user profile for the objects the user has permission to access.

Users can be authenticated using local authentication on the HMC or by using Kerberos remote authentication. For more information on setting up Kerberos authentication on the HMC, see “KDC Configuration” on page 97.

If you are using local authentication, the user ID and password are used to verify a user’s authorization to log on the HMC. The user ID must start with an alphabetic character and consist of 1 to 32 characters. The password has the following rules:

- Must begin with an alphanumeric character.
- Must contain at least seven characters, however, this limit may be changed by your system administrator.
- The characters should be standard 7-bit ASCII characters.
- Valid characters to use for the password can be: A-Z, a-z, 0-9 and special characters (~ ! @ # \$ % ^ & * () _ + - = { } [] \ : " ; ').

If you are using Kerberos authentication, specify a Kerberos remote user ID.

The user profile includes managed resource roles and task roles that are assigned to the user. The *managed resource roles* assign permissions for a managed object or group of objects and the *task roles* define the access level for a user to perform on a managed object or group of objects. You can choose from a list of available default managed resource roles, task roles, or customized roles created by using the **Manage Task and Resource Roles** task.

See Appendix A, “HMC tasks and user roles and IDs,” on page 129 for a listing of all the HMC tasks and the predefined default user IDs that can perform each task.

The default managed resource roles include:

- All System Resources

The default task roles include:

- hmcshervicerep (Service Representative)
- hmcviewer (Viewer)
- hmcoperator (Operator)
- hmcpe (Product Engineer)
- hmcsuperadmin (Super Administrator).

To add or customize a user profile:

1. Open the **Manage User Profiles and Access** task from the HMC Management work pane.
2. From the **User Profiles** window, if you are creating a new user ID, point to **User** on the menu bar and when its menu is displayed, click **Add....** The **Add User** window is displayed.

or

From the **User Profiles** window, if the user ID already exists in the window, select the user ID from the list, and then point to **User** on the menu bar and when its menu is displayed, click **Modify....** The **Modify User** window is displayed.

3. Complete or change the fields in the window, click **OK** when you are done.

Use the online Help if you need additional information for creating, modifying, copying, or removing a user profile.

Related HMC CLI commands:

- “chhmcusr” on page 154
- “lshmcusr” on page 195
- “mkhmcusr” on page 219
- “rmhmcusr” on page 230

Manage Users and Tasks

This task displays the logged on users and the tasks they are running.

1. Open the **Manage Users and Tasks** task from the HMC Management work pane.
2. From the **Manage Users and Tasks** window, the following information is displayed:
 - User you are logged in as
 - Time you logged in
 - Number of tasks running
 - Your access location
 - Information about tasks that are running:
 - Task ID
 - Task name
 - Targets (if any)
 - Session ID
3. You can choose to log off or disconnect from a session that is currently running by selecting the session from the Users **Logged On** list, then click **Logoff** or **Disconnect**.
Or, you can choose to switch to another task or end a task by selecting the task from the **Running Tasks** list, then click **Switch To** or **Terminate**.
4. When you have completed this task, click **Close**.

Open 5250 Console

Use this task to open a 5250 emulator session so you can communicate with an i5/OS logical partition.

Note: You cannot perform this task remotely.

To open a 5250 console:

1. Open the **Open 5250 Console** task from the HMC Management work pane. The **5250 Setup** window is displayed.
2. From the **5250 Setup** window, you can configure and start your 5250 emulator.

Open Restricted Shell Terminal

Use this task to acquire a command line session.

Note: You cannot perform this task remotely.

To open a restricted shell terminal:

1. Open the **Open Restricted Shell Terminal** task from the HMC Management work pane. The **Restricted Shell** window is displayed.
2. From the **Restricted Shell** window you can issue commands remotely through secure shell access to the managed system. This provides consistent results and automates administration of managed systems.

Remote Command Execution

This task is used to enable remote command execution using the ssh facility.

1. Open the **Remote Command Execution** task from the HMC Management work pane.
2. From the **Remote Command Execution** window, select **Enable remote command execution using the ssh facility**.
3. Click **OK**.

See Appendix B, “Remote operations,” on page 135 for more information.

Remote Operation

This task is used to allow the HMC to be accessed at a remote workstation through a web browser.

To enable the HMC remote access:

1. Open the **Remote Operation** task from the HMC Management work pane.
2. Select **Enabled** from the Remote Operation drop-down list, then click **OK**. The HMC can be accessed from a remote workstation using a web browser.

Use the online Help to get additional information for allowing remote access to the HMC.

Remote Virtual Terminal

A Remote Virtual Terminal connection is a terminal connection to a logical partition from another remote HMC. Use this task to enable Remote Virtual Terminal access for remote clients.

1. Open the **Remote Virtual Terminal** task from the HMC Management work pane.
2. From the **Remote Virtual Terminal** window, you can enable this task by selecting **Enable remote virtual terminal connections**.
3. Click **OK** to activate your changes.

Use the online Help to get additional information for enabling a remote terminal connection.

Restore HMC Data

This task is used to select a remote repository for restoring critical backup data for the HMC.

1. Open the **Restore HMC Data** task from the HMC Management work pane.

2. From the **Restore HMC Data** window, you can choose to restore data from a Network File System (NFS) server or a File Transfer Protocol (FTP) server.
3. Click **Next** to proceed or **Cancel** to exit the task without making any changes.

Use the online Help if you need additional information about restoring critical backup data for this HMC.

Related HMC CLI commands:

Save Upgrade Data

This task uses a wizard to save upgrade data to selected media. This data consists of files that were created or customized while running the current software level. Saving this data to selected media is performed prior to an HMC software upgrade.

1. Open the **Save Upgrade Data** task from the HMC Management work pane.
2. From the **Save Upgrade Data** window, this wizard takes you through the steps required for saving your data. Select the type of media you want to save your data to, then click **Next** to proceed through the task windows.
3. Click **Finish** when you have completed the task.

Use the online Help if you need additional information for saving upgrade data.

Related HMC CLI commands:

- “rstupgdata” on page 237
- “saveupgdata” on page 237

Schedule Operations

Use this task to create a schedule for certain operations to be performed on the HMC itself without operator assistance.

Scheduled operations are helpful for situations where automatic, delayed, or repetitious processing of system operations is necessary. A scheduled operation is started at a specified time, without operator assistance to perform the operation. A schedule can be set for one operation or repeated many times.

For example, you could schedule a backup of important HMC information to DVD to occur once, or set up a repeating schedule.

The **Scheduled Operations** task displays the following information for each operation:

- The processor that is the object of the operation.
- The scheduled date
- The scheduled time
- The operation
- The number of remaining repetitions

From the **Scheduled Operations** window you can:

- Schedule an operation to run at a later time
- Define operations to repeat at regular intervals
- Delete a previously scheduled operation
- View details for a currently scheduled operation
- View scheduled operations within a specified time range
- Sort scheduled operations by date, operation, or managed system

An operation can be scheduled to occur one time or it can be scheduled to be repeated. You will be required to provide the time and date that you want the operation to occur. If the operation is scheduled to be repeated, you will be asked to select:

- The day or days of the week that you want the operation to occur. (optional)
- The interval, or time between each occurrence. (required)
- The total number of repetitions. (required)

The operation that can be scheduled for the HMC is:

Backup Critical Console Data

Schedules an operation to back up the critical console hard disk information for the HMC.

To schedule operations on the HMC:

1. Open the **Schedule Operations** task from the HMC Management work pane.
2. From the **Schedule Operations** window, click **Options** from the menu bar to display the next level of options:
 - To add a scheduled operation, point to **Options** and then click **New...**
 - To delete a scheduled operation, select the operation you want to delete, point to **Options** and then click **Delete**.
 - To update the list of scheduled operations with the current schedules for the selected objects, point to **Options** and then click **Refresh**.
 - To view a scheduled operation, select the operation you want to view, point to **View** and then click **Schedule Details...**
 - To change the time of a scheduled operation, select the operation you want to view, point to **View** and then click **New Time Range...**
 - To sort the scheduled operations, point to **Sort** and then click one of the sort categories that appears.
3. To return to the HMC workplace, point to **Options** and then click **Exit**.

Use the online Help to get additional information for scheduling an operation.

Shut Down or Restart

This task enables you to shut down (power off the console) or to restart the console.

1. Open the **Shut Down or Restart** task from the HMC Management work pane.
2. From the **Shut Down or Restart** window, you can:
 - Select **Restart the HMC** to automatically restart the HMC once the shut down has occurred.
 - Do not select **Restart the HMC** if you do not want to automatically restart the HMC.
3. Click **OK** to proceed with the shut down, otherwise click **Cancel** to exit the task.

Use the online Help if you need additional information about shutting down or restarting the HMC.

Related HMC CLI commands:

- "hmcshutdown" on page 185

Test Network Connectivity

This task displays network diagnostic information for the console's TCP/IP connection. It also allows you to send an echo request (click **Ping**) to a remote host.

To view information concerning the networking configuration on this HMC:

1. Open the **Test Network Connectivity** task from the HMC Management work pane.

2. From the **Test Network Connectivity** window, you can use the following tabs to view the network information.
 - Ping
 - Interfaces
 - Address
 - Routes
 - Address Resolution Protocol (ARP)
 - Sockets
 - Transmission Control Protocol (TCP)
 - User Datagram Protocol (UDP)
 - Internet Protocol (IP)
3. Click **Cancel** when you have completed this task.

Use the online Help to get additional information on your console's network information.

Related HMC CLI commands:

- **ping**

Tip of the Day

This task allows you to view information about using the HMC. A different fact or tip is displayed each time you log in.

The **Tip of the Day** window is displayed as long as **Show tips each time you log on** is selected on the window. You can also look at additional information by clicking **Previous Tip** or **Next Tip**.

To prevent this window from displaying each time you log in you can deselect **Show tips each time you log on**, then click **Close**.

To access this task other than having it appear as you log in to the HMC:

1. Open **Tip of the Day** from the HMC Management work pane.
2. From the **Tip of the Day** window, you can select options as previously specified.
3. Click **Close** to save the changes or exit the task.

View HMC Events

This task enables you to view a record of system events occurring on the HMC. System events are individual activities that indicate when processes occur, begin and end, succeed or fail.

1. Open the **View HMC Events** task from the HMC Management work pane.
2. From the **View HMC Events** window, a table is displayed that lists all the events that occurred on the HMC. Initially, the events are displayed in descending order, from the most recent event to the oldest event. The information includes the date, the time, and the console event.
3. Use **View** on the menu bar from the **View Console Events** window to change to a different time range, or to change how the events display in the summary. You can also use the table icons or the **Select Action** menu on the table toolbar to display different variations of the table.
4. When you are done viewing the events, select **View** on the menu bar, then **Exit** to leave the task.

Use the online Help for additional information about viewing HMC events.

Related HMC CLI commands:

- "lssvcevents" on page 212

View Licenses

Use this task to view the Licensed Internal Code (LIC) that you have agreed to for this HMC. This task is displayed when you initially start the HMC.

1. Open the **View Licenses** task from the HMC Management work pane.
2. From the **View Licenses** window, you can click on any of the license links to view more information.

Note: This list does not include programs and code provided under separate license agreements.

3. Click **OK** to close the window.

View Network Topology

This task is used to display a tree view of the network nodes known to this Hardware Management Console. Examples of such nodes are managed systems, logical partitions, storage, and other Hardware Management Consoles.

To view the network topology:

1. Open the **View Network Topology** task from the HMC Management work pane.
2. From the **View Network Topology** window, you can do the following:
 - You can view attributes of a node by selecting the node in the tree view that is shown in the left pane under **Current Topology**. Attributes vary according to the type of node. Some examples are IP address, host name, location code, and status. Click **Refresh** to rediscover the topology and to query the nodes again for status and other attributes.
 - You can save a snapshot of the current topology (select an item in the **Current Topology**, then click **Save**) and view it in the saved reference topology. You can view attributes of a node in the saved topology by selecting the node in the tree view that is shown in the left pane under **Saved Topology**.
 - You can test network connectivity to a node by selecting the node in either the current or the saved topology views and click **Ping Current Node** or **Ping Saved Node**, available only for nodes that include an IP address or a host name. The information is displayed in the right pane.
3. Click **Close** when you have completed this task.

Use the online Help if you need additional information for viewing the network topology of the Hardware Management Console.

Chapter 8. Service Management tasks

This chapter alphabetically describes the tasks that are available on the Hardware Management Console (HMC) for the **Service Management** tasks.

To open these tasks, see “Service Management” on page 33.

Note: Depending on the task roles assigned to your user ID you may not have access to all the tasks. See Table 12 on page 129 for a listing of the tasks and the user roles allowed to access them.

Create Serviceable Event

This task reports problems that occurred on your Hardware Management Console to the service provider (for example, the mouse does not work) or lets you test problem reporting.

Submitting a problem is dependent upon whether you have customized this Hardware Management Console to use the Remote Support Facility (RSF) and if it is authorized to automatically call for service. If so, the problem information and service request is sent to the service provider automatically with a modem transmission.

To report a problem on your Hardware Management Console:

1. Open the **Create Serviceable Event** task from the tasks pad.
2. From the **Report a Problem** window, select a problem type from the list displayed.
3. Enter a brief description of your problem in the **Problem Description** input field and then click **Request Service**.

or

To test problem reporting from the **Report a Problem** window:

1. Select **Test automatic problem reporting** and enter *This is just a test* in the **Problem Description** input field.
2. Click **Request Service**. The problems are reported to the service provider for the Hardware Management Console. Reporting a problem sends to the service provider the information you provide on **Report a Problem** window, and machine information that identifies the console.

Use the online Help if you need additional information for reporting a problem or testing if problem reporting works.

Format Media

This task formats a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key.

You can use this task to format the following DVD-RAMs:

- Backup/restore
- Service data.

You can format a diskette by supplying a user-specified label.

To format a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key:

1. Open the **Format Media** task from the HMC Management work pane.
2. From the **Format Media** window, select the type of media you want to format, then click **OK**.

3. Make sure your media has been correctly inserted, then click **Format**. The **Format Media** progress window is displayed. When the media is formatted, the **Format Media Completed** window is displayed.
4. Click **OK** and then click **Close** to end the task.

Use the online Help if you need additional information for formatting a DVD-RAM, diskette, or USB 2.0 Flash Drive Memory Key.

Load Serviceable Events

This task allows you to load or reload serviceable events from an XML file.

1. Open the **Load Serviceable Events** task from the Service Management work pane.
2. From the **Load Serviceable Events** window, specify the path and name of the XML file.
3. Click **press for update** to proceed.

Manage Connection Monitoring

This task configures the timers that connection monitoring uses to detect outages and enables or disables connection monitoring for selected machines.

You can view and, if authorized, change connection monitoring settings by machine. Connection monitoring generates serviceable events when communication problems are detected between the HMC and managed systems. If you disable connection monitoring, no serviceable events are generated for networking problems between the selected machine and this HMC.

To monitor the connections:

1. Open the **Manage Connection Monitoring** task from the Service Management work pane.
2. From the **Manage Connection Monitoring** window, adjust the timer settings, if required, and enable or disable the server.
3. Click **OK** when you have completed the task.

Use the online Help if you need additional information about connection monitoring.

Manage Customer Information

This task enables you to customize the customer information for the HMC.

Note: If Customizable Data Replication is *Enabled* on this HMC (using the **Manage Data Replication** task), the data specified in this task may change depending on automatic replication from other HMCs configured on your network. For more information on data replication, see “Manage Data Replication” on page 106.

The **Manage Customer Information** window displays the following tabs for providing input:

- Administrator
- System
- Account

To customize your customer information:

1. Open the **Manage Customer Information** task from the Service Management work pane.
2. From the **Manage Customer Information** window, provide the appropriate information on the **Administrator** page.

Note: Information is required for fields with an asterisk (*).

3. Select the **System** and **Account** tabs from the **Manage Customer Information** window to provide additional information.

4. Click **OK** when you have completed the task.

Use the online Help to get additional information about customizing your account information.

Manage Dumps

This task manages procedures for dumps of the selected system.

To manage a dump:

1. Open the **Manage Dumps** task from the Service Management work pane.
2. From the **Manage Dumps** window, select a dump and perform one of the following dump-related tasks:

From **Selected** on the menu bar:

- Copy the dump to media.
- Copy the dump to a remote system.
- Use the call home feature to transmit the dump to your service provider.
- Delete a dump.

From **Actions** on the menu bar:

- Initiate a dump of the hardware and server firmware for the managed system.
- Initiate a dump of the service processor.
- Initiate a dump of the Bulk Power Control service processor.
- Modify the dump capability parameters for a dump type.

From **Status** on the menu bar, you can view the offload progress of the dump.

3. Click **OK** when you have completed this task.

Use the online Help to get additional information for managing dumps.

Related HMC CLI commands:

- “dump” on page 183
- “cpdump” on page 179
- “getdump” on page 184
- “lsdump” on page 192
- “startdump” on page 239

Manage eService Registration

This task allows you to request authorization for Electronic Service Agent. Electronic Service Agent associates your system with a user ID and allows access to system information through the Electronic Service Agent facility. This registration is also used by your operating system to automate service processes for your AIX or i5/OS operation system.

To register a user ID:

1. Open the **Manage eService Registration** task from the Service Management work pane.
2. From the **Manage eService Registration** window, provide a user ID that is registered with the Electronic Service Agent. If you need a user ID, you can register at the IBM Registration website, <https://www.ibm.com/account/profile>.
3. Click **OK** when you have completed this task.

Use the online Help if you need additional information for registering a customer user ID with the eService web site.

Manage Inbound Connectivity

This task allows your service provider to temporarily access your local console, such as the HMC, or the partitions of a managed system.

1. Open the **Manage Inbound Connectivity** task from the Service Management work pane.
2. From the **Customize Inbound Connectivity** Settings window:
 - Use the **Remote Service** tab to provide the information necessary to start an attended remote service session.
 - Use the **Call Answer** tab to provide the information necessary to accept incoming calls from your service provider to start an unattended remote service session.
3. Click **OK** to proceed with your selections.

Use the online Help if you need additional information on managing the inbound connectivity.

Manage Outbound Connectivity

This task allows you to customize the means for outbound connectivity for the HMC to use to connect to remote service.

Note: If Customizable Data Replication is **Enabled** on this HMC (using the **Manage Data Replication** task), the data specified in this task may change depending on automatic replication from other HMCs configured on your network. For more information on data replication, see “Manage Data Replication” on page 106.

You can configure this HMC to attempt connections through the local modem, Internet, Internet Virtual Private Network (VPN), or through a remote pass-through system. Remote service is a two-way communication between the HMC and the IBM Service Support System for the purpose of conducting automated service operations. The connection can only be initiated by the HMC. IBM Service Support System cannot and never attempts to initiate a connection to the HMC.

To customize your connectivity information:

1. Open the **Manage Outbound Connectivity** task from the Service Management work pane.
2. From the **Manage Outbound Connectivity** window select **Enable local server as call-home server** (a check mark appears) before proceeding with the task.

Note: You must first **Accept** the terms described about the information you provided in this task. This allows the local HMC to connect to your service provider’s remote support facility for call-home requests.

3. The dial information window displays the following tabs for providing input:
 - Local Modem
 - Internet
 - Internet VPN
 - Pass-Through Systems
4. If you want to allow connectivity over a modem, use the **Local Modem** tab, then select **Allow local modem dialing for service**.
 - a. If your location requires a prefix to be dialed in order to reach an outside line, click **Modem Configuration...** and enter the **Dial prefix** in the **Customize Modem Settings** window required by your location. Click **OK** to accept the setting.
 - b. Click **Add...** from the **Local Modem** tab page to add a telephone number. When local modem dialing is allowed, there must be at least one telephone number configured.
5. If you want to allow connectivity over the Internet, use the **Internet** tab, then select **Allow an existing internet connection for service**. Refer to *Installation and Configuration Guide for the Hardware Management Console*, SA76-0084, for more information on configuring the HMC as a call-home server using LAN-based internet and SSL.

6. If you want to configure the use of a VPN over an existing Internet connection to connect from the local HMC to your service provider's remote support facility, use the **Internet VPN** tab.
7. If you want to allow the HMC to use the pass-through systems as configured by the TCP/IP address or host name, use the **Pass-Through Systems** tab.
8. When you complete all the necessary fields, click **OK** to save your changes.

Use the online Help if you need additional information for customizing outbound connectivity information.

Manage POWER4 Service Agent

This task enables or disables the Electronic Service Agent Connection Manager function and specifies the port location for the connection. Electronic Service Agent Connection Manager allows POWER4 systems to use Electronic Service Agent to call home to transmit service and system information to IBM by specifying the port used for connectivity for a single, secure connection.

1. Open the **Manage POWER4 Service Agent** task from the Service Management work pane.
2. From the **Manage POWER4 Service Agent** window, select **Enable Service Agent Connection Manager** (a check mark appears), then provide the connectivity features for the HMC.
3. Click **OK** when you have supplied the necessary information.

Use the online Help if you need additional information for enabling or disabling Electronic Service Agent.

Manage Remote Connections

This task enables you to manage remote connections.

Note: The HMC's call-home server service must be enabled for you to use this task. (See "Manage Systems Call-Home" on page 120 for more information.)

The HMC manages remote connections automatically. It puts requests on a queue and processes them in the order in which they are received. However, this task allows you to manage the queue manually, if necessary. You can stop transmissions, move priority requests ahead of others, or delete requests.

To manage remote connections:

1. Open the **Manage Remote Connections** task from the Service Management work pane.
2. From the **Manage Remote Connections** window, a list of transmitting requests being and a list of waiting requests transmitted are displayed. You can select requests from either list and display the available options by clicking **Options** on the menu bar. The options permit you to:
 - Prioritize a selected request (move it to the top of the queue)
 - Cancel selected requests
 - Cancel all active requests (those being transmitted)
 - Cancel all waiting requests
 - Hold the queue (puts queue on hold after completing current active request)
 - Release the queue
 - Close the window and exit

Use the online Help if you need additional information for manually managing remote connections.

Manage Remote Support Requests

This task views or manages call-home requests that the console has submitted.

1. Open the **Manage Remote Support Requests** task from the Service Management work pane.

2. From the **Manage Remote Support Requests** window, a list of active requests and a list of waiting requests are displayed. You can select requests from either list and display the available options by clicking **Options** on the menu bar. The options permit you to:
 - View all call-home servers
 - Cancel selected requests
 - Cancel all active requests
 - Cancel all waiting requests
 - Close the window and exit

Use the online Help if you need additional information for manually managing remote connections.

Manage Serviceable Event Notification

This task adds email addresses that notify you when problem events occur on your system and configures how you want to receive notification of system events from the Electronic Service Agent.

To set up notification:

1. Open the **Manage Serviceable Event Notification** task from the Service Management work pane.
2. From the **Manage Serviceable Event Notification** window, you can do the following:
 - Use the **Email** tab to add the email addresses that will be notified when problem events occur on your system.
 - Use the **SNMP Trap Configuration** tab to specify locations for sending Simple Network Management Protocol (SNMP) trap messages for Hardware Management Console application program interface events.
3. Click **OK** when you have completed this task.

Use the online Help if you need additional information for managing serviceable events notification.

Related HMC CLI commands:

- “chsacfg” on page 164
- “lssacfg” on page 211

Manage Serviceable Events

This task allows you to select the criteria for the set of serviceable events you want to view. When you finish selecting the criteria, you can view the serviceable events that match your specified criteria.

To set the criteria for the serviceable events you to view:

1. Open the **Manage Serviceable Events** task from the Service Management work pane.
2. From the **Manage Serviceable Events** window, provide event criteria, error criteria, and FRU criteria.
3. Click **OK** when you have specified the criteria you want for the serviceable events you want to view.

Use the online Help if you need additional information managing events.

Related HMC CLI commands:

- “chsvcevent” on page 166
- “lssvcevents” on page 212

Manage Systems Call-Home

This task allows you enable or disable the call-home state for managed systems.

Note: If Customizable Data Replication is **Enabled** on this HMC (using the **Manage Data Replication** task), the data specified in this task may change depending on automatic replication from other HMCs configured on your network. For more information on data replication, see “Manage Data Replication” on page 106.

By enabling the call-home state for a managed system this causes the console to automatically contact a service center when a serviceable event occurs. When a managed system is disabled, your service representative is not informed of serviceable events.

To manage call-home for the system(s):

1. Open the **Manage Systems Call-Home** task from the Service Management work pane.
2. From the **Manage Systems Call-Home** window, select a system or systems you want to enable or disable the call-home state.
3. Click **OK** when you have completed the task.

Use the online Help if you need additional information for managing serviceable events notification.

Transmit Service Information

Use this task to transmit service information.

1. Open the **Transmit Service Information** task from the Service Management work pane.
2. From the **Transmit Service Information** window, you can work with the following tabs:
 - Select the **Transmit** tab. Use this page to schedule when to transmit service data to your service provider (specifying frequency in days and time of day) and how you want to transmit the service and performance management information.
 - Select the **FTP** tab. Use this page to configure the File Transfer Protocol (FTP) information for the FTP server, with or without a firewall, for off loading service information. This service information is extended error data consisting of problem related-data about problems opened on the HMC for the HMC or managed system.
 - Select the **Transmit Service Data to IBM** tab. Use this page to provide the ability to send information that is stored on the HMC hard disk that can be used for problem determination. The data may be **traces**, **logs**, or **dumps** and the destination for the data may be the IBM Service Support System, a diskette, USB flash memory drive, or a DVD-RAM. Before you can send information to the IBM Service Support System, Phone Server and Remote Service must be **enabled**. To enable remote service, see “Remote Operation” on page 109. To enable telephone server, see “Manage Outbound Connectivity” on page 118.
3. Click **OK** when you have completed the task.

Use the online Help for additional information about transmitting service information.

Related HMC CLI commands:

- “chsacfg” on page 164
- “lssacfg” on page 211

Chapter 9. Updates

Updates displays tasks to manage Licensed Internal Code (LIC) on your HMC, managed system, power subsystem, or I/O adapters.

Use the **Update HMC** button to update Licensed Internal Code on the HMC. Before updating LIC on the HMC, see “Update HMC.”

Other tasks are used to update managed system, power subsystem, and I/O adapter LIC. To launch these tasks, see “Launching tasks for managed objects” on page 24. The following sets of tasks are represented in the tasks pad, tasks menu, or context menu. The tasks listed in the tasks pad change as selections are made in the work area. The context is always listed at the top of the tasks pad in the format Task: Object.

To display the tasks:

1. Select the **Updates** node in the navigation pane.
2. Select a managed object to apply updates on.
3. From the tasks pad, click on the task you want to perform.
4. The tasks pad provides the following tasks required to install corrective service:
 - “Change Licensed Internal Code for the current release” on page 125
 - “Upgrade Licensed Internal Code to a new release” on page 126
 - “Flash Side Selection” on page 127
 - “Check system readiness” on page 127
 - “View system information” on page 127

Update HMC

When the **Updates** node is selected in the navigation pane, current code levels for the HMC are displayed in the work pane.

Under **HMC Code level** is displayed:

- Version
- Release
- Service Pack
- Build Level
- Base Version
- Serial Number of the HMC
- Bios Version on the HMC

The Fix Central web site at <http://www.ibm.com/eserver/support/fixes> offers online media ordering, installation instructions and related technical information on code updates of the HMC. Before updating the HMC code level, verify the current levels on your HMC and check on the web site to determine if an update is needed or recommended.

Before updating the HMC code level, you should:

- Backup critical HMC data to a DVD or a remote system so that the HMC can be restored in the event of a problem in updating. For more information on backing up HMC data, see “Back up HMC Data” on page 93.

Depending on the complexity of the fix you are applying, you may want to:

- Backup system profile and partition profile data for each system managed by the HMC before updating, so that current profile data can be restored, if necessary. For more information about backing up profile data, see “Manage Partition Data” on page 49
- Record HMC configuration information to enable you to restore the current configuration to the newly updated system:
 1. Record scheduled operations on the HMC. For information on viewing current scheduled operations, see “Schedule Operations” on page 110.
 2. Record whether **Enable remote command execution using the ssh facility** is checked in the “Remote Command Execution” on page 109 task under HMC Management.

Once the tasks above have been performed, select the **Update HMC** button to update the HMC LIC. You will be prompted for the location of the update. Updates can be performed from media or from a remote location.

Managed System Updates

When a managed system is selected, **Updates** tasks perform a guided update of managed system, power subsystem, or I/O Licensed Internal Code.

The following are represented in the **Updates** tasks:

- “Change Licensed Internal Code for the current release” on page 125
- “Upgrade Licensed Internal Code to a new release” on page 126
- “Flash Side Selection” on page 127
- “Check system readiness” on page 127
- “View system information” on page 127

Licensed Internal Code (LIC) can be changed in two ways. You can upgrade the LIC installed on a managed system to a new release, or update the existing LIC running on the system.

An update of a current LIC release may fix problems or add additional function. Updating LIC may or may not be a disruptive process. Updates that do not disrupt the system are called concurrent updates. To update the LIC currently installed on the managed system, use the **Change Licensed Internal Code for the current release** task.

A new release of LIC may add support for new hardware or add new function. Upgrading LIC to a new release is *always a disruptive process* requiring a complete shut down, power off, and restart of the system. To upgrade LIC to a new release, use the **Upgrade Licensed Internal Code to a new release** task.

Concurrent updates allow the system and the applications running on the system to continue to run as the LIC update is applied. This appreciably lessens the system downtime associated with LIC maintenance. Most updates released will be concurrent. However, certain types of problems are critical to fix and can be fixed only with a disruptive update. Using the **View system information** task, you are able to view the levels of LIC available in a repository and determine which of the available updates are concurrent and which are disruptive.

If the update is disruptive, you are given the option of installing and activating (incurring the disruption) or deferring the activation to a more convenient time. Concurrent updates can only be done for managed system LIC.

Note: Checking is done before LIC update to assure that the system is in the correct state for an update. The state of the system must not change during a code update. For example, partitions should not be shut down during an LIC update.

New releases of LIC (upgrades) and updates to these releases are available from the following repositories:

- IBM service web site
- IBM support system
- DVD - a DVD can be ordered from IBM or a DVD may be created that contains downloaded LIC
- FTP site - a site accessible to your HMC by FTP that contains a previously downloaded level of LIC
- HMC hard drive - LIC may be downloaded directly to the HMC's hard drive or the hard drive may contain a previously downloaded level of LIC

Fixes and upgrades to LIC can be ordered or downloaded from the Fix Central web site at <http://www.ibm.com/eserver/support/fixes/fixcentral>.

Use the **Flash Side Selection** task to select which flash side will be active after the next activation. (This task is intended for service user mode only.)

Use the **Check system readiness** task to check that all systems selected are in the correct state for LIC update.

Choose the **View system information** task to view the level of LIC currently installed on your managed system or I/O. When a repository is selected, **View system information** also displays retrievable levels of LIC available in the repository.

Change Licensed Internal Code for the current release

Use this task to apply updates to the currently installed Licensed Internal Code (LIC) on your system.

This task requires access to a service repository, either a remote location, the HMC hard drive, or a DVD drive.

LIC updates can be downloaded directly from IBM's service web site or IBM's support system during the update process.

If you have completed a code update from a repository to one of your managed systems or power subsystems, that code is available in the Hard Drive repository on the HMC for installation on other systems. You can select **Hard Drive** to update other managed systems or power subsystems with the same code.

LIC updates can also be downloaded and written to a DVD or to another system available to your HMC using FTP. You can select DVD drive or FTP site to install the LIC update from these locations.

Multiple managed systems can be updated simultaneously by selecting them from the target list.

Files are selectively downloaded to the HMC to apply LIC updates. From this task, you can:

- View current levels of Licensed Internal Code on a managed system, power subsystem, or I/O.
- View retrievable levels of Licensed Internal Code in a repository.
- Install and activate LIC updates (update to a new level of LIC).
- Remove and activate LIC updates (downgrade to a previous level of LIC).

Select **Start Change Licensed Internal Code wizard** to perform a guided update of managed system, power, and I/O Licensed Internal Code (LIC):

1. A **System readiness check** is automatically performed to check that the system is in the right state for LIC update. If the readiness check fails, actions needed to correct the problems preventing the update are reported to you.
2. Choose a repository from which to update your system. You can update from IBM's service web site, IBM's support system, or, if you have already downloaded an update to the HMC, an FTP site, or a DVD and if you want to update from those locations, choose that option.

3. If you choose **FTP site**, you are prompted for a user ID, password, and the directory in which the update is located.
4. Select the type of update to install, **Managed system and Power LIC** or **I/O LIC**. If there are no LIC updates available in the repository for the type of update chosen, no prompts for installation occur.
5. Confirm that the update as displayed is the correct update. Displayed is the chosen repository, the target or targets of the update, the concurrency status of the target (disruptive or concurrent), and the type of installation. To change the update, select **Advanced Options**.
6. If no changes are desired, continue with the update. Accept the license agreement.
7. Confirm the update.
8. A progress window displays until the update completes.

Select **View system information** to examine current LIC levels on a managed system, power subsystem, or I/O, including levels retrievable from a repository.

Select **Advanced features** to update managed system and power LIC with more options and additional targeting choices.

Related HMC CLI commands:

- “lslic” on page 202
- “updlic” on page 240

Upgrade Licensed Internal Code to a new release

A new release level of Licensed Internal Code (LIC) supports major new function such as the introduction of new hardware models and significant function or features enabled by firmware. In addition to the new function and hardware support, new release levels also contain fixes. Upgrading from one release level to another is disruptive to system operations.

Release levels can be skipped. You can upgrade from release level A to release level D without having to install release level B and C. New release levels of LIC are installed with this task.

To install a new release of Licensed Internal Code:

1. When you select **Upgrade Licensed Internal Code to a new release**, a readiness check is performed on the system before the task progresses. If the readiness check fails, actions needed to correct the problems preventing the upgrade will be reported to you.
2. Choose a repository from which to upgrade your system. You may upgrade from IBM’s service web site, IBM’s support system, or, if you have already downloaded an upgrade to the HMC, an FTP site, or a DVD and want to upgrade from those locations, choose that option.
3. Select the desired LIC update, managed system or power subsystem. Once verification of the repository content and targeted systems completes, the license agreement panel displays.
4. Select **Accept** on the license agreement panel, and the confirmation panel displays.
5. If any actions are listed at the bottom of the confirmation panel, complete them, and then click **OK** to confirm that the upgrade should begin. A progress panel displays the results as the upgrade proceeds. At the end of the process, the new release level of LIC will be installed on both the t-side (temporary side) and the p-side (permanent side).

Related HMC CLI commands:

- “lslic” on page 202
- “updlic” on page 240

Flash Side Selection

Use this task to select which flash side will be active after the next activation.

Note: This task is intended for Service User mode only.

Attention: If you select p-side for the next activation, this action disables concurrent Licensed Internal Code (LIC) update.

The flash side is the nonvolatile storage location in the flexible service processor (FSP), divided into t-side (temporary side) and p-side (permanent side), allowing for storing two levels of code. When the p-side is selected, concurrent LIC update is disabled.

Related HMC CLI commands:

- “lslic” on page 202
- “updlic” on page 240

Check system readiness

Use this task to confirm that the managed system is in the correct state to perform a Licensed Internal Code update or upgrade successfully.

Before updating or upgrading Licensed internal code, all managed systems to be updated must be in Operating, Standby, Power Off, or Recovery state. All flexible service processors (FSP) for the managed system must be correctly connected to the HMC. Any problems found during the check will be reported to you to correct before updating LIC. A readiness check will automatically be performed before any update or upgrade begins.

Related HMC CLI commands:

- “lslic” on page 202
- “updlic” on page 240

View system information

Use this task to examine current LIC levels on the managed system, including installed, activated, and accepted levels. If a repository is selected, this task also displays retrievable levels available in a repository.

The **Installed** level of LIC is the level that will be activated and loaded into memory at the next system restart. The **Activated** level of LIC is the level that is activated and loaded into memory at this time. The **Accepted** level of LIC is a committed level of LIC that can be returned to, if necessary. This is the level of code on the p-side (permanent side). The **Unactivated Deferred** level of LIC is the latest unactivated level that contains deferred updates. A deferred update requires a system restart to activate.

Concurrent LIC update status indicates whether concurrent LIC update is enabled or disabled. A concurrent update can be installed and activated without rebooting any partitions or disrupting applications.

Reason for disablement indicates why concurrent LIC update is disabled. This might include:

- The permanent side is active
- A temporary LIC level is active

A concurrent LIC update can be installed and activated without rebooting partitions or disrupting applications.

Related HMC CLI commands:

- “lslic” on page 202
- “updlic” on page 240

Appendix A. HMC tasks and user roles and IDs

This appendix lists the tasks you can perform using the Hardware Management Console (HMC) and the user roles and IDs that are associated with that task.

You can, however, create customized user profiles that allow you to have unique user IDs and multiple user roles. The management of these user roles is performed by using the **Manage Task and Resource Roles** task. The **Manage User Profiles and Access** task provides the ability to define which user role is associated with each specific user ID.

Table 12 alphabetically lists the HMC Management and Service Management tasks and the corresponding user roles and IDs that can perform these tasks.

Table 13 on page 130 lists the Systems Management tasks that can be performed on managed objects and the corresponding user roles that can perform these tasks.

Table 12. HMC Management and Service Management tasks and default user roles

Tasks	User roles and IDs			
	Operator (hmcoperator)	Super Administrator (hmcsuperadmin)	Viewer (hmcviewer)	Service Representative (hmcservicerep)
Backup HMC Data	X	X		X
Change Date and Time	X	X		X
Change Language and Locale	X	X	X	X
Change Network Settings	X	X		X
Change User Interface Settings	X	X	X	X
Change User Password	X	X	X	X
Create Serviceable Event		X		X
Create Welcome Text	X	X		
Format Media	X	X		X
Launch Guided Setup Wizard		X		
Launch Remote Hardware Management Console	X	X	X	X
Load Serviceable Events	X	X	X	X
Lock HMC Screen	X	X	X	X
Logoff or Disconnect	X	X	X	X
Manage Certificates		X		
Manage Connection Monitoring	X	X	X	X
Manage Customer Information	X	X		X
Manage Data Replication	X	X		
Manage Dumps	X	X		X
Manage eService Registration	X	X		
Manage Inbound Connectivity	X	X		X
Manage Outbound Connectivity	X	X		X
Manage POWER4 Service Agent	X	X		

Table 12. HMC Management and Service Management tasks and default user roles (continued)

Tasks	User roles and IDs			
	Operator (hmcoperator)	Super Administrator (hmcsuperadmin)	Viewer (hmcviewer)	Service Representative (hmcservicerep)
Manage Remote Connections	X	X		X
Manage Remote Support Requests	X	X	X	X
Manage Serviceable Event Notification	X	X		X
Manage Serviceable Events		X		X
Manage Systems Call-Home	X	X		X
Manage Task and Resource Roles		X		
Manage User Profiles and Access		X		
Manage Users and Tasks	X	X	X	X
Open 5250 Console	X	X		X
Open Restricted Shell Terminal	X	X	X	X
Remote Command Execution	X	X		X
Remote Virtual Terminal	X	X		X
Remote Operation	X	X	X	X
Restore HMC Data	X	X		X
Save Upgrade Data	X	X		X
Schedule Operations	X	X		
Shut Down or Restart	X	X		X
Test Network Connectivity	X	X	X	X
Display Tip of the Day	X	X	X	X
Transmit Service Information	X	X		
View HMC Events	X	X		X
View Licenses	X	X	X	X
View Network Topology	X	X	X	X
View System Data		X		

Table 13. Systems Management tasks performed on managed objects and default user roles

Tasks	User roles/IDs			
	Operator (hmcoperator)	Super Administrator (hmcsuperadmin)	Viewer (hmcviewer)	Service Representative (hmcservicerep)
View Properties	X	X	X	X
Update Password	X	X		X
Change Default Profile	X	X		X
Operations				
Power On	X	X		X
Power Off	X	X		X
Activate	X	X		X
Restart	X	X		X

Table 13. Systems Management tasks performed on managed objects and default user roles (continued)

Tasks	User roles/IDs			
	Operator (hmcoperator)	Super Administrator (hmcsuperadmin)	Viewer (hmcviewer)	Service Representative (hmcservicerep)
Shut Down	X	X		X
LED Status: View System Attention LED	X	X	X	X
LED Status: Identify LED	X	X	X	X
LED Status: Test LED	X	X	X	X
Manage Attention LED	X	X	X	X
Schedule Operations	X	X		
Advanced System Management (ASM)	X	X		X
Utilization Data: Enable	X	X		X
Utilization Data: Disable	X	X		X
Utilization Data: View	X	X	X	X
Utilization Data: Refresh	X	X		X
Rebuild	X	X		
Change Password		X		

Configuration				
Create Logical Partition: AIX or Linux	X	X		
Create Logical Partition: VIO Server	X	X		
Create Logical Partition: i5/OS	X	X		
System Plans: Create		X		
System Plans: Deploy		X		
System Plans: Import		X		
System Plans: Export		X		
System Plans: Remove		X		
System Plans: View		X		
Manage Custom Groups	X	X		X
View Workload Management Groups	X	X	X	X
Partition Availability Priority	X	X		
Manage System Profiles	X	X	X	X
Manage Partition Data: Restore	X	X		
Manage Partition Data: Initialize	X	X		
Manage Partition Data: Backup	X	X		X
Manage Partition Data: Delete	X	X		
Save Current Configuration	X	X		X

Connections				
Service Processor Status	X	X	X	X
Reset or Remove Connections	X	X		X
Disconnect Another HMC		X		

Add Managed System	X	X		
Hardware (Information)				
Adapters: GX+	X	X	X	X
Adapters: Host Channel	X	X	X	X
Adapters: Host Ethernet	X	X	X	X
Adapters: Switch Network Interface	X	X	X	X
View RIO Topology	X	X	X	X
Virtual I/O Adapters	X	X	X	X
Dynamic Logical Partitioning				
Processor	X	X		X
Memory	X	X		X
Physical Adapters	X	X		X
Virtual Adapter	X	X		X
Host Ethernet	X	X		X
Updates				
Change Licensed Internal Code for the current release		X		X
Upgrade Licensed Internal Code to a new release		X		X
Flash Side Selection		X		X
Check system readiness		X		X
View system readiness		X		X
Console Window				
Open Terminal Window	X	X		X
Close Terminal Connection	X	X		X
Open Shared 5250 Console	X	X		X
Open Dedicated 5250 Console	X	X		X
Serviceability				
Manage Serviceable Events		X		X
Create Serviceable Event		X		X
Reference Code History	X	X	X	X
Control Panel Functions: (20) Type, Model, Feature		X		
Hardware: Add FRU		X		X
Hardware: Add Enclosure		X		X
Hardware: Exchange FRU		X		X
Hardware: Exchange Enclosure		X		X
Hardware: Remove FRU		X		X
Hardware: Remove Enclosure		X		X
Hardware: Power on/off I/O Unit		X		X
Manage Dumps	X	X		X
Collect VPD	X	X	X	X

Edit MTMS		X		
FSP Failover: Setup		X		
FSP Failover: Initiate		X		

Capacity on Demand (CoD)				
Enter CoD code		X		
View History Log	X	X	X	X
Processor: View Capacity Settings	X	X	X	X
Processor/CUoD: View Code Information	X	X	X	X
Processor/On/Off CoD: Manage		X		
Processor/On/Off CoD: View Capacity Settings	X	X	X	X
Processor/On/Off CoD: View Billing Information	X	X	X	X
Processor/On/Off CoD: View Code Information	X	X	X	X
Processor/Trial CoD: Stop		X		
Processor/Trial CoD: View Capacity Settings	X	X	X	X
Processor/Trial CoD: View Code Information	X	X	X	X
Processor/Reserve CoD: Manage		X		
Processor/Reserve CoD: View Capacity Settings	X	X	X	X
Processor/Reserve CoD: View Code Information	X	X	X	X
Processor/Reserve CoD: View Shared Processor Utilization	X		X	X
Advanced POWER Virtualization: Enter Activation Code		X		
Advanced POWER Virtualization: View History Log	X	X	X	X
Advanced POWER Virtualization: View Code Information	X	X	X	X
Enterprise Enablement: Enter Activation Code		X		
Enterprise Enablement: View History Log	X	X	X	X
Enterprise Enablement: View Code Information	X	X	X	X
Other Advanced Functions: Enter Activation Code		X		
Other Advanced Functions: View History Log	X	X	X	X
Other Advanced Functions: View Code Information	X	X	X	X

Appendix B. Remote operations

Describes the how to connect to and use the HMC remotely.

Remote operations use the Graphical User Interface (GUI) used by a local Hardware Management Console (HMC) operator (see Figure 14) or the command line interface (CLI) on the HMC. You can perform operations remotely in the following ways:

- Use a remote HMC
- Use a Web browser to connect to a local HMC
- Use an HMC remote command line

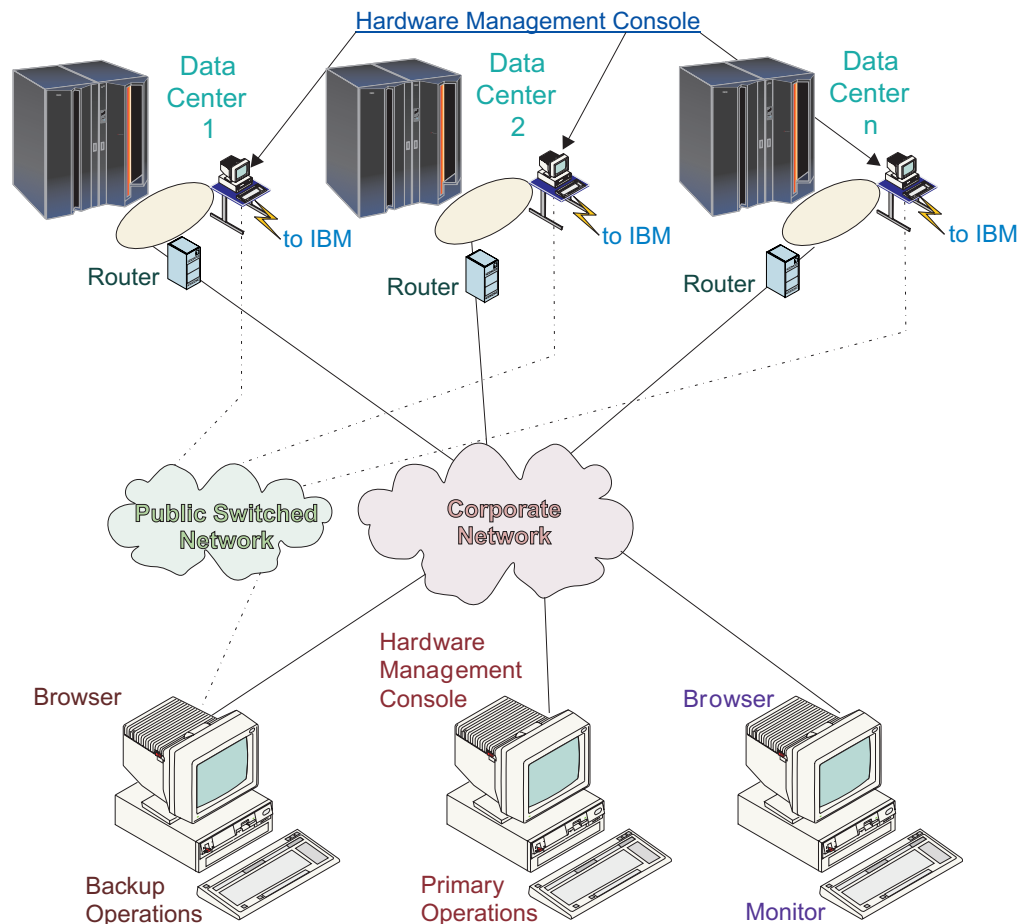


Figure 14. Remote Operation Configuration

The *remote HMC* is an HMC that is on a different subnet from the service processor, therefore the service processor cannot be autodiscovered with IP multicast.

To determine whether to use a remote HMC or Web browser connected to a local HMC, consider the scope of control that you need. A remote HMC defines a specific set of managed objects that are directly controlled by the remote HMC, while a Web browser to a local HMC has control over the same set of managed objects as the local HMC. The communications connectivity and communications speed is an additional consideration; LAN connectivity provides acceptable communications for either a remote HMC or Web browser control.

Using a remote HMC

A remote HMC gives the most complete set of functions because it is a complete HMC; only the process of configuring the managed objects is different from a local HMC.

As a complete HMC, a remote HMC has the same setup and maintenance requirements as a local Hardware Management Console. A remote HMC needs LAN TCP/IP connectivity to each managed object (service processor) that is to be managed; therefore, any customer firewall that may exist between the remote HMC and its managed objects must permit HMC to service processor communications to occur. A remote HMC may also need communication with another HMC for service and support. Table 14 shows the ports a remote HMC uses for communications.

Table 14. Ports used by a Remote HMC for Communications

Port	Use
udp 9900	HMC to HMC discovery
tcp 9920	HMC to HMC commands

A remote HMC needs connectivity to IBM (or another HMC that has connectivity to IBM) for service and support. The connectivity to IBM may be in the form of access to the internet (through a company firewall), or a dialed connection through a customer-provided switched phone connection using the supplied modem (see “Manage Outbound Connectivity” on page 118). A remote HMC cannot use the supplied modem for communication with a local HMC or a service processor.

Performance and the availability of the status information and access to the control functions of the service processor depends on the reliability, availability, and responsiveness of the customer network that interconnects the remote HMC with the managed object. A remote HMC monitors the connection to each service processor and attempts to recover any lost connections and can report those connections that cannot be recovered.

Security for a remote HMC is provided by the HMC user-login procedures in the same way as a local HMC. As with a local HMC, all communication between a remote HMC and each service processor is encrypted. Certificates for secure communications are provided, and can be changed by the user if desired (see “Manage Certificates” on page 105).

TCP/IP access to the remote HMC is controlled through its internally managed firewall and is limited to HMC related functions.

Using a Web browser

If you need occasional monitoring and control of managed objects connected to a single local HMC, use a Web browser. An example of using the Web browser might be an off-hours monitor from home by an operator or system programmer.

Each HMC contains a Web server that can be configured to allow remote access for a specified set of users. If a customer firewall exists between the Web browser and the local HMC, the ports must be accessible, and the firewall should allow incoming requests on these ports. Table 15 shows the ports a Web browser needs for communicating with an HMC.

Table 15. Ports used by a Web browser for communications to the HMC

Port	Use
tcp 443	Secure browser access to Web server communication
tcp 8443	Secure browser access to Web server communication
tcp 9960	Browser applet communication

After an HMC has been configured to allow Web browser access, a Web browser gives an enabled user access to all the configured functions of a local HMC, except those functions that require physical access to the HMC, such as those that use the local diskette or DVD media. The user interface presented to the remote Web browser user is the same as that of the local HMC and is subject to the same constraints as the local HMC.

The Web browser can be connected to the local HMC using a LAN TCP/IP connection and using only encrypted (HTTPS) protocols. Logon security for a Web browser is provided by the HMC user-login procedures. Certificates for secure communications are provided, and can be changed by the user (see “Manage Certificates” on page 105).

Performance and the availability of the status information and access to the control functions of the managed objects depends on the reliability, availability, and responsiveness of the network that interconnects the Web browser with the local HMC. Because there is no direct connection between the Web browser and the individual managed objects, the Web browser does not monitor the connection to each service processor, does not do any recovery, and does not report any lost connections. These functions are handled by the local HMC.

The Web browser system does not require connectivity to IBM for service or support. Maintenance of the browser and system level is the responsibility of the customer.

If the URL of the HMC is specified using the format `https://xxx.xxx.xxx.xxx` (where `xxx.xxx.xxx.xxx` is the IP address) and Microsoft Internet Explorer is used as the browser, a hostname mismatch message is displayed. To avoid this message, a Firefox browser is used or a hostname is configured for the HMC, using the **Change Network Settings** task (see “Change Network Settings” on page 94), and this hostname is specified in the URL instead of an IP address. For example, you can use the format `https://hostname.domain_name` or `https://hostname` (for example, using `https://hmc1.ibm.com` or `https://hmc1`).

Using the HMC remote command line

An alternative to performing tasks on the HMC is using the command line interface (CLI).

From a local HMC, the interface is available by right-clicking on the desktop (outside of the HMC web user interface screen), click **Terminals** and **rshlogin**. A restricted shell command line window is displayed. You can also open the **Open Restricted Shell Terminal** task from the HMC Management work pane.

You can use the command line interface in the following situations:

- When consistent results are required. If you have to administer several managed systems, you can achieve consistent results by using the command line interface. The command sequence can be stored in scripts and run remotely.
- When automated operations are required. After you have developed a consistent way to manage the managed systems, you can automate the operations by invoking the scripts from batch-processing applications, such as the **cron** daemon, from other systems.

Setting up secure script execution between SSH clients and the HMC

HMCs typically are placed inside the machine room where managed systems are located, so you might not have physical access to the HMC. In this case, you can remotely access it using either the remote client or the remote command line interface. You must ensure that your script executions between SSH clients and the HMC are secure.

Note: To enable scripts to run unattended between an **SSH** client and an HMC, the SSH protocol must already be installed on the client’s operating system.

To enable scripts to run unattended between an **SSH** client and an HMC, do the following:

1. Open the **Remote Command Execution** task from the HMC Management work pane.
2. From the **Remote Command Execution** window, select **Enable remote command execution using the ssh facility**.
3. Create an HMC user with one of the following roles:
 - Super administrator (hmcsuperadmin)
 - Service representative (hmcservicerep)
4. On the client's operating system, run the SSH protocol key generator. To run the SSH protocol key generator, do the following:
 - a. To store the keys, create a directory named `$HOME/.ssh` (either RSA or DSA keys can be used).
 - b. To generate public and private keys, run the following command:

```
ssh-keygen -t rsa
```

The following files are created in the `$HOME/.ssh` directory:

```
private key: id_rsa  
public key: id_rsa.pub
```

The write bits for both group and other are turned off. Ensure that the private key has a permission of 600.
5. On the client's operating system, use `ssh` and run the **mkauthkeys** command to update the HMC user's `authorized_keys2` file on the HMC by using the following command:

```
ssh userid@hostname "mkauthkeys -add '<the key string from $HOME/.ssh/id_dsa
```

To delete the key from the HMC, you can use the following procedure:

1. On the logical partition, use the **scp** command to copy the `authorized_keys2` file from the HMC to the logical partition, as follows:

```
scp userid@host_name :.ssh/authorized_keys2 /tmp/mykeyfile
```
2. In the `/tmp/mykeyfile` file, remove the line that contains the key and host name of the system that you want to be able to run HMC commands remotely.
3. On a logical partition, use the **scp** command to copy the new file to the HMC:

```
scp /tmp/mykeyfile userid@host_name ".ssh/authorized_keys2"
```
4. If you want to enable password prompting for all hosts that access the HMC through **ssh**, use the **ssh** command to remove the key file from the HMC:

```
scp userid@hostname:.ssh/authorized_keys2 authorized_keys2
```
5. Edit the `authorized_keys2` file and remove all lines in this file, then copy it back to the HMC. For example:

```
scp authorized_keys joe@somehost:.ssh/authorized_keys2
```

To delete the key from the HMC, you can also use the command line. For example:

```
ssh userid@hostname "mkauthkeys --remove 'joe@somehost'"
```

Enabling and disabling HMC remote commands

You can enable or disable the remote command line interface access to the HMC by using the SSH facility.

To enable or disable remote commands, you must have a user ID with one of the following roles:

- Super administrator
- Service representative

To enable or disable remote commands, do the following:

1. Open the **Remote Command Execution** task from the HMC Management work pane.
2. From the **Remote Command Execution** window:

- To enable remote commands, select **Enable remote command execution using the ssh facility**.
 - To disable remote commands, make sure **Enable remote command execution using the ssh facility** is not selected.
3. Click **OK** to proceed.

Web browser requirements

HMC Web browser support requires HTML 2.0, JavaScript 1.0, Java Virtual Machine (JVM), and cookie support in browsers that will connect to the HMC. Contact your support personnel to assist you in determining if your browser is configured with a Java Virtual Machine. The Web browser must use the HTTP 1.1 protocol; and if you are using a proxy server, the HTTP 1.1 protocol must be enabled for the proxy connections. Additionally, pop-ups must be enabled for all HMCs addressed in the browser if running with pop-ups disabled. The following browsers have been tested:

Microsoft Internet Explorer 6.0 or later

If the Microsoft Internet Explorer browser is configured to use an internet proxy, then include local intranet addresses in the exception list. Consult your network administrator for more information. If you still need to use the proxy, access the HMC then enable **Use HTTP 1.1 through proxy connections** under the **Advanced** tab in your **Internet Options** window.

Firefox 1.5.0.6 or later

For Firefox 2.0, make sure to enable the JavaScript option to raise or lower windows and move or resize existing windows is enabled.

Preparing to use the Web browser

Before you can use a Web browser to access an HMC, you must:

- Configure the HMC to allow remote control for specified users.
- For LAN-based connections, know the TCP/IP address of the HMC to be controlled, and have correctly set up any firewall access between the HMC and the Web browser.
- Have a valid user ID and password assigned by the access administrator for HMC Web access.

Logging in to the HMC from a LAN-connected Web browser

Use the following steps to log in to the HMC from a LAN-connected Web browser:

1. Ensure that your Web browser PC has LAN connectivity to the desired HMC.
2. From your Web browser, enter the URL of the desired HMC, using the format *https://hostname.domain_name* (for example: *https://hmc1.ibm.com*) or *https://xxx.xxx.xxx.xxx*.

If this is the first access of the HMC for the current Web browser session, you can receive a certificate error. This certificate error is displayed if:

- The Web server contained in the HMC is configured to use a self-signed certificate and the browser has not been configured to trust the HMC as an issuer of certificates,
- The HMC is configured to use a certificate signed by a Certificate Authority (CA) and the browser has not been configured to trust this CA.

In either case, if you know that the certificate being displayed to the browser is the one used by the HMC, you can continue and all communications to the HMC will be encrypted.

If you do not want to receive notification of a certificate error for the first access of any browser session, you can configure the browser to trust the HMC or the CA. In general, to configure the browser, use one of the following methods:

- You must indicate that the browser will permanently trust the issuer of the certificate
- By viewing the certificate and installing, to the database of trusted CAs, the certificate of the CA that issued the certificate used by the HMC.

If the certificate is self-signed, the HMC itself is considered the CA that issued the certificate.

3. When prompted, enter the user name and password assigned by your administrator.

Appendix C. Customizable data replication

The Customizable Data Replication service provides the ability to configure a set of Hardware Management Consoles (HMCs) to automatically replicate any changes to certain types of data so that the configured set of HMCs automatically keep this data synchronized without manual intervention.

Note: Before enabling this replication service, you may want to save your original data settings in case you need to restore these settings at a future time. See “Save Upgrade Data” on page 110.

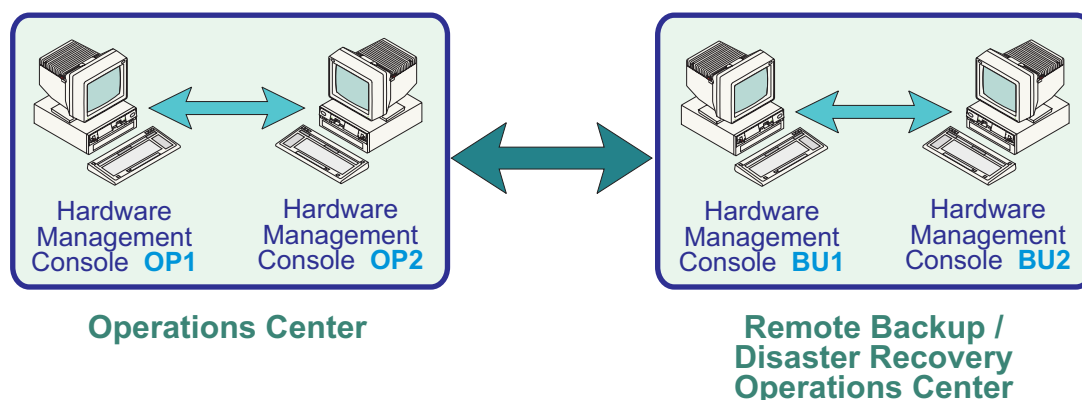
The following types of data can be configured:

- Customer information data
 - Administrator information (customer name, address, telephone number, and so on.)
 - System information (administrator name, address, telephone of your system)
 - Account information (customer number, enterprise number, sales branch office, and so on.)
- Group data
 - All user-defined group definitions
- Modem configuration data
 - Configure modem for remote support
- Outbound connectivity data
 - Configure local modem to RSF
 - Enable an internet connection
 - Configure to an external time source

The Customizable Data Replication service can be enabled for the following types of operations:

- **Peer-to-Peer** (see “Peer-to-Peer replication”).
Provides automatic replication of the selected customized data types between peer HMCs. Changes made on any of these consoles are replicated to the other consoles.
- **Master-to-Slave** (see “Master-to-Slave replication” on page 143).
Provides automatic replication of the selected customized data types from one or more designated master HMCs to one or more designated slave HMCs. Changes made on a master console are automatically replicated to the slave console.

Peer-to-Peer replication



1. Log in the HMC using a user ID that has administrator roles.

2. Open the **Manage Data Replication** task from the HMC Management work pane. The **Manage Data Replication** window is displayed.
 3. Select **Enable** in the **Customizable Data Replication** box. The **Manage Data Replication** window is displayed.
 4. Click **New** under **Data Source(s)**. The **Manage Data Replication** window is displayed.
 5. Select a *Hardware Management Console* to be used as a data source from the **Discovered Console Information** list, and click **Add**.
- or
- Enter the *TCP/IP address* of the Hardware Management Console to be a used as a data source in the **TCP/IP Address Information** field, and then click **Find**.
6. The **Manage Data Replication** window redisplay, as shown in the following figure:

Manage Data Replication

Customizable Data Replication

☒ Enable ☐ Disable

Data Source(s)

endDefiant1

New

Delete

Customizable Data Types

Select	Data Types
<input type="checkbox"/>	Customer Information Data
<input checked="" type="checkbox"/>	Group Data
<input checked="" type="checkbox"/>	Modem Configuration Data
<input type="checkbox"/>	Outbound Connectivity Data

Local Customizable Data Change Warnings

Select the customizable data types that should generate warnings when that type of data is manually changed on this Hardware Management Console and are also configured to be replicated from one or more data sources.

Select	Data Warning Types
<input type="checkbox"/>	Customer Information Data
<input type="checkbox"/>	Group Data
<input type="checkbox"/>	Modem Configuration Data
<input type="checkbox"/>	Outbound Connectivity Data

Save Push to Slaves Sync from Master Status Cancel Help

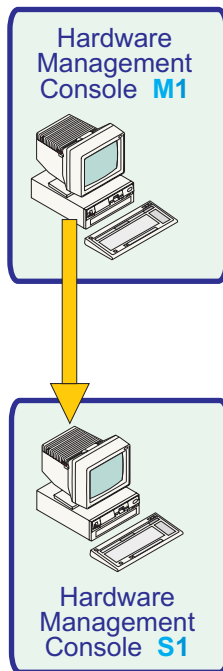
Figure 15. Configure customizable data replication window - example 1

7. Select the types of data from the **Customizable Data Types** list that you want to replicate from a peer HMC currently selected under **Data Source(s)**.
8. Choose one of the following actions:
 - Click **Save** to close the Manage Data Replication window.
 - Click **Push to Slaves** to transfer all local levels to any communicating slave. The slaves, if they are running this level of code, are instructed to accept the levels from the master, regardless of the value of their current levels.
 - Click **Sync from Master** to invalidate the local levels for all properties that are defined to have a master. This results in an immediate level set where the master provide their levels to the local machine. This option is not available if the local HMC is not defined to have any data sources.
 - Click **Status** to show the status of this task on this machine.

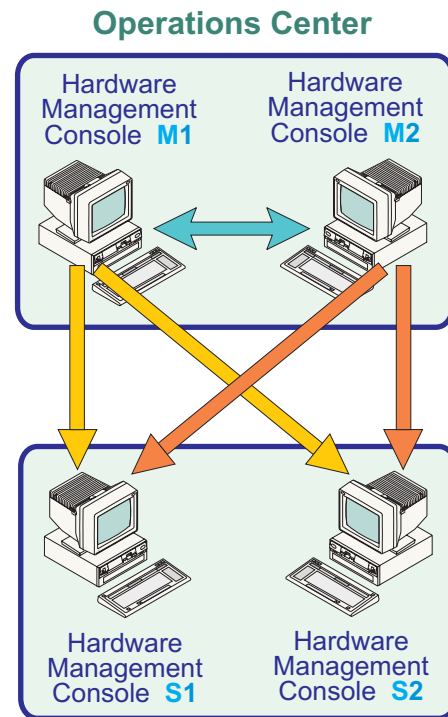
- Repeat steps 1 through 9 on each of the HMCs that you want to act as peers with one another. Once communication is established between the HMCs, the requested types of customizable data are automatically replicated from one HMC to the other immediately following the change in the data itself.

Master-to-Slave replication

Operations Center



Machine Room



Machine Room

Setting up a Master Console(s):

- Log in the HMC using a user ID that has administrator roles.
- Open the **Manage Data Replication** task from the HMC Management work pane. The **Manage Data Replication** window is displayed.
- Select **Enable** in the **Customizable Data Replication** box, then click **Save**.

Note: If you want to configure additional master consoles, see “Peer-to-Peer replication” on page 141

Setting up the Slave Console(s):

- Log in the HMC using a user ID that has administrator roles.
- Open the **Manage Data Replication** task. The **Manage Data Replication** window is displayed.
- Select **Enable** in the **Customizable Data Replication** box.
- The **Manage Data Replication** window is displayed.
- Click **New** under **Data Source(s)**. The **Manage Data Replication** window is displayed.
- Select a *Hardware Management Console* to be used as a master data source from the **Discovered Console Information** list, then click **Add**.

or

Enter the *TCP/IP address* of the HMC to be a used as the master data source in the **TCP/IP Address Information** field, then click **Find**.

7. The **Manage Data Replication** window redisplay as shown in

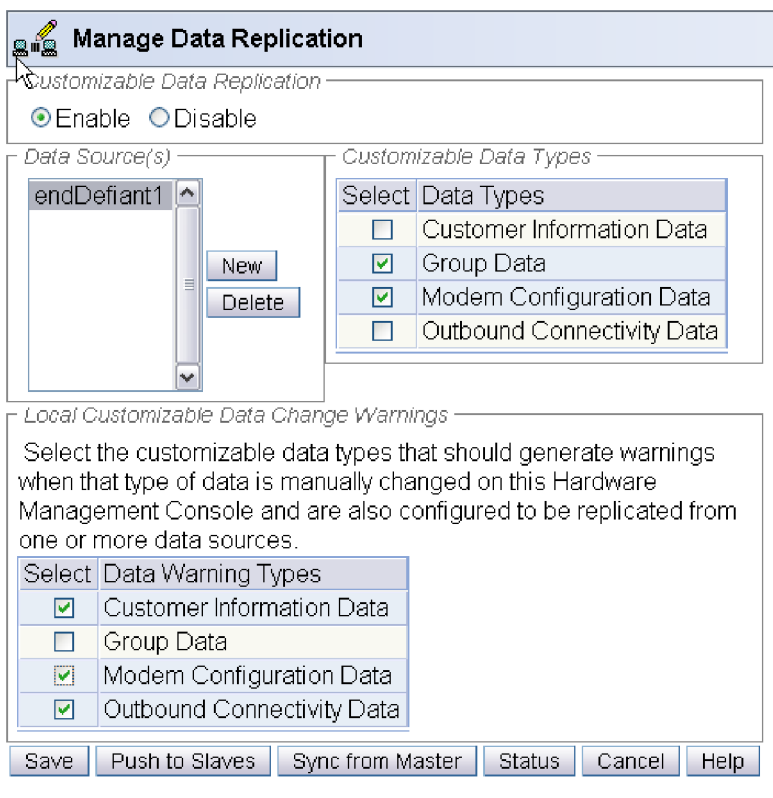


Figure 16. Configure customizable data replication window - example 2

8. Select the types of data from the **Customizable Data Types** list that you want to accept from the HMC currently selected under **Data Source(s)**.

Note: When configuring a HMC as a slave, you should check the types of customizable data from the **Local Customizable Data Change Warnings** list that should generate warnings to a user when manual changes are made to that data on this HMC. Manually updating data on the slave HMC will change the local data level to a higher level than the master. Changes on the master HMC will then not replicate to this HMC until the master data level exceeds that on the slave, or a **Sync from Master** or **Push to Slaves** task is run to resynchronize the data levels on master and slave.

9. Choose one of the following actions:

- Click **Save** to close the Manage Data Replication window.
- Click **Push to Slaves** to transfer all local levels to any communicating slave. The slaves, if they are running this level of code, are instructed to accept the levels from the master, regardless of the value of their current levels.
- Click **Sync from Master** to invalidate the local levels for all properties that are defined to have a master. This results in an immediate level set where the master(s) provide their levels to the local machine. This option is not available if the local Hardware Management Console is not defined to have any data sources.
- Click **Status** to show the status of this task on this machine.

10. Repeat **steps 1** through **9** on any additional HMCs that you want to configure as a slave.

11. Once communication is established between all of the HMCs, the master console(s) remains synchronized with each other, providing redundancy in the event that one of the master consoles becomes unavailable. The slave console(s) are kept synchronized with whichever master console provides the data to them first.

Data replication

As data is replicated from one Hardware Management Console to another, an internal level indicator for the data being replicated is incremented each time the data is altered on the data source. Each HMC keeps track of the level indicator for each type of data and will not accept data from a data source when the level indicator is not greater than that on the receiving HMC.

If you need to force the replication of data from one or more data sources and the level indicator on the receiving HMC is greater than that of the data sources, do the following:

1. Log in the HMC using a user ID that has administrator roles.
2. Open the **Manage Data Replication** task from the HMC Management work pane. The **Manage Data Replication** window is displayed (**Enable** should be selected).
3. Deselect all the data types from the **Customizable Data Types** list on the **Manage Data Replication** window.

Note: If you just want to reset the level indicator for a particular data type, just deselect that data type.

4. Click **Save** to remember the changes and to close the **Manage Data Replication** window.
5. Start the **Manage Data Replication** task again by repeating **step 2**.
6. Select the types of data from the **Customizable Data Types** list that were just deselected in **step 3**.
7. Click **Save** to remember the changes and to close the **Manage Data Replication** window.

Note: Deselecting and then reselecting the data types resets the internal level indicators for the specified types of data and forces replication of the data from the data sources.

Appendix D. HMC commands

This appendix alphabetically describes the HMC commands you can use to perform tasks on the HMC. This information, including examples, is available from the HMC command line using the **man** command. You can also refer to the *Command Line Support* education module (<http://www.ibm.com/servers/resourcelink/lib03030.nsf/page>) and “Using the HMC remote command line” on page 137 for more information.

To view the command information, type **man** and then the command name. For example, to learn more about the “Create a user for the HMC” (**mkhmcusr**) command, type the following at the command line:

```
man mkhmcusr
```

asmmenu

Provides access to Advanced System Management menu.

Synopsis

```
asmmenu --ip <IP address of system> [--help]
```

Description

asmmenu provides access to the Advanced System Management menu. This command takes the IP address or host name of the managed system and launches the Advanced System Management menu using the browser on the Hardware Management Console (HMC).

Options

- ip** The IP address or host name of the managed system.
- help** Display the help text for this command and exit.

bkconsdata

Back up console data.

Synopsis

```
bkconsdata -r {dvd | ftp | nfs | none} [-h host-name] [-u user-ID] [--passwd password] [-l mount-resource-location] [-o "mount-command-options"] [-d remote-directory] [--help]
```

Description

bkconsdata backs up critical Hardware Management Console (HMC) data, which is HMC data that is stored on the HMC hard disk. This backup data may be used to restore the HMC if the HMC needs to be reinstalled from the HMC recovery CDs in the event of an HMC hard disk failure.

Options

- r** The archive option for the backup data. Valid values are **dvd** for the DVD drive on the HMC, **ftp** for a remote FTP site, **nfs** for an NFS mounted remote file system, or **none**. The **none** option is used to remove the backup task lock allowing this task to be re-executed immediately.
- h** The host name or IP address of the remote FTP or NFS server.

This option is required when backing up the data to a remote FTP site or NFS file system. Otherwise, this option is not valid.

-u The user ID to use to log in to the remote FTP site.

This option is required when backing up the data to a remote FTP site. Otherwise, this option is not valid.

--passwd

The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.

This option is only valid when backing up the data to a remote FTP site.

-l The mount resource location defined on the NFS server where the backup data will be written.

This option is required when backing up the data to a remote NFS file system. Otherwise, this option is not valid.

-o Options to be passed to the mount command used to mount the remote NFS file system where the backup data will be written. The options must be enclosed in double quotes.

This option is only valid when backing up the data to a remote NFS file system.

-d The directory on the remote FTP or NFS server to which to write the backup data. If this option is not specified when backing up the data to a remote FTP site, the backup data will be written to the user's home directory. If this option is not specified when backing up the data to a remote NFS file system, the backup data will be written to the mount-resource-location on the NFS server.

This option is only valid when backing up the data to a remote FTP site or NFS file system.

--help Display the help text for this command and exit.

bkprofdata

Back up profile data.

Synopsis

bkprofdata -m *managed-system* **-f** *file* [**--force**] [**--help**]

Description

bkprofdata backs up profile data for the *managed-system*.

The **rstprofdata** command can be used to restore profile data for the *managed-system*.

The **rmprofdata** command can be used to remove a profile data backup file.

Options

-m The name of the managed system for which to back up profile data. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

-f The name of the backup file where the profile data is to be written. If *file* is not fully qualified, *file* will be written to the **/var/hsc/profiles/serial-number** directory on the HMC (*serial-number* is the serial number of the managed system).

If *file* already exists, this command will fail unless the **--force** option is specified.

To back up the profile data to removable media, the media must be present in the removable media device and the device must be mounted with the **mount** command before this command is issued. The **lsmediadev** command can be used to display all of the removable media devices on the HMC.

- force** This option allows the specified backup file to be overwritten if it already exists. If the specified backup file already exists and this option is not specified, the backup will fail.
- help** Display the help text for this command and exit.

chaccfg

Change access control configuration.

Synopsis

```
chaccfg -t {resourcerole | taskrole} {-f configuration-file | -i "configuration-data"} [--help]
```

Description

chaccfg changes the configuration of an access control role.

Options

- t** The type of access control role to change. Valid values are **resourcerole** for managed resource role and **taskrole** for task role.

- f** The name of the file containing the configuration data needed to change the access control role.

The configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. These attribute name/value pairs form a configuration record. A line feed marks the end of a configuration record. There can only be one configuration record in the file.

The format of a configuration record is as follows:

```
attribute-name=value,attribute-name=value,...<LF>
```

Note that certain attributes accept a comma separated list of values, as follows:

```
"attribute-name=value,value,...",...<LF>
```

When a list of values is specified, the attribute name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

If `'+='` is used in the attribute name/value pair instead of `'='`, then the specified *value* is added to the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is added to the existing list.

If `'-='` is used in the attribute name/value pair instead of `'='`, then the specified *value* is subtracted from the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is deleted from the existing list.

The `'+='` and `'-='` operators can only be used when changing a managed resource role.

Attribute names for managed resource roles:

name name of the managed resource role to change (required)

resources

comma separated list of managed resource objects (required)

Attribute names for task roles:

name name of the task role to change (required)

resources

comma separated list of tasks (required)

The **-f** and the **-i** options are mutually exclusive.

- i** This option allows you to enter configuration data on the command line, instead of using a file. Data entered on the command line must follow the same format as data in a file, and must be enclosed in double quotes.

The **-i** and the **-f** options are mutually exclusive.

--help Display the help text for this command and exit.

chcod

Change Capacity on Demand.

Synopsis

To enter a CoD code:

```
chcod -o e -m managed-system -k CoD-code [--help]
```

To activate or change On/Off CoD resources:

```
chcod -o a -m managed-system -c onoff -r {mem | proc} -q quantity-of-resources -d number-of-days [--help]
```

To activate or change Reserve CoD processors:

```
chcod -o a -m managed-system -c reserve -r proc-q quantity-of-processors [--help]
```

To deactivate all On/Off CoD, all Reserve CoD, or all Trial CoD resources:

```
chcod -o d -m managed-system -c {onoff | reserve | trial} -r {mem | proc} [--help]
```

Description

chcod performs Capacity on Demand (CoD) operations on the *managed-system*.

chcod is used to enter a CoD code for the *managed-system*. It is also used to activate On/Off CoD and Reserve CoD resources, or to deactivate On/Off CoD, Reserve CoD, or Trial CoD resources. CoD resources are either memory or processors.

Options

- o** The CoD operation to perform. Valid values are **e** to enter a CoD code, **a** to activate or change On/Off CoD or Reserve CoD resources, and **d** to deactivate all On/Off CoD, all Reserve CoD, or all Trial CoD resources.

To change the number of On/Off CoD resources or days that are currently activated, specify an activate operation with this option, specify the total number of activated On/Off CoD resources that you want with the **-q** option, and specify the number of days that you want them for with the **-d** option. An activate operation is to be used regardless of whether the total number of activated On/Off CoD resources is being increased, decreased, or kept the same. A deactivate operation is to be used only when you no longer want to have any activated On/Off CoD resources.

To change the number of Reserve CoD processors that are currently activated, specify an activate operation with this option, and specify the total number of activated Reserve CoD processors that

you want with the **-q** option. An activate operation is to be used regardless of whether the total number of activated Reserve CoD processors is being increased or decreased. A deactivate operation is to be used only when you no longer want to have any activated Reserve CoD processors.

Note: CUoD and Trial CoD resources are activated by entering CoD codes.

- m** The name of the managed system for which the CoD operation is to be performed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
 - k** The CoD code (key) to enter. Letters may be entered in either upper case or lower case.
 - c** The CoD type. Valid values are **onoff** for On/Off CoD, **reserve** for Reserve CoD, and **trial** for Trial CoD.
 - r** The CoD resource type. Valid values are **mem** for memory and **proc** for processors.
 - q** The quantity of On/Off CoD or Reserve CoD resources requested. The value specified must be a whole number which is greater than 0.

When requesting On/Off CoD memory, the value specified must be in megabytes, and it must be a multiple of 1024 megabytes.
 - d** The number of days for which the On/Off CoD resources are requested.
 - help** Display the help text for this command and exit.
-

chhmc

Change Hardware Management Console configuration information.

Synopsis

To change remote access settings:

```
chhmc -c {ssh | xntp} -s {enable | disable} [--help]
```

To add or remove an entry in the syslog configuration file:

```
chhmc -c syslog -s {add | remove} {-a IP-address | -h host-name} [--help]
```

To add or remove an entry in the network time protocol configuration file:

```
chhmc -c xntp -s {add | remove} {-a IP-address | -h host-name} [--ntpversion 1 | 2] [-nm network-mask] [-i interface] [--help]
```

To configure whether keyboard mapping configuration will occur at the next reboot:

```
chhmc -c kbdcfg -s {enable | disable} [--help]
```

To configure the network as a startup device:

```
chhmc -c netboot -s {enable | disable} [--help]
```

To configure an alternate disk partition on HMC as a startup device:

```
chhmc -c altdiskboot -s {enable | disable} --mode {install | upgrade} [--help]
```

To permit or deny IP addresses from utilizing HMC services:

```
chhmc -c {ssh | service} -s {add | remove} -a IP-address [-nm network-mask] [-i interface] [--help]
```

If **-nm** is omitted, the default network mask will be **255.255.255.255**.

If **-i** is omitted, the rule will be applied to all interfaces.

To add or remove entries from the DNS server search order or the domain suffix search order:

```
chhmc -c network -s {add | remove} [-ns DNS-server] [-ds domain-suffix] [--help]
```

To change network settings for a specific network interface:

```
chhmc -c network -s modify -i interface [-a IP-address] [-nm network-mask] [--lparcomm {on | off}] [--help]
```

To change other network settings:

```
chhmc -c network -s modify [-h host-name] [-d network-domain-name] [-g gateway] [--help]
```

To change the locale for the HMC:

```
chhmc -c locale -s modify -l locale [--help]
```

To change the HMC date and time, or time zone:

```
chhmc -c date -s modify [--datetime date-time] [--clock {local | utc}] [--timezone {time-zone | none}] [--help]
```

To setup a Kerberos realm for the first time:

```
chhmc -c kerberos -s add [--realm EXAMPLE.COM] [--h kdc1.example.com] [--help]
```

To remove a Kerberos realm:

```
chhmc -c kerberos -s remove [--realm EXAMPLE.COM] [--h kdc1.example.com] [--help]
```

To change the Kerberos default realm:

```
chhmc -c kerberos -s modify [--defaultrealm EXAMPLE2.COM] [--help]
```

To change the Kerberos clock skew (in seconds):

```
chhmc -c kerberos -s modify [--clockskew 240] [--help]
```

To change the Kerberos ticket lifetime (Kerberos lifetime string = Integer followed by one of s seconds, m minutes, h hours, or d days):

```
chhmc -c kerberos -s modify [--ticketlifetime 1d12h30m] [--help]
```

Description

chhmc changes Hardware Management Console (HMC) configuration information, such as remote access settings and network settings.

Options

- c** The type of configuration to be modified. Valid values are **ssh**, **syslog**, **xntp**, **network**, **kbdcfg**, **kerberos**, **netboot**, **altdiskboot**, **locale**, **service**, and **date**.
- s** The new state value of the configuration. Valid values are **enable**, **disable**, **add**, **modify**, and **remove**.
- i** The interface to configure, such as **eth0**.
- a** The network IP address.
- nm** The network mask.
- lparcomm**
The LPAR communication setting for the network interface.
- d** The network domain name.
- h** The host name.
- g** The default gateway IP address.
- ns** The nameserver IP address to add or remove.
- ds** The domain suffix to add or remove.
- ntpversion**
The ntp version if the server is not at NTP version 3 and above.
- mode**
The mode to use when startup from the alternate disk partition. Default value is **upgrade**. Valid values are **install** and **upgrade**.
- l** The locale. For a list of all locales supported by the HMC, issue the **lshmc -L** command.

For the new locale to take effect for the local HMC console, you must log off the console and log back on. For the new locale to take effect for the HMC command line, you must reboot the HMC.
- datetime**
The new date and time to set on the HMC's clock. *datetime* must be specified using the following format:

MMDDhhmm[[CC]YY][.ss]

where *MM* is the month, *DD* is the day, *hh* is the hour in 24 hour format, *mm* is the minutes, *CC* is the century, *YY* is the year, and *ss* is the seconds.

This option is required when the **--clock** option is specified.

You must reboot the HMC after setting the date and time.
- clock**
The BIOS clock type. Valid values are **local** and **utc**.
- timezone**
The time zone to set for the HMC. *timezone* must be specified in *continent/city* format. Specify **none** to remove the time zone setting.

You must reboot the HMC after setting the time zone.
- realm**
The Kerberos realm name.
- defaultrealm**
The default Kerberos realm name.
- clockskew**
The Kerberos clock skew value.

--ticketlifetime

The Kerberos ticket lifetime value.

--sshprotocol

The ssh protocol value.

--help Display the help text for this command and exit.

chhmcusr

Change a Hardware Management Console user.

Synopsis

chhmcusr -u *user-name* **-t** {**assign** | **desc** | **name** | **passwd** | **pwage** | **taskrole**} [**-o** {**a** | **r**}] [**-r** {**resource** | **resourcerole**}] [**-v** *new-attribute-value*] [**--help**]

Description

chhmcusr changes an attribute of a Hardware Management Console (HMC) user.

Options

-u The user name of the HMC user to change.

-t The user attribute to change. Valid values are **assign** for the user's access control managed resource object assignment or managed resource role assignment, **desc** for the user's description, **name** for the user's user name, **passwd** for the user's password, **pwage** for the number of days until the user's password expires, and **taskrole** for the user's access control task role.

-o The managed resource object or role assignment operation to perform. Valid values are **a** to add a managed resource object or role to the user and **r** to remove a managed resource object or role from the user.

This option is required when changing the user's managed resource object assignment or managed resource role assignment. This option is not valid when changing any other user attribute.

-r The type of access control assignment to change. Valid values are **resource** for managed resource object assignment and **resourcerole** for managed resource role assignment.

This option is required when changing the user's managed resource object assignment or managed resource role assignment. This option is not valid when changing any other user attribute.

-v The new value for the attribute being changed. When changing the user's managed resource object assignment, specify the managed resource object to be added or removed.

When changing the user's managed resource role assignment, specify the managed resource role to be added or removed.

When changing the user's description, specify the new description with this option. The new description can be any string.

When changing the user's user name, specify the new user name with this option. The new user name must not be longer than 32 characters, and it must begin with a letter.

When changing the user's password, you can either specify the new password with this option, or you can omit this option and you will be prompted to enter the password. The new password must be at least 7 characters in length.

When changing the number of days until the user's password expires, specify the new number of days with this option.

When changing the user's access control task role, specify the new task role with this option. Valid values are **hmcsuperadmin**, **hmcoperator**, **hmcviewer**, **hmcpe**, **hmcservicerep**, or a user-defined task role.

This option is required when changing any user attribute other than the user's password.

--help Display the help text for this command and exit.

chhwres

Change hardware resources.

Synopsis

To add, remove, or move a physical I/O slot:

```
chhwres -r io -m managed-system -o {a | r | m} {-p partition-name | --id partition-ID} [{-t target-partition-name | --tid target-partition-ID}] -l slot-DRC-index [-a "attributes" ] [-w wait-time] [-d detail-level] [--force]
```

To set physical I/O attributes:

```
chhwres -r io -m managed-system -o s {-p partition-name | --id partition-ID} --rsubtype {iopool | taggedio} -a "attributes"
```

To add or remove a virtual I/O adapter:

```
chhwres -r virtualio -m managed-system -o {a | r | m} {-p partition-name | --id partition-ID} [--rsubtype {eth | scsi | serial}] [-s virtual-slot-number] [-a "attributes" ] [-w wait-time] [-d detail-level] [--force]
```

To set virtual I/O attributes:

```
chhwres -r virtualio -m managed-system -o s [{-p partition-name | --id partition-ID}] --rsubtype {eth | hsl | virtualopti} -a "attributes"
```

To add, remove, or move memory:

```
chhwres -r mem -m managed-system -o {a | r | m} {-p partition-name | --id partition-ID} [{-t target-partition-name | --tid target-partition-ID}] -q quantity [-w wait-time] [-d detail-level] [--force]
```

To set memory attributes:

```
chhwres -r mem -m managed-system -o s -a "attributes"
```

To add, remove, or move processing resources:

```
chhwres -r proc -m managed-system -o {a | r | m} {-p partition-name | --id partition-ID} [{-t target-partition-name | --tid target-partition-ID}] [--procs quantity] [--procunits quantity] [--5250cpwpercent percentage] [-w wait-time] [-d detail-level] [--force]
```

To set processing attributes:

```
chhwres -r proc -m managed-system -o s {-p partition-name | --id partition-ID} -a "attributes"
```

To add, remove, or move a Host Ethernet Adapter (HEA) logical port (POWER6 servers only):

```
chhwres -r hea -m managed-system -o {a | r | m} {-p partition-name | --id partition-ID} [{-t
target-partition-name | --tid target-partition-ID}] -l HEA-adapter-ID [--physport physical-port-ID] -g port-group
--logport logical-port-ID [-a "attributes"] [-w wait-time] [-d detail-level] [--force]
```

To set HEA attributes (POWER6 servers only):

```
chhwres -r hea -m managed-system -o s -l HEA-adapter-ID [--physport physical-port-ID] -g port-group -a
"attributes"
```

Description

chhwres changes the hardware resource configuration of the *managed-system*. **chhwres** is used to perform dynamic logical partitioning (DLPAR) operations.

Options

-r The type of hardware resources to change. Valid values are **io** for physical I/O, **virtualio** for virtual I/O, **mem** for memory, **proc** for processing resources, and **hea** for Host Ethernet Adapter (HEA) resources.

HEA resources are only supported on POWER6 servers.

--subtype

The subtype of hardware resources to change. Valid physical I/O resource subtypes are **slot** for I/O slots, **iopool** for I/O pools, and **taggedio** for tagged I/O resources. Valid virtual I/O resource subtypes are **eth** for virtual ethernet, **scsi** for virtual SCSI, **serial** for virtual serial, **hsl** for High Speed Link (HSL) OptiConnect, and **virtualopti** for virtual OptiConnect resources.

This option is required for physical I/O or virtual I/O set operations, and for virtual I/O add operations.

This option is not valid for memory, processor, or HEA operations.

-o The operation to perform. Valid values are **a** to add hardware resources to a partition, **r** to remove hardware resources from a partition, **m** to move hardware resources from one partition to another, and **s** to set hardware resource related attributes for a partition, an HEA, or the managed-system.

-p The name of the partition for which the operation is to be performed. For a move operation, this is the source partition (the partition the resources will be moved from) for the operation. To perform an add, remove, or move operation, the partition must be in the running state.

You can either use this option to specify the name of the partition for which the operation is to be performed, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.

A partition is required to be specified with this option or the **--id** option for all operations except a virtual ethernet, memory, or HEA set operation.

--id The ID of the partition for which the operation is to be performed. For a move operation, this is the source partition (the partition the resources will be moved from) for the operation. To perform an add, remove, or move operation, the partition must be in the running state.

You can either use this option to specify the ID of the partition for which the operation is to be performed, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.

A partition is required to be specified with this option or the **-p** option for all operations except a virtual ethernet, memory, or HEA set operation.

-t The name of the target partition for a move operation. The partition must be in the running state.

You can either use this option to specify the name of the target partition, or use the **--tid** option to specify the ID of the partition. The **-t** and the **--tid** options are mutually exclusive.

A target partition is required to be specified with this option or the **--tid** option for a move operation. This option is not valid for any other operation.

--tid The ID of the target partition for a move operation. The partition must be in the running state.

You can either use this option to specify the ID of the target partition, or use the **-t** option to specify the name of the target partition. The **--tid** and the **-t** options are mutually exclusive.

A target partition is required to be specified with this option or the **-t** option for a move operation. This option is not valid for any other operation.

-l When adding, removing, or moving a physical I/O slot, use this option to specify the DRC index of the slot.

When performing an HEA operation, use this option to specify the adapter ID of the HEA for which the operation is to be performed.

This option is not valid for any other operation.

-s The virtual slot number of the virtual I/O adapter to add or remove.

When adding a virtual I/O adapter, if this option is not specified then the next available virtual slot number will be assigned to the virtual I/O adapter.

When removing a virtual I/O adapter, this option is required.

-q The quantity of memory to add, remove, or move. The *quantity* specified must be in megabytes, it must be a multiple of the memory region size for the *managed-system*, and it must be greater than 0.

--procs

When adding or removing processing resources to or from a partition using dedicated processors, or when moving processing resources from a partition using dedicated processors to another partition using dedicated processors, use this option to specify the quantity of dedicated processors to add, remove, or move.

When adding or removing processing resources to or from a partition using shared processors, or when moving processing resources from a partition using shared processors to another partition using shared processors, use this option to specify the quantity of virtual processors to add, remove, or move.

When moving processing resources from a partition using dedicated processors to a partition using shared processors, use this option to specify the quantity of dedicated processors to be moved from the source partition and added as shared processors to the target partition.

This option is not valid when moving processing resources from a partition using shared processors to a partition using dedicated processors. The **--procunits** option must be used instead.

The *quantity* of processing resources specified with this option must be a whole number greater than 0.

--procunits

When adding or removing processing resources to or from a partition using shared processors, or when moving processing resources from a partition using shared processors to another partition using shared processors, use this option to specify the quantity of processing units to add, remove, or move.

When moving processing resources from a partition using shared processors to a partition using dedicated processors, use this option to specify the quantity of shared processors to be moved from the source partition and added as dedicated processors to the target partition.

This option is not valid when moving processing resources from a partition using dedicated processors to a partition using shared processors. The **--procs** option must be used instead.

When moving processing resources from a partition using shared processors to a partition using dedicated processors, the *quantity* of processing units specified with this option must be a whole number. Otherwise, the *quantity* of processing units specified with this option can have up to 2 decimal places. In either case, the *quantity* specified must be greater than 0.

--5250cpwpercent

The percentage of 5250 Commercial Processing Workload (CPW) to add, remove, or move. The *percentage* specified can have up to 2 decimal places, and it must be greater than 0.

This option is only valid for i5/OS partitions and can only be used when the *managed-system* supports the assignment of 5250 CPW percentages to partitions.

--physport

The ID of the HEA physical port. This option is required when adding an HEA logical port to a partition. This option is also required when setting HEA physical port attributes. This option is not valid for any other operation.

-g The HEA port group. This option is required for all HEA operations, and is not valid for any other operation.

-w The elapsed time, in minutes, after which an add, remove, or move operation will be stopped. *wait-time* must be a whole number. If wait-time is 0, the operation will not be timed out.
If this option is not specified, a default value of 5 minutes is used.

This option is valid for all add, remove, and move operations for AIX, Linux, and virtual I/O server partitions. This option is also valid for memory add, remove, and move operations for i5/OS partitions.

-d The level of detail to be displayed upon return of an add, remove, or move operation. Valid values are 0 (none) through 5 (highest).

If this option is not specified, a default value of 0 is used.

This option is valid for all add, remove, and move operations for AIX, Linux, and virtual I/O server partitions.

--force This option allows you to force a remove or move operation to be performed for a physical I/O slot that is currently in use (varied on) by an i5/OS partition.

This option also allows you to force an add, remove, or move operation to be performed for an AIX, Linux, or virtual I/O server partition that does not have an RMC connection to the HMC. If this command completes successfully, you will need to restart your operating system for the change to take affect. You should only use this option if you intentionally configured your LAN to isolate the HMC from the operating system of your partition.

-a The configuration data needed to create virtual I/O adapters or set hardware resource related attributes. The configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. The configuration data must be enclosed in double quotes.

The format of the configuration data is as follows:

attribute-name=value,attribute-name=value,...

Note that certain attributes accept a comma separated list of values, as follows:

"attribute-name=value,value,...",...

When a list of values is specified, the attribute name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

If '+=' is used in the attribute name/value pair instead of '=', then the specified *value* is added to the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is added to the existing list.

If '-=' is used in the attribute name/value pair instead of '=', then the specified *value* is subtracted from the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is deleted from the existing list.

Valid attribute names for attributes that can be set when adding, removing, or moving a physical I/O slot:

slot_io_pool_id

Valid attribute names for setting I/O pool attributes:

lpar_io_pool_ids

comma separated

Valid attribute names for setting tagged I/O resources (i5/OS partitions only):

load_source_slot

DRC index of I/O slot, or virtual slot number

alt_restart_device_slot

DRC index of I/O slot, or virtual slot number

console_slot

DRC index of I/O slot, virtual slot number, or the value **hmc**

alt_console_slot

DRC index of I/O slot, or virtual slot number

op_console_slot

DRC index of I/O slot, or virtual slot number

Valid attribute names for adding a virtual ethernet adapter:

ieee_virtual_eth

Valid values:

0 - not IEEE 802.1Q compatible

1 - IEEE 802.1Q compatible

Required

port_vlan_id

Required

addl_vlan_ids

is_trunk

Valid values:

0 - no

1 - yes

trunk_priority

Valid values are integers between 1 and 15, inclusive

Required for a trunk adapter

Valid attribute names for adding a virtual SCSI adapter:

adapter_type

Valid values are client or server

Required

remote_lpar_id | remote_lpar_name

One of these attributes is required for a **client** adapter

remote_slot_num

Required for a **client** adapter

Valid attribute names for adding a virtual serial adapter:

adapter_type

Valid values are **client** or **server**

Required

remote_lpar_id | remote_lpar_name

One of these attributes is required for a **client** adapter

remote_slot_num

Required for a **client** adapter

supports_hmc

The only valid value is **0** for no.

Valid attribute names for setting virtual ethernet attributes:

mac_prefix

Valid attribute names for setting HSL OptiConnect attributes (i5/OS partitions only):

hsl_pool_id

Valid values are:

0 - HSL OptiConnect is disabled

1 - HSL OptiConnect is enabled

Valid attribute names for setting virtual OptiConnect attributes (i5/OS partitions only):

virtual_opti_pool_id

Valid values are:

0 - virtual OptiConnect is disabled

1 - virtual OptiConnect is enabled

Valid attribute names for setting memory attributes:

requested_num_sys_huge_pages

Valid attribute names for setting processing attributes:

sharing_mode

Valid values for partitions using dedicated processors are:

keep_idle_procs - never share processors

share_idle_procs - share processors only when partition is inactive

share_idle_procs_active - share processors only when partition is active (POWER6 servers only)

share_idle_procs_always - always share processors (POWER6 servers only)

Valid values for partitions using shared processors are:

cap - capped

uncap - uncapped

uncap_weight

Valid attribute names when adding an HEA logical port:

vlan_id_list

comma separated

lhea_capabilities

Comma separated list of Logical Host Ethernet adapter (LHEA) capabilities, with each capability having one of the following formats:

capability

or

5/ieq/nieq/qc/cq/mr

where *ieq* (interruptible event queues), *niesq* (non-interruptible event queues), *qp* (queue pairs), *cq* (completion queues), and *mr* (memory regions) each specify the resource amount in addition to the base minimum.

Valid values for capability:

0 - base minimum

1 - low

2 - medium

3 - high

4 - dedicated

For example:

5/22/128/1021/1019/63424

Valid attribute names for setting HEA physical port attributes:

conn_speed

Valid values are:

auto - system selects automatically

10 - 10 Mbps

100 - 100 Mbps

1000 - 1 Gbps

10000 - 10 Gbps

duplex

Valid values are:

auto - system selects automatically

full - full duplex

max_rcv_packet_size

Valid values are:

1500 - 1500 bytes per frame (non-jumbo)

9000 - 9000 bytes per frame (jumbo)

flow_control

Valid values are:

0 - disable flow control

1 - enable flow control

promisc_lpar_name | promisc_lpar_id

Valid attribute names for setting HEA port group attributes:

pend_port_group_mcs_value

--help Display the help text for this command and exit.

chkmedia

Check media readiness.

Synopsis

```
chkmedia -r {dvd | diskette | usbdiskette | usbflashmem} [--help]
```

Description

chkmedia allows a user to test for media readiness on the Hardware Management Console (HMC). The media devices that can be tested for readiness are the DVD drive (DVD-RAM media only), the internal diskette drive, a USB diskette drive, and a USB flash memory device. In order to test for media readiness, a small amount of data is written to, read from, then deleted from the specified media. No other diagnostic actions are performed on the media or the media device.

Options

-r The media device to be tested for readiness. Valid values are **dvd** for the internal DVD drive, **diskette** for the internal diskette drive, **usbdiskette** for an external diskette drive connected to the HMC with a USB cable, or **usbflashmem** for a flash memory device that is connected to a USB port on the HMC.

--help Display the help text for this command and exit.

chled

Change LED.

Synopsis

```
chled -r sa -t {phys | virtuallpar | virtualsys} -m managed-system -o {on | off} [{-p partition-name | --id partition-ID}] [--help]
```

Description

chled changes the state of an LED on the *managed-system*.

Options

-r The type of LED resource to change. The only valid value is **sa** for System Attention (SA) LED.

-t The type of System Attention (SA) LED to change. Valid values are **phys** for the physical SA LED for the *managed-system*, **virtuallpar** for a virtual partition SA LED, or **virtualsys** for the virtual SA LED for the *managed-system*.

-m The name of the managed system on which to change the LED. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

-o The operation to perform on the LED. Valid values are **on** to activate the LED, and **off** to deactivate the LED.

The value **on** is not valid when changing the physical SA LED for the *managed-system*.

-p The name of the partition for which the virtual partition SA LED is to be changed.

To change a virtual partition SA LED, you must either use this option to specify the name of the partition for which the LED is to be changed, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.

This option is not valid when changing the physical SA LED or the virtual SA LED for the *managed-system*.

--id The ID of the partition for which the virtual partition SA LED is to be changed.

To change a virtual partition SA LED, you must either use this option to specify the ID of the partition for which the LED is to be changed, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.

This option is not valid when changing the physical SA LED or the virtual SA LED for the *managed-system*.

--help Display the help text for this command and exit.

chlparutil

Change utilization data collection settings.

Synopsis

chlparutil -r config [-m *managed-system*] -s *sample-rate* [--help]

Description

chlparutil changes the Hardware Management Console (HMC) settings for utilization data collection for managed systems.

Options

-r The type of utilization data collection resources to change. The only valid value is **config** for configuration settings.

-m The name of the managed system for which the settings for utilization data collection are to be changed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name, or if the HMC does not currently have a connection to the managed system.

If this option is not specified, then the HMC settings for utilization data collection for all of the systems currently managed by this HMC, and for all of the systems for which utilization data has been previously collected by this HMC will be changed. Even though utilization data collection is enabled for a managed system, the HMC will only collect utilization data for that managed system if the HMC currently has a connection to that managed system.

This command only changes the settings for utilization data collection for this HMC. Utilization data collection by other HMCs for the same managed systems is not affected.

-s The rate, in seconds, at which to sample the utilization data. Sample rates of **0** and **3600** are the only valid values. A sample rate of **0** disables utilization data collection, and a sample rate of **3600** enables utilization data collection with hourly sampling.

--help Display the help text for this command and exit.

chsacfg

Change Service Agent configuration.

Synopsis

To change customer email notification settings:

```
chsacfg -t email -o {enable | disable | setsmtp | add | remove | test} [-a {email-address | all}] [--events {all | callhome}] [-h host-name] [-p port-number]
```

To change FTP firewall settings:

```
chsacfg -t ftpfirewall [-o {add | remove}] [-h host-name] [-p port-number] [-u user-ID] [--passwd password] [--passive passive-mode] [--fwtype firewall-type] [-n name]
```

To change FTP offload server settings:

```
chsacfg -t ftpoffload [-o {enable | disable}] [-h host-name] [-p port-number] [-u user-ID] [--passwd password] [--passive passive-mode] [-d directory]
```

To change SNMP trap configuration:

```
chsacfg -t snmp -o {add | remove} -a {SNMP-address | all} [--events SNMP-trap-list]
```

Description

chsacfg changes the Service Agent configuration.

Options

- t** The type of Service Agent configuration information to change. Valid values are **email** for customer email notification settings, **ftpfirewall** for FTP firewall settings, **ftpooffload** for FTP offload server settings, and **snmp** for SNMP trap configuration..
- o** The operation to perform. Valid values are:
 - enable**
enable customer email notification or FTP offload of service information
 - disable**
disable customer email notification or FTP offload of service information
 - setsmtp**
set the SMTP server information for customer notification email
 - add** add a notification email address, add a name to the exclusion list for the FTP firewall server, or add an address for SNMP trap notifications
 - remove**
Remove a notification email address, remove a name from the exclusion list for the FTP firewall server, or remove an address from the SNMP trap notification list
 - test** Send a test email to a notification email address.
- a** The email address to add, remove, or test for customer notification email or the SNMP address to add or remove for SNMP trap notifications. SNMP addresses are specified in the form *Community-Name@IP-Address*.

When performing a remove or test operation for a customer notification email address, **all** can be specified with this option instead of a specific email address. If **all** is specified, then the remove or test operation will be performed for all notification email addresses.

When performing a remove operation for an SNMP address, **all** can be specified with this option instead of a specific SNMP address. If **all** is specified, then the remove operation will be performed for all SNMP trap notification addresses.

This option is required when adding, removing, or testing a customer notification email address. This option is not valid for any other operation.

--events

When adding a customer email notification address, specify the type of problem events for which the email address is to be notified. Valid values are **all** for all problem events, and **callhome** for only call home problem events. If this option is not specified, then the email address will be notified for all problem events.

When adding an address for SNMP trap notifications, specify the list of SNMP traps for which the SNMP address is to be notified. If there is more than one SNMP trap, the SNMP traps must be separated by blanks. The defined SNMP traps can be listed by issuing the command **lssacfg -t snmptrapnames**.

This option is only valid when adding a customer email notification address or when adding an SNMP address for SNMP trap notifications.

-h When enabling customer email notification or setting the SMTP server information for customer notification email, use this option to specify the host name or IP address of the SMTP server.

When changing the FTP firewall settings, use this option to specify the host name or IP address of the firewall server.

When changing the FTP offload server settings, use this option to specify the host name or IP address of the FTP offload server.

This option is required when setting the SMTP server information for customer notification email.

-p When setting the SMTP server information for customer notification email, use this option to specify the port number to use on the SMTP server. The default port number for an SMTP server is 25.

When changing the FTP firewall settings, use this option to specify the port number to use on the firewall server.

When changing the FTP offload server settings, use this option to specify the port number to use on the FTP offload server.

The default port number for an FTP offload server or firewall server is 21.

-u When changing the FTP firewall settings, use this option to specify the user ID to use to log in to the firewall server.

When changing the FTP offload server settings, use this option to specify the user ID to use to log in to the FTP offload server.

--passwd

When changing the FTP firewall settings, use this option to specify the password to use to log in to the firewall server. If this option is omitted, you will be prompted to enter the password.

When changing the FTP offload server settings, use this option to specify the password to use to log in to the FTP offload server. If this option is omitted, you will be prompted to enter the password.

-d The directory to use on the FTP offload server.

--passive

When changing the FTP firewall settings, use this option to specify the passive mode to use. Valid values are **on** for always use PASV, **off** for always use PORT, and **optional** for try PASV then PORT.

When changing the FTP offload server settings, use this option to specify the passive mode to use. Valid values are **on** for always use PASV and **off** for always use PORT.

--fwtype

The FTP firewall type to use when offloading service information. Valid values are:

0 - do not use a firewall

1 - connect to firewall server, but send "USER user@real.host.name"

2 - connect to firewall server, log in with "USER fwuser" and "PASS fwpassword", and then "USER user@real.host.name"

3 - connect to and log in to firewall server, and then use "SITE real.host.name" followed by "USER user" and "PASS password"

4 - connect to and log in to firewall server, and then use "OPEN real.host.name" followed by "USER user" and "PASS password"

5 - connect to firewall server, but send "USER user@fwuser@real.host.name" and "PASS pass@fwpass" to log in

6 - connect to firewall server, but send "USER fwuser@real.host.name" and "PASS fwpass" followed by "USER user" and "PASS password" to complete the login

7 - connect to firewall server, but send "USER user@real.host.name fwuser" and "PASS pass" followed by "ACCT fwpass" to complete the login

This option is only valid when changing the FTP firewall settings.

-n The host name or domain name to add to or remove from the exclusion list for the firewall server. The exclusion list is a list of domains or hosts where the firewall should not be used.

This option is required when adding or removing a name in the exclusion list for the FTP firewall server. This option is not valid for any other operation.

--help Display the help text for this command and exit.

chsvcevent

Updates serviceable events on the HMC.

Synopsis

chsvcevent -o {close | closeall} [-p problem-number -h analyzing-HMC] [--help]

Description

chsvcevent closes serviceable events on the Hardware Management Console (HMC).

Options

-o The operation to perform. Valid values are **close** to close the serviceable event specified using the **-p** and **-h** options, and **closeall** to close all serviceable events on this HMC.

-p The problem number of the serviceable event to close. This option is required when closing a single serviceable event. This option is not allowed when closing all serviceable events.

The problem number can be obtained using the **lssvcevents** command.

-h The analyzing HMC for the serviceable event to close. This option is required when closing a single serviceable event. This option is not allowed when closing all serviceable events.

The analyzing HMC can be obtained using the **lssvcevents** command.

--help Display the help text for this command and exit.

chsyscfg

Change system resources.

Synopsis

chsyscfg -r {**lpar** | **prof** | **sys** | **sysprof** | **frame**} **-m** *managed-system* | **-e** *managed-frame*} **-f** *configuration-file* | **-i** "*configuration-data*" **[--help]**

Description

chsyscfg changes the attributes of partitions, partition profiles, or system profiles for the *managed-system*. It can also change the attributes of the *managed-system*.

chsyscfg can also change the attributes of the *managed-frame*.

Options

- r** The type of resources to change. Valid values are **lpar** for partitions, **prof** for partition profiles, **sys** for the managed system, **sysprof** for system profiles, and **frame** for the managed frame.
- m** The name of either the managed system to be changed, or the managed system which has the system resources to be changed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- This option is required when changing the attributes of partitions, partition profiles, system profiles, or the managed system. This option is not valid otherwise.
- e** The name of the managed frame to be changed. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.
- This option is required when changing the attributes of the managed frame. This option is not valid otherwise.
- f** The name of the file containing the configuration data needed to change the resources. The configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. These attribute name/value pairs form a configuration record. A line feed marks the end of a configuration record. The file must contain one configuration record for each resource to be changed, and each configuration record must be for the same resource type. If the resource type is the managed system or the managed frame, then the file must contain only one configuration record.

The format of a configuration record is as follows:

attribute-name=value,attribute-name=value,...<LF>

Note that certain attributes accept a comma separated list of values, as follows:

"attribute-name=value,value,..." ,...<LF>

When a list of values is specified, the attribute name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

If `'+='` is used in the attribute name/value pair instead of `'='`, then the specified *value* is added to the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is added to the existing list.

If `'-='` is used in the attribute name/value pair instead of `'='`, then the specified *value* is subtracted from the existing value for the attribute if the attribute is numerical. If the attribute is a list, then the specified *value(s)* is deleted from the existing list.

Attribute names for partitions:

name | lpar_id

name or ID of the partition to change (required)

new_name

default_profile

ipl_source

i5/OS only

Valid values are **a**, **b**, **c**, or **d**

allow_perf_collection

Valid values are:

0 - do not allow

1 - allow

This attribute replaces the **shared_proc_pool_util_auth** attribute. Setting this attribute also sets the **shared_proc_pool_util_auth** attribute to the same value.

shared_proc_pool_util_auth

Valid values are:

0 - do not allow authority

1 - allow authority

This attribute has been deprecated. Use the **allow_perf_collection** attribute instead.

Setting this attribute also sets the **allow_perf_collection** attribute to the same value.

work_group_id

lpar_avail_priority

POWER6 servers only

Valid values are **0** - **255**.

electronic_err_reporting

i5/OS only, POWER6 servers only

Valid values are:

0 - disable

1 - enable

Attribute names for partition profiles:

name name of the partition profile to change (required)

lpar_name | lpar_id

name or ID of the partition for which the profile to change is defined (required)

new_name

min_mem

megabytes

desired_mem

megabytes

max_mem

megabytes

min_num_huge_pages

AIX and LINUX only

desired_num_huge_pages

AIX and LINUX only

max_num_huge_pages

AIX and LINUX only

bsr_arrays

POWER6 servers only

proc_mode

Valid values are:

ded - dedicated processors

shared - shared processors

min_procs

desired_procs

max_procs

min_proc_units

desired_proc_units

max_proc_units

min_5250_cpw_percent

Only valid for i5/OS partitions in managed systems that support the assignment of 5250

desired_5250_cpw_percent

Only valid for i5/OS partitions in managed systems that support the assignment of 5250
CPW percentages

max_5250_cpw_percent

Only valid for i5/OS partitions in managed systems that support the assignment of 5250
CPW percentages

sharing_mode

Valid values are:

keep_idle_procs - never share processors

share_idle_procs - share processors only when partition is inactive

share_idle_procs_active - share processors only when partition is active (POWER6
servers only)

share_idle_procs_always - always share processors (POWER6 servers only)

Valid values for partitions using shared processors are:

cap - capped

uncap - uncapped

uncap_weight

io_slots

Comma separated list of I/O slots, with each I/O slot having the following format:

slot-DRC-index/slot-IO-pool-ID/is-required

Both '/' characters must be present, but optional values may be omitted. Optional values
are *slot-IO-pool-ID*.

Valid values for *is-required*:

0 - no

1 - yes

lpar_io_pool_ids

comma separated

load_source_slot

i5/OS only

DRC index of I/O slot, or virtual slot number

alt_restart_device_slot

i5/OS only

DRC index of I/O slot, or virtual slot number

console_slot

i5/OS only

DRC index of I/O slot, DRC index of HEA logical port (POWER6 servers only), virtual slot number, or the value **hmc**

alt_console_slot
i5/OS only

DRC index of I/O slot

op_console_slot
i5/OS only

DRC index of I/O slot

auto_start
Valid values are:
0 - off
1 - on

boot_mode
AIX, Linux, and virtual I/O server only

Valid values are:
norm - normal
dd - diagnostic with default boot list
ds - diagnostic with stored boot list
of - Open Firmware OK prompt
sms - System Management Services

power_ctrl_lpar_ids | **power_ctrl_lpar_names**
comma separated

conn_monitoring
Valid values are:
0 - off
1 - on

hsl_pool_id
i5/OS only

Valid values are:
0 - HSL OptiConnect is disabled
1 - HSL OptiConnect is enabled

virtual_opti_pool_id
i5/OS only

Valid values are:
0 - virtual OptiConnect is disabled
1 - virtual OptiConnect is enabled

max_virtual_slots

virtual_eth_adapters
Comma separated list of virtual ethernet adapters, with each adapter having the following format:
virtual-slot-number/is-IEEE/port-vlan-ID/additional-vlan-IDs/trunk-priority/is-required

All 5 '/' characters must be present, but optional values may be omitted. Optional values are *additional-vlan-IDs* and *trunk-priority*.

Valid values for *is-IEEE* and *is-required*:
0 - no
1 - yes

Valid values for *trunk-priority*:
0 - this adapter is not a trunk adapter
1 - 15 - this adapter is a trunk adapter with the specified priority

virtual_scsi_adapters

Comma separated list of virtual SCSI adapters, with each adapter having the following format:

virtual-slot-number/client-or-server/remote-lpar-ID/remote-lpar-name/remote-slot-number/is-required

All 5 '/' characters must be present, but optional values may be omitted. Optional values for server adapters are *remote-lpar-ID*, *remote-lpar-name*, and *remote-slot-number*. Optional values for client adapters are *remote-lpar-ID* or *remote-lpar-name* (one of those values is required, but not both).

Valid values for *client-or-server*:

client
server

Valid values for *is-required*:

0 - no
1 - yes

virtual_serial_adapters

Comma separated list of virtual serial adapters, with each adapter having the following format:

virtual-slot-number/client-or-server/supports-HMC/remote-lpar-ID/remote-lpar-name/remote-slot-number/is-required

All 6 '/' characters must be present, but optional values may be omitted. Optional values for server adapters are *supports-HMC*, *remote-lpar-ID*, *remote-lpar-name*, and *remote-slot-number*. Optional values for client adapters are *remote-lpar-ID* or *remote-lpar-name* (one of those values is required, but not both), and the *supports-HMC* value is not allowed.

Valid values for *client-or-server*:

client
server

Valid values for *supports-HMC*:

0 - no

Valid values for *is-required*:

0 - no
1 - yes

hca_adapters

AIX, Linux, and virtual I/O server only

Comma separated list of Host Channel adapters (HCA), with each adapter having the following format:

adapter-ID/GUID/capability

All 3 values must be specified for each adapter.

Valid values for *capability*:

1 - low
2 - medium
3 - high
4 - dedicated

lhea_logical_ports

POWER6 servers only

Comma separated list of Logical Host Ethernet adapter (LHEA) logical ports, with each logical port having the following format:

adapter-ID/port-group/physical-port-ID/ logical-port-ID/allowed-VLAN-IDs

All 4 '/' characters must be present, but optional values may be omitted. Optional values are allowed-VLAN-IDs.

lhea_capabilities

POWER6 servers only

Comma separated list of LHEA capabilities, with each capability having one of the following formats:

adapter-ID/capability

or

adapter-ID/5/ieq/nieq/qp/cq/mr

where *ieq* (interruptible event queues), *niesq* (non-interruptible event queues), *qp* (queue pairs), *cq* (completion queues), and *mr* (memory regions) each specify the resource amount in addition to the base minimum.

Valid values for capability:

- 0 - base minimum
- 1 - low
- 2 - medium
- 3- high
- 4 - dedicated

sni_device_ids

AIX, Linux, and virtual I/O server only

Comma separated list of Switch Network Interface (SNI) adapter device IDs

work_group_id

redundant_err_path_reporting

Valid values are:

- 0 - disable
- 1 - enable

electronic_err_reporting

i5/OS only, POWER6 servers only

Valid values are:

- 0 - disable
- 1 - enable

lpar_proc_compat_mode

POWER6 servers only

Valid values are:

- default** - default architected processor mode
- POWER6_enhanced** - POWER6 enhanced processor mode

Attribute names for a managed system:

new_name

power_off_policy

Valid values are:

- 0 - power off after all partitions are shut down
- 1 - do not power off after all partitions are shut down

service_lpar_id

Specify **none** to remove the service partition assignment

service_lpar_name

power_on_option

Valid values are **autostart** or **standby**

power_on_side

Valid values are **perm** or **temp**

power_on_speed

Valid values are **slow** or **fast**

power_on_speed_override

Valid values are **none**, **slow**, or **fast**

sp_failover_enabled

Valid values are:

- 0 - disable service processor failover
- 1 - enable service processor failover

Attribute names for system profiles:

name name of the system profile to change (required)

new_name

lpar_names | **lpar_ids**

comma separated

profile_names

comma separated

Attribute names for a managed frame:

new_name

frame_num

The **-f** and the **-i** options are mutually exclusive.

- i** This option allows you to enter configuration data on the command line, instead of using a file. Data entered on the command line must follow the same format as data in a file, and must be enclosed in double quotes.

When this option is used, only a single resource can be changed.

The **-i** and the **-f** options are mutually exclusive.

- help** Display the help text for this command and exit.

chsyspwd

Change system password.

Synopsis

```
chsyspwd -t {access | admin | general} {-m managed-system | -e managed-frame} [--passwd current-password] [--newpasswd new-password] [--help]
```

Description

chsyspwd changes a password for the *managed-system* or the *managed-frame*.

Options

- t** The password to change. Valid values are **access** for the Hardware Management Console (HMC) Access password, **admin** for the Advanced System Management (ASM) Administrator password, and **general** for the ASM General password.
- m** The name of the managed system for which to change the password. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

The **-m** and the **-e** options are mutually exclusive.

-e The name of the managed frame for which to change the password. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

The **-e** and the **-m** options are mutually exclusive.

--passwd

The current password. If this option is omitted, you will be prompted to enter the current password.

--newpasswd

The new password. If this option is omitted, you will be prompted to enter the new password.

The new password must be at least 4 characters in length, and cannot be longer than 63 characters.

--help Display the help text for this command and exit.

chsysstate

Change partition state or system state.

Synopsis

To power on a managed system:

```
chsysstate -m managed-system -r sys -o {on | onstandby | onsysprof} [-f system-profile-name] [-k keylock-position]
```

To power off a managed system:

```
chsysstate -m managed-system -r sys -o off [--immed]
```

To restart a managed system:

```
chsysstate -m managed-system -r sys -o off --immed --restart
```

To rebuild a managed system or a managed frame:

```
chsysstate {-m managed-system | -e managed-frame} -r {sys | frame} -o rebuild
```

To recover partition data for a managed system:

```
chsysstate -m managed-system -r sys -o recover
```

To initiate service processor failover for a managed system:

```
chsysstate -m managed-system -r sys -o spfailover
```

To set the keylock position for a managed system or a partition:

```
chsysstate -m managed-system -r {sys | lpar} -o chkey -k keylock-position [{-n partition-name | --id partition-ID}]
```

To activate a partition:

chsysstate -m *managed-system* **-r lpar -o on** {**-n** *partition-name* | **--id** *partition-ID*} [**-f** *partition-profile-name*] [**-k** *keylock-position*] [**-b** *boot-mode*] [**-i** *IPL-source*]

To shut down or restart a partition:

chsysstate -m *managed-system* **-r lpar -o** {**shutdown** | **osshutdown** | **dumprestart** | **retrydump**} {**-n** *partition-name* | **--id** *partition-ID*} [**--immed**] [**--restart**]

To perform an operator panel service function on a partition:

chsysstate -m *managed-system* **-r lpar -o** {**dston** | **remotedstoffs** | **remotedston** | **consoleservice** | **iopreset** | **iopdump**} {**-n** *partition-name* | **--id** *partition-ID*}

To validate or activate a system profile:

chsysstate -m *managed-system* **-r sysprof -n** *system-profile-name* [**-o on**] [**--continue**] [**--test**]

To power off all of the unowned I/O units in a managed frame:

chsysstate -e *managed-frame* **-r frame -o unownediooff**

To power off all of the unowned I/O units in a managed frame:

chsysstate -e *managed-frame* **-r frame -o unownediooff**

Description

chsysstate changes the state of a partition, the *managed-system*, or the *managed-frame*.

Options

- m** The name of the managed system on which to perform the operation. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*ssssssss*, where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the managed system. The *tttt-mmm*ssssssss* form must be used if there are multiple managed systems with the same user-defined name.

This option is required when performing a partition, system profile, or managed system operation.

This option is not valid otherwise.
- e** The name of the managed frame on which to perform the operation. The name may either be the user-defined name for the managed frame, or be in the form *tttt-mmm*ssssssss*, where *tttt* is the type, *mmm* is the model, and *ssssssss* is the serial number of the managed frame. The *tttt-mmm*ssssssss* form must be used if there are multiple managed frames with the same user-defined name.

This option is required when performing a managed frame operation. This option is not valid otherwise.
- r** The type of resource on which to perform the operation. Valid values are **lpar** for partition, **sys** for managed system, **sysprof** for system profile, and **frame** for managed frame.
- o** The operation to perform. Valid values are:
 - on** activates a partition or a system profile, or powers on the *managed-system*. When powering on the *managed-system*, partitions that are marked as auto start and partitions that were running when the system was powered off are activated.

- onstandby**
powers on the *managed-system* to standby state.
- onsysprof**
powers on the *managed-system* then activates a system profile. Only those partitions in the system profile are activated.
- off**
powers off the managed-system. If the **--immed** option is specified, a fast power off (operator panel function 8) is performed, otherwise a normal power off is performed. If both the **--immed** and the **--restart** options are specified, a restart (operator panel function 3) of the *managed-system* is performed.
- rebuild**
rebuilds the *managed-system* or the *managed-frame*.
- recover**
recovers partition data for the *managed-system* by restoring the data from the backup file on the HMC.
- spfailover**
initiates service processor failover for the *managed-system*.
- chkey** sets the keylock position for a partition or the *managed-system*.
- shutdown**
shuts down a partition. If the **--immed** option is specified, an immediate shut down (operator panel function 8) is performed, otherwise a delayed shut down is performed. If both the **--immed** and the **--restart** options are specified, an immediate restart (operator panel function 3) of the partition is performed.
- osshutdown**
issues the AIX "shutdown" command to shut down an AIX or virtual I/O server partition. If the **--immed** option is specified, the AIX "shutdown -F" command is issued to immediately shut down the partition. If the **--restart** option is specified, the "r" option is included on the AIX shutdown command to restart the partition.
- dumprestart**
initiates a dump on the partition and restarts the partition when the dump is complete (operator panel function 22).
- retrydump**
retries the dump on the partition and restarts the partition when the dump is complete (operator panel function 34). This operation is valid for i5/OS partitions only.
- dston** activates dedicated service tools for the partition (operator panel function 21). This operation is valid for i5/OS partitions only.
- remotedstoffs**
disables a remote service session for the partition (operator panel function 65). This operation is valid for i5/OS partitions only.
- remotedston**
enables a remote service session for the partition (operator panel function 66). This operation is valid for i5/OS partitions only.
- iopreset**
resets or reloads the failed IOP (operator panel function 67). This operation is valid for i5/OS partitions only.
- iodump**
allows use of the IOP control storage dump (operator panel function 70). This operation is valid for i5/OS partitions only.

unownedioff

powers off all of the unowned I/O units in a managed frame.

- f** When activating a partition, use this option to specify the name of the partition profile to use. This option is required unless the *managed-system* is in the manufacturing default configuration. If the *managed-system* is in the manufacturing default configuration and this option is not specified, the partition will be activated with no configuration changes and the *managed-system* will remain in the manufacturing default configuration. If the *managed-system* is in the manufacturing default configuration and this option is specified, the partition will be activated with the configuration specified by *partition-profile-name* and the manufacturing default configuration will be permanently exited.

When powering on a managed system with a system profile, use this option to specify the name of the system profile to use. This option is required.

- k** The keylock position to set. Valid values are **manual** and **norm** for normal.
This option is required when setting the keylock position for a partition or a managed system.
This option is optional when powering on a managed system or activating a partition.

--immed

If this option is specified when powering off a managed system, a fast power off is performed.

This option must be specified when restarting a managed system.

If this option is specified when shutting down or restarting a partition, an immediate shut down or restart is performed.

--restart

If this option is specified, the partition or managed system will be restarted.

- n** When performing a system profile operation, use this option to specify the name of the system profile on which to perform the operation.
When performing a partition operation, use either this option to specify the name of the partition on which to perform the operation, or use the **--id** option to specify the partition's ID. The **-n** and the **--id** options are mutually exclusive for partition operations.
- id** When performing a partition operation, use either this option to specify the ID of the partition on which to perform the operation, or use the **-n** option to specify the partition's name. The **--id** and the **-n** options are mutually exclusive for partition operations.
- b** The boot mode to use when activating an AIX, Linux, or virtual I/O server partition. Valid values are **norm** for normal, **dd** for diagnostic with default boot list, **ds** for diagnostic with stored boot list, **of** for Open Firmware OK prompt, or **sms** for System Management Services.
- i** The IPL source to use when activating an i5/OS partition. Valid values are **a**, **b**, **c**, or **d**.
- test** If this option is specified when performing a system profile operation, the system profile is validated.

--continue

If this option is specified when activating a system profile, remaining partitions will continue to be activated after a partition activation failure occurs.

- help** Display the help text for this command and exit.

chusrtca

Displays welcome text at local console login or displays text when remotely login using SSH..

Synopsis

chusrtca [-o { a | r | ab | rb}] [-f *welcome-file*] [-b *banner-file*] [-c] [--help]

Description

chusrtca provides a method to deploy text file(s) containing welcome or warning message and present to all users who login locally on the Hardware Management Console (HMC). The text file must be named **WelcomeFile.txt**. A banner file can also be specified, to have its contents displayed prior to login with SSH. The banner file must first be copied to the HMC, then it will be copied to a location accessible by SSH daemon. The banner file must be named **BannerFile.txt**.

Options

- o Enables (e), disables (d) the display of the Terms and Conditions panel at login. Adds (a) or removes (r) the HTML file containing the Terms and Conditions. Add banner (ab) and remove banner (rb) can only be specified when deploying a banner file. There is no need to enable or disable the display of banner file contents.
- l Adds (a) or removes (r) the text file containing the welcome text. Add banner (ab) and remove banner (rb) can only be specified when deploying a banner file.
- f The text file whose contents will be used as welcome, when login locally on the HMC, must be named **WelcomeFile.txt**.
- b The text file whose contents will be used as banner, when remotely login using SSH, must be named **BannerFile.txt**.
- c Removes the welcome or the banner file from the HMC filesystem. This option requires the -f or -b flags.
- help Display the help text for this command and exit.

chvet

Activate Capacity on Demand advanced functions.

Synopsis

chvet -o e -m *managed-system* -k *activation-code* [--help]

Description

chvet performs activation of Capacity on Demand (CoD) advanced functions on the *managed-system*. CoD advanced functions include Advanced POWER Virtualization and Enterprise Enablement.

Options

- o The operation to perform. The only valid value is e to enter an activation code.
- m The name of the managed system for which the activation is to be performed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

- k** The activation code (key) to enter. Letters may be entered in either upper case or lower case.
- help** Display the help text for this command and exit.
-

cpdump

Copy dumps.

Synopsis

```
cpdump -r {dvd | ftp} -f "file1 file2 ...fileN" [-h host-name] [-u user-ID] [--passwd password] [-d directory] [--help]
```

Description

cpdump copies managed system dumps and managed frame dumps from the Hardware Management Console (HMC) to DVD or a remote FTP site.

Use the **lsdump** command to list the managed system dumps and managed frame dumps that reside on the HMC.

Options

- r** The storage location to where the dumps will be copied. Valid values are **dvd** for the DVD drive on the HMC and **ftp** for a remote FTP site.
- f** The file name of the dump to be copied. If multiple dumps are to be copied, the file names must be separated by blanks and enclosed in double quotes.
- h** The host name or IP address of the remote FTP site.
This option is required when copying a dump to a remote FTP site. Otherwise, this option is not valid.
- u** The user ID to use to log in to the remote FTP site.
This option is required when copying a dump to a remote FTP site. Otherwise, this option is not valid.
- passwd**
The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.
This option is only valid when copying a dump to a remote FTP site.
- d** The directory to use on the remote FTP site. If this option is omitted, the dumps will be copied to the home directory of the user.
This option is only valid when copying a dump to a remote FTP site.
- help** Display the help text for this command and exit.
-

cpsysplan

Copy system plan.

Synopsis

```
cpsysplan -r {ftp | media} -f file-name -o {import | export} [-h host-name] [-p ftp-port-number] [-u user-ID] [--passwd password] [-d directory] [--check] [--help]
```

Description

cpsysplan copies a system plan file between the Hardware Management Console (HMC) and either removable media or a remote host.

Options

-r The location where the system plan file will be copied to or from. Valid values are **ftp** for a remote FTP site and **media** for removable media. If **media** is specified, the media must be present in the removable media device and the device must be mounted with the **mount** command before this command is issued. The **lsmediadev** command can be used to display all of the removable media devices on the HMC.

-f Specifies the name of the system plan file that is to be copied. The filename itself is restricted to the alphanumeric (upper and lower) as well as a set of special characters (comma, period, hyphen, underscore, and space). Of this set, there are the positional restriction in that the name cannot begin with period nor hyphen.

cpsysplan performs a raw file copy. It does not parse or validate the system plan file content.

The file will be searched for in the system plan file directory on the HMC when copying from the HMC. When copying to the HMC, the file will be written to this directory. If the file already exists, it will be overwritten unless the **--check** option is specified.

The file name must end with the **.sysplan** suffix.

-o Specifies if the file is to be copied to or from the system plan file directory on the HMC. Valid values are **export** to copy the file from the HMC to the resource location specified or **import** to copy the file from the resource location specified to the system plan file directory on the HMC.

-h The host name or IP address of the remote FTP site.

This option is required when copying a file to or from a remote FTP site. Otherwise, this option is not valid.

-p The port number to use for the remote FTP site. If this option is omitted, the default FTP port 21 will be used.

This option is only valid when copying a file to or from a remote FTP site.

-u The user ID to use to log in to the remote FTP site.

This option is required when copying a file to or from a remote FTP site. Otherwise, this option is not valid.

--passwd

The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.

This option is only valid when copying a file to or from a remote FTP site.

-d The optional directory to use when copying a file to or from a remote FTP site.

This option is required when copying a system plan file to or from media. The directory is the name of the mounted removable media where the file is read from when **-o import** is specified or written to when **-o export** is specified.

--check

Specifies that when importing a file, this command should check the system plan directory and fail with an error if the file with the name specified with the **-f** option already exists.

This option is only valid when **-o import** is specified.

--help Display the help text for this command and exit.

defsysplanres

Define system plan resource.

Synopsis

defsysplanres -r osinstall -n resource-name -v "resource-value" [-d "resource-description"] [--help]

Description

defsysplanres defines a system plan resource for use by system plans deployed from the Hardware Management Console (HMC).

Options

- r** Specifies the type of system plan resource to define. The only valid value is **osinstall** for an operating system (OS) installation resource.

This command does not create the resource. It sets the reference to an OS installation resource that can later be used within system plans that are deployed from the HMC where the resource has been defined. This resource is defined only to the HMC and not to any system plan or managed system. If the resource defined appears with a location attribute in a system plan, the plan location will be used instead.
- n** Specifies the name of the system plan resource to define. This will be used to get the plan resource location attribute when a system plan that needs to use the resource is deployed.

Specify **vios** with this option to define the OS installation resource for installing a Virtual I/O Server with a system plan

Specify **i5osv5r3m0** with this option to define the OS installation resource for installing the i5/OS V5R3M0 release with a system plan.

Specify **sles9** with this option to define the OS installation resource for installing the SLES9 LINUX operating system with a system plan.

Specify **rhel4** with this option to define the OS installation resource for installing the Red Hat 4 LINUX operating system with a system plan.

Specify **aix52** with this option to define the OS installation resource for installing the AIX V5R2 operating system with a system plan.

Specify **aix53** with this option to define the OS installation resource for installing the AIX V5R3 operating system with a system plan.

Otherwise the name specified with this option is the name of the resource to define.
- v** Specifies the value of the resource. This value is not checked for validity by the command. It is treated as a string value.
- d** Specifies a description for the resource. This is an open text description field.
- help** Display the help text for this command and exit.

deploysysplan

Deploy system plan.

Synopsis

deploysysplan -f file-name -o {dv | v | d} [-m managed-system] [--force] [--plan plan-number] [-v] [-i ["deployment-plan-step-identifier"]] [--help]

Description

deploysysplan deploys a managed system's partition plan from a system plan file.

Options

- f** Specifies the name of the file that contains the system plan that is to be deployed. The file must exist in the system plan file directory on the Hardware Management Console (HMC). This file will not be changed by the **deploysysplan** command.
The file name must end with the **.sysplan** suffix.
- o** Specifies the deployment option to be used when deploying the system plan.
Use the **dv** option to validate the system plan on the managed system, and if it is valid, to deploy it.
Use the **v** option to validate the system plan on the managed system but not deploy it.
Use the **d** option to skip validation of the system plan against the managed system, and just deploy the plan-specified partitions and profiles on the managed system.
- m** Specifies the managed system's name where the plan should be deployed. The system plan optionally specifies the managed system's name where that system plan was intended to be deployed. If a managed system name is specified with this option, that name would override the plan-provided name. If no managed system name was specified in the system plan file then this option is required.
The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- force** If the managed system has existing partitions that the system plan contains that are in an active state, this option allows this command to proceed. Otherwise, if active partitions are found, this command will fail with an error message.
- plan** System plan files can contain more than one system plan. If the file contains more than one plan, this option specifies the number of the system plan to deploy. If this number is not specified, then the first system plan in the file is deployed. If there is only one system plan in the file, this option is ignored.
- v** When **-o v** is specified, this option specifies that a list of identifiers that identify the steps of the validated system plan should be written to stdout. These steps are part of the plan but not yet implemented on the managed system. Otherwise, this list will not be written out.
When **-o dv** or **-o d** is specified, this option specifies that a list of log entries that record the steps performed as part of deploying the system plan should be written to stdout. Otherwise, this list will not be written out.
- i** A delimiter separated list of identifiers representing the desired steps in the specified system plan to implement on the managed system. If this option is specified without any identifiers, then all of the steps in the plan will be performed as it is deployed on the managed system. If this list is not specified, then all the steps in the plan will be performed.
The values representing the system plan steps to be performed will be separated by a blank delimiter and the entire list must be enclosed in double quotes.
When this option is specified, only the system plan steps identified in this list will be performed. The system plan steps can be specified in any order but must identify deployment steps that appear in the system plan specified by the input file. The command processing will fail and none of the identified steps will be performed if an identifier is passed that does not identify a step in the system plan file.

Steps specified might be determined by command processing that already have been completed on the managed system. That will be logged by the command processing, however, is not an error.

This option is useful when only specific steps in a system plan file are desired to be performed. The command processing does not validate that the resulting deployment is valid but it will determine that dependent steps in the system plan will be checked for and enforced. The command processing will fail and none of the identified steps will be performed if there are dependent steps that are not specified. (For example a partition profile must exist before a system plan step to install its OS can be specified.)

--help Display the help text for this command and exit.

dump

Perform dump operation.

Synopsis

dump -m *managed-system* -t *sys* -o *set* -a "*attributes*" [--help]

Description

dump sets the system dump parameters for the managed-system. This operation is only supported for POWER6 servers.

Options

- m** The name of the managed system from which to set the system dump parameters. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- t** The type of dump for which to set the dump parameters. Valid values are **sys** for system dump.
- o** The dump operation to perform. Valid values are **set** to set the system dump parameters. The **set** operation is only supported for POWER6 servers.
- a** The configuration data needed to set the system dump parameters. The configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. The configuration data must be enclosed in double quotes.

The format of the configuration data is as follows:

attribute-name=value,attribute-name=value,...

Valid attribute names:

as_needed

Specifies when to collect system dumps.

Valid values:

- 0** - do not collect system dumps
- 1** - collect system dumps as necessary

Setting **as_needed** to **0** will remove the ability of service personnel to diagnose server errors. Do not set **as_needed** to **0** unless directed to do so by your hardware service representative.

sys_hardware

Specifies how much hardware data to collect when a system dump occurs.

Valid values:

- auto** - collect hardware data based on the system dump event that occurred
- max** - collect as much hardware data as possible

Setting **sys_hardware** to **max** will cause system dumps to take longer to complete. Do not set **sys_hardware** to **max** unless directed to do so by your hardware service representative.

sys_firmware

Specifies how much system firmware data to collect when a system dump occurs.

Valid values:

- auto** - collect the primary data in memory owned by system firmware
- max** - collect the primary data in memory owned by system firmware plus all TCEs
- io** - collect the primary data in memory owned by system firmware plus all PCI TCEs
- virtualio** - collect the primary data in memory owned by system firmware plus all virtual I/O TCEs
- hps** - collect the primary data in memory owned by system firmware plus all High Performance Switch (HPS) TCEs
- hcaio** - collect the primary data in memory owned by system firmware plus all Host Channel Adapter (HCA) TCEs

Setting **sys_firmware** to **max**, **io**, **virtualio**, **hps**, or **hcaio** will cause system dumps to take longer to complete. Do not set **sys_firmware** to one of these values unless directed to do so by your hardware service representative.

--help Display the help text for this command and exit.

getdump

Get dump.

Synopsis

getdump {-m *managed-system* | -e *managed-frame*} -t {pss | sp | sys} [-s {a | b | p | s}] [--help]

Description

getdump offloads a dump from the *managed-system* or the *managed-frame* to the Hardware Management Console (HMC). The dump is written to a file in the **/dump** directory on the HMC.

The **lsdump** command can be used to list the dumps that are available on the *managed-system* or the *managed-frame*.

Options

- m** The name of the managed system from which to offload the dump. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

This option is required when offloading a service processor dump or a platform dump. This option is not valid otherwise.
- e** The name of the managed frame from which to offload the dump. The name may either be the user-defined name for the managed frame, or be in the form *tttt-mmm*sssssss*, where *tttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *tttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

This option is required when offloading a power subsystem dump. This option is not valid otherwise.

- t** The dump to offload. Valid values are **pss** for the power subsystem dump, **sp** for the service processor dump, or **sys** for the platform dump.
 - s** When offloading a power subsystem dump, use this option to specify the side of the managed frame's bulk power assembly (BPA) from which to offload the dump. Valid values are **a** for side A and **b** for side B.

When offloading a service processor dump, use this option to specify the service processor from which to offload the dump. Valid values are **p** for the primary service processor and **s** for the secondary service processor. If this option is not specified, the service processor dump will be offloaded from the primary service processor.
- help** Display the help text for this command and exit.

getupgfiles

Get upgrade files.

Synopsis

getupgfiles -h *host-name* **-u** *user-ID* [**--passwd** *password*] **-d** *remote-directory* [**--help**]

Description

getupgfiles obtains required files for a Hardware Management Console (HMC) upgrade from a directory on an FTP server. The files will be transferred onto a special partition on the HMC hard drive. After the files have been transferred, the **chhmc** command can be used to allow the HMC to boot from this partition and perform the upgrade.

Options

- h** The host name or IP address of the remote FTP server.
 - u** The user ID to use to log in to the remote FTP site.
 - passwd**
The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.
 - d** The remote directory on the FTP server where the files will be obtained. If all the required files are not present in this directory, this command will fail.
- help** Display the help text for this command and exit.

hmcshutdown

Shut down the Hardware Management Console.

Synopsis

hmcshutdown -t {**now** | *number-of-minutes*} [**-r**] [**--help**]

Description

hmcshutdown shuts down the Hardware Management Console (HMC). If requested, the HMC will be rebooted after the shutdown completes.

Options

- t** The number of minutes to wait before starting the shutdown. If **now** is specified, the shutdown will be started immediately.
- r** Reboot the HMC after the shutdown. If this option is omitted, the HMC will be halted after the shutdown.
- help** Display the help text for this command and exit.

hmcwin

Provides screen capture on HMC.

Synopsis

hmcwin { **-o c** | **v** | **r** } **-f** *file-name* [**--help**]

Description

hmcwin provides screen capture on the HMC.

Options

- o c** **c** captures the screen and saves it in *file-name*. The file will be saved under the user's \$HOME/.screen_capture/ directory. **v** displays the image stored in file *file-name* from the user's \$HOME/.screen_capture/ directory. When using the **v** option, left mouse click on the displayed window or enter Ctrl-c to dismiss it. **r** removes the file *file-name* under the user's \$HOME/.screen_capture directory.
- f** The file name to be used to create or remove the screen captured file under the user's \$HOME/.screen_capture directory.
- help** Display the help text for this command and exit.

installios

Network install a Virtual I/O Server Logical Partition.

Synopsis

installios [**-p** *partition-name* **-i** *ipaddr-or-hostname* **-S** *subnet-mask* **-g** *gateway* **-d** *path* **-s** *system-name* **-m** *mac-address* **-r** *profile* [**-n**] [**-P** *speed*] [**-D** *duplex*] [**-l** *language*]] | **-u**

Description

installios installs the Virtual I/O Server. It must be run from the HMC. All of the flags are optional. If no flags are provided, the **installios** wizard will be invoked and the user will be prompted to interactively enter the information contained in the flags.

Options

- s** Specifies the managed system. The name of the managed system maintained by the HMC. This name must match the name shown on the HMC, not a host name.
- p** Specifies the partition name. The name of the LPAR that will be installed with Virtual I/O Server operating system. This partition must be of type Virtual I/O Server and the name given for it must match the name shown on the HMC, not a host name.

- r** Specifies the *profile* name. The name of the *profile* that contains the hardware resources being installed to.
- d** Specifies the *path* to installation images. Either */dev/cdrom* or the *path* to a system backup of the Virtual I/O Server created by the *backupos* command. The *path* may also specify a remote location mountable by NFS such as *hostname:/path_to_backup*
- i** Specifies the client IP address. The IP address with which the client's network interface will be configured for network installation of the Virtual I/O Server operating system.
- S** Specifies the client subnet mask. The subnet mask with which the client's network interface will be configured for network installation of the Virtual I/O Server operating system.
- g** Specifies the client *gateway*. The default *gateway* that the client will use during network installation of the Virtual I/O Server operating system.
- m** Specifies the client MAC address. The MAC address of the client network interface through which the network installation of the Virtual I/O Server will take place.
- P** Specifies *speed* (optional) The communication *speed* with which to configure the client's network interface. This value can be 10, 100, or 1000, and is 100 by default if this flag is not specified.
- D** Specifies duplex (optional). The duplex setting with which to configure the client's network interface. This value can be full or half and is set to full by default if this flag is not specified.
- n** Specifies not to configure the client's network interface (optional): If this flag is specified, then the client's network interface will not be configured with the IP settings specified in the flags given to this command after the installation has completed.
- l** Specifies *language* (optional): The *language* in which the license agreement will be displayed before the installation. Upon viewing the license, a prompt will be shown asking if the license is to be accepted. If the prompt is answered with *y*, then the installation will proceed and the Virtual I/O Server license will be automatically accepted after the installation. If the prompt is answered with *n*, then the **installios** command will exit and the installation will not proceed. If this flag is not specified, then the installation will proceed, but the Virtual I/O Server will not be usable until the license is manually accepted after the installation.
- u** Unconfigure **installios** (optional). Will manually unconfigure the **installios** installation resources. This flag is only needed if a problem occurs during the installation and **installios** does not automatically unconfigure itself.
- help** Display the help text for this command and exit.

logssh

Log ssh command usage.

Synopsis

logssh

Description

logssh is a script that can be added to a user's **authorized_keys2** file to restrict a user from being able to open a pseudo-tty using ssh. Furthermore, it will log all commands executed by the user in syslog. This command is not intended to be run interactively.

lpar_netboot

Retrieve MAC address and physical location code from network adapters for a partition or instruct a partition to network boot.

Synopsis

To retrieve MAC address and physical location code:

```
lpar_netboot -M -n [-v] [-x] [-f] [-i] [-A] -t ent [-D -s speed -d duplex -S server -G gateway -C client]  
partition-name partition-profile managed-system
```

To perform network boot:

```
lpar_netboot [-v] [-x] [-f] [-i] [-g args] [[-A -D | [-D] -l physical-location-code | [-D] -m MAC-address]] -t ent  
-s speed -d duplex -S server -G gateway -C client partition-name partition-profile managed-system
```

To retrieve MAC address and physical location code on a system supporting a full system partition:

```
lpar_netboot -M -n [-v] [-x] [-f] [-i] [-A] -t ent [-D -s speed -d duplex -S server -G gateway -C client]  
managed-system managed-system
```

To perform network boot on a system supporting a full system partition:

```
lpar_netboot [-v] [-x] [-f] [-i] [-g args] [[-A -D | [-D] -l physical-location-code | [-D] -m MAC-address]] -t ent  
-s speed -d duplex -S server -G gateway -C client managed-system managed-system
```

Description

lpar_netboot instructs a logical partition to network boot by having it send out a bootp request to a server specified with the **-S** option. The server can be an AIX NIM server serving SPOT resources or any server serving network boot images. If specified with the **-M** and **-n** options, **lpar_netboot** will return the Media Access Control (MAC) address and the physical location code for a network adapter of the type specified with the **-t** option. When the **-m** option is specified, **lpar_netboot** will boot a partition using the network adapter which has the specified MAC address. When the **-l** option is specified, **lpar_netboot** will boot a partition using the network adapter which has the specified physical location code. The MAC address and physical location code of a network adapter is dependent upon the hardware resource allocation in the partition profile the partition was booted with. The **lpar_netboot** command requires arguments for partition name, partition profile, and the name of the managed system which has the partition.

Options

- A** Return all adapters of the type specified with the **-t** option.
- C** The IP address of the partition to network boot.
- D** Perform a ping test and use the adapter that successfully pings the server specified with the **-S** option.
- G** The gateway IP address of the partition specified with the **-C** option.
- M** Discover network adapter MAC address and physical location code.
- S** The IP address of the machine from which to retrieve the network boot image during network boot.
- d** The duplex setting of the partition specified with the **-C** option. Valid values are **full**, **half**, and **auto**.

- f** Force close the virtual terminal session for the partition.
 - g** Specify generic arguments for booting the partition.
 - i** Force immediate shutdown of the partition. If this option is not specified, a delayed shutdown will be performed.
 - l** The physical location code of the network adapter to use for network boot.
 - m** The MAC address of the network adapter to use for network boot.
 - n** Instruct the partition to not network boot.
 - s** The speed setting of the partition specified with the **-C** option. Valid values are **10**, **100**, **1000**, and **auto**.
 - t** The type of adapter for MAC address or physical location code discovery or for network boot. The only valid value is **ent** for ethernet.
 - v** Display additional information during command execution.
 - x** Display debug output during command execution.
- partition-name**
The name of the partition.
- partition-profile**
The name of the partition profile.
- managed-system**
The name of the managed system which has the partition.
- help** Display the help text for this command and exit.

lpcfgop

Perform a partition configuration image operation.

Synopsis

lpcfgop -m *managed-system* -o {clear | dump} [--help]

Description

lpcfgop clears or dumps partition configuration data on the *managed-system*.

Options

- m** The name of the managed system on which to perform the operation. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- o** The operation to perform. Valid values are **clear** or **dump**.

The **clear** operation clears all partition configuration data on the *managed-system* and sets the configuration back to its original state. This operation can only be performed when the *managed-system* is in the Standby state.

The **dump** operation dumps all partition configuration data on the *managed-system* to a file. The file is written to the **/tmp** directory on the Hardware Management Console (HMC).
- help** Display the help text for this command and exit.

lsaccfg

List access control configuration information.

Synopsis

```
lsaccfg -t {resource | resourcerole | taskrole} [--script] [--filter "filter-data"] [-F [attribute-names]
[--header]] [--help]
```

Description

lsaccfg lists managed resource objects, managed resource roles, or task roles.

Options

-t The type of access control objects to list. Valid values are **resource** for managed resource objects, **resourcerole** for managed resource roles, and **taskrole** for task roles.

--script List managed resource objects in a format that can be used as input to the **chaccfg**, **chhmcusr**, and **mkaccfg** commands. This option is only valid when listing managed resource objects.

--filter The filter to apply to the access control objects to be listed. A filter is used to select which access control objects of the specified type are to be listed. If a filter is not used, then all of the access control objects of the specified type will be listed. For example, specific task roles can be listed by using a filter to specify the names of the task roles to list. Otherwise, if no filter is used, then all of the task roles on this Hardware Management Console (HMC) will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

```
"filter-name=value,filter-name=value,..."
```

Note that certain filters accept a comma separated list of values, as follows:

```
""filter-name=value,value,...",..."
```

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Multiple values can be specified for each filter.

Valid filter names for managed resource objects:

resource_type

Specify resource type(s):

cec - managed system objects

lpar - partition objects

Valid filter names for managed resource roles:

resourceroles

Specify managed resource role name(s)

Valid filter names for task roles:

taskroles

Specify task role name(s)

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each access control object. If no attribute names are specified, then values for all of the attributes for each access control object will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

lscod

List Capacity on Demand information.

Synopsis

lscod -t {bill | cap | code | hist | util} -m *managed-system* [-c {cuod | mobile | onoff | reserve | trial | trialexc | trialstd | utility | utilityen}] [-r {mem | proc}] [-F *attribute-names*] [--header] [--help]

Description

lscod lists Capacity on Demand (CoD) information for the *managed-system*.

Reserve CoD is only supported on POWER5 servers. Utility CoD is only supported on POWER6 servers.

Options

-t The type of CoD information to list. Valid values are **bill** for On/Off CoD billing information, **cap** for CoD capacity information, **code** for information used to generate CoD codes, **hist** for the CoD history log, and **util** for shared processor pool utilization information.

-m The name of the managed system for which CoD information is to be listed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

-c The CoD type. Valid values are **cuod** for CUoD (permanent), **mobile** for Mobile CoD, **onoff** for On/Off CoD, **reserve** for Reserve CoD, **trial** for Trial CoD, **utility** for Utility CoD or Utility CoD reporting codes, **utilityen** for Utility CoD enablement codes, **trialexc** for Trial CoD exception request codes, and **trialstd** for Trial CoD standard request codes.

This option is required when listing CoD capacity information or CoD code generation information. If this option is not specified when listing shared processor pool utilization information, this option defaults to Reserve CoD. This option is not valid when listing the CoD history log.

To list Trial CoD capacity information, specify **trial** with this option. To list Trial CoD code generation information, specify **trialexc** or **trialstd** with this option.

To list Utility CoD capacity information, specify **utility** with this option. To list Utility CoD code generation information, specify **utility** for Utility CoD reporting codes or **utilityen** for Utility CoD enablement codes.

mobile can only be specified when listing CoD code generation information.

Reserve CoD is only supported on POWER5 servers. Utility CoD is only supported on POWER6 servers.

- r** The CoD resource type. Valid values are **mem** for memory and **proc** for processors.
- This option is required when listing On/Off CoD billing information, CoD capacity information, CoD code generation information, or shared processor pool utilization information. This option is not valid when listing the CoD history log.
- F** A delimiter separated list of attribute names representing the desired CoD attribute values to display. If this option is specified without any attribute names, then all of the CoD attributes for the type of CoD listing specified will be displayed.
- When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.
- This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
- header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.

lsdump

List dump information.

Synopsis

To list the dumps that are available on a managed system or managed frame:

```
lsdump {-m managed-system | -e managed-frame} [-r avail] [-s {a | b | p | s}] [-F attribute-names] [--header]
```

To list the managed system dumps and managed frame dumps that are available on the HMC:

```
lsdump -h [-r avail] [--filter "filter-data"] [-F attribute-names] [--header]
```

To list the system dump parameters (POWER6 servers only):

```
lsdump -m managed-system -r parm [-F attribute-names] [--header]
```

Description

lsdump lists the dumps that are available on the *managed-system* or the *managed-frame*. **lsdump** can also list the managed system dumps and the managed frame dumps that are available on the Hardware Management Console (HMC).

lsdump also lists the system dump parameters for the managed-system. This is only supported for POWER6 servers.

The **getdump** command can be used to offload an available dump from the *managed-system* or the *managed-frame* to the HMC.

The **cpdump** command can be used to copy a dump from the HMC to DVD or a remote FTP site.

Options

- m** The name of the managed system for which available dumps or system dump parameters are to be listed. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the managed system. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed systems with the same user-defined name.

Either this option, the **-e** option, or the **-h** option is required. The **-m**, **-e**, and the **-h** options are mutually exclusive.

- e** The name of the managed frame for which available dumps are to be listed. The name may either be the user-defined name for the managed frame, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the type, *mmm* is the model, and *ssssssss* is the serial number of the managed frame. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed frames with the same user-defined name.

Either this option, the **-m** option, or the **-h** option is required. The **-e**, **-m**, and the **-h** options are mutually exclusive.

- h** List the managed system dumps and managed frame dumps that are available on the HMC.

Either this option, the **-m** option, or the **-e** option is required. The **-h**, **-m**, and the **-e** options are mutually exclusive.

- r** The type of dump resources to list. Valid values are **avail** for available dumps, and **parm** for system dump parameters. If this option is not specified, available dumps will be listed.

System dump parameters can only be listed on POWER6 servers.

- s** When listing dumps that are available on a managed frame, use this option to specify the side of the managed frame's bulk power assembly (BPA) for which available dumps are to be listed. Valid values are **a** for side A and **b** for side B.

When listing dumps that are available on a managed system, use this option to specify the service processor for which available dumps are to be listed. Valid values are **p** for the primary service processor and **s** for the secondary service processor. If this option is not specified, available dumps on the primary service processor will be listed. Platform dumps are only available from the primary service processor.

This option is not valid when listing the managed system dumps and managed frame dumps that are available on the HMC.

- filter** The filter to apply to the available dumps to be listed. The filter is used to select the type of dump that is to be listed. If no filter is specified, then all of the available dumps will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

"filter-name=value,filter-name=value,..."

Valid filter names for this command:

dump_type

Only one value may be specified.

Valid values are:

- pss** for power subsystem dumps
- sp** for service processor dumps
- sys** for system dumps

This option is not valid when listing the dumps that are available on a managed system or managed frame, or when listing the system dump parameters.

- F** A delimiter separated list of attribute names representing the desired dump attribute values to display. If this option is specified without any attribute names, then all of the dump attributes will be displayed.
- When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.
- This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
- header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.
-

lshmc

List Hardware Management Console configuration information.

Synopsis

lshmc {-b | -l | -L | -n | -r | -v | -V} [-F *attribute-names*] [--header] [--help]

Description

lshmc lists Hardware Management Console (HMC) configuration information. This command can be used to list the BIOS level, current locale, supported locales, network settings, remote access settings, Vital Product Data (VPD) information, and version information for the HMC.

Options

- b** List the BIOS level of the HMC.
- This option cannot be specified with the **-l**, **-L**, **-n**, **-r**, **-v**, or **-V** options.
- l** List the current locale for the HMC.
- This option cannot be specified with the **-b**, **-L**, **-n**, **-r**, **-v**, or **-V** options.
- L** List all of the locales supported for the HMC.
- This option cannot be specified with the **-b**, **-l**, **-n**, **-r**, **-v**, or **-V** options.
- n** List the network settings for the HMC.
- This option cannot be specified with the **-b**, **-l**, **-L**, **-r**, **-v**, or **-V** options.
- r** List the remote access settings for the HMC.
- This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-v**, or **-V** options.
- v** List the VPD information for the HMC.
- This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-r**, or **-V** options.
- V** List the version information for the HMC.
- This option cannot be specified with the **-b**, **-l**, **-L**, **-n**, **-r**, or **-v** options.
- F** A delimiter separated list of attribute names representing the desired attribute values to display. If this option is specified without any attribute names, then all of the attributes for the type of HMC configuration information specified will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

lshmcusr

List Hardware Management Console user information.

Synopsis

lshmcusr [**--script**] [**--filter** "*filter-data*"] [**-F** [*attribute-names*]] [**--header**]] [**--help**]

Description

lshmcusr lists Hardware Management Console (HMC) user information.

Options

--script

List managed resource objects in a format that can be used as input to the **chhmcusr**, **chaccfg**, and **mkaccfg** commands.

--filter The filter to apply to the HMC users to be listed. A filter is used to select which HMC users are to be listed. If a filter is not used, then all HMC users will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

"filter-name=value,filter-name=value,..."

Note that certain filters accept a comma separated list of values, as follows:

""filter-name=value,value,...",..."

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Multiple values can be specified for each filter.

Valid filter names for this command:

names Specify user name(s)

resources

Specify managed resource object(s)

resourceroles

Specify managed resource role name(s)

taskroles

Specify task role name(s)

- F** A delimiter separated list of attribute names for the desired attribute values to be displayed for each HMC user. If no attribute names are specified, then values for all of the attributes for each HMC user will be displayed.
- When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.
- This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
- header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.
-

lshwinfo

List environmental information.

Synopsis

lshwinfo -r {frame | sys} -e *managed-frame* [-F *attribute-names*] [--header] [--help]

Description

lshwinfo lists environmental information, such as input power levels and ambient air temperatures, for the *managed-frame*.

Options

- r** The type of resource for which to list environmental information. Valid values are **frame** for managed frame and **sys** for systems contained in a managed frame.
- e** The name of the managed frame for which to list environmental information. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.
- F** A delimiter separated list of attribute names for the desired attribute values to be displayed for each HMC user. If no attribute names are specified, then values for all of the attributes for each HMC user will be displayed.
- When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.
- This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
- header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.

lshwres

List hardware resources.

Synopsis

To list physical I/O resources:

```
lshwres -r io --rsubtype {unit | bus | slot | iopool | taggedio} -m managed-system [--level {pool | sys}]  
[-R] [--filter "filter-data"] [-F [attribute-names]] [--header]] [--help]
```

To list virtual I/O resources:

```
lshwres -r virtualio --rsubtype {eth | hsl | virtualopti | scsi | serial | slot} -m managed-system [--level  
{lpar | slot | sys}] [--filter "filter-data"] [-F [attribute-names]] [--header]] [--help]
```

To list memory resources:

```
lshwres -r mem -m managed-system --level {lpar | sys} [-R] [--maxmem quantity] [--filter "filter-data"] [-F  
[attribute-names]] [--header]] [--help]
```

To list processing resources:

```
lshwres -r proc -m managed-system --level {lpar | pool | sys} [-R] [--procunits quantity] [--filter  
"filter-data"] [-F [attribute-names]] [--header]] [--help]
```

To list Host Channel adapter (HCA) resources:

```
lshwres -r hca -m managed-system --level {lpar | sys} [--filter "filter-data"] [-F [attribute-names]] [--header]]  
[--help]
```

To list Host Ethernet adapter (HEA) resources (POWER6 servers only):

```
lshwres -r hea -m managed-system --rsubtype {logical | phys} --level {port | port_group | sys} [-R]  
[--stat] [--filter "filter-data"] [-F [attribute-names]] [--header]] [--help]
```

To list Switch Network Interface (SNI) adapter resources:

```
lshwres -r sni -m managed-system [--filter "filter-data"] [-F [attribute-names]] [--header]] [--help]
```

Description

lshwres lists the hardware resources of the *managed-system*, including physical I/O, virtual I/O, memory, processing, Host Channel adapter (HCA), Host ethernet adapter (HEA) and Switch Network Interface (SNI) adapter resources.

Options

-r The type of hardware resources to list. Valid values are **io** for physical I/O, **virtualio** for virtual I/O, **mem** for memory, **proc** for processing, **hca** for HCA, **hea** for HEA, and **sni** for SNI adapter resources.

HEA resources are only supported on POWER6 servers.

--rsubtype

The subtype of hardware resources to list. Valid physical I/O resource subtypes are **unit** for I/O units, **bus** for I/O buses, **slot** for I/O slots, **iopool** for I/O pools, and **taggedio** for tagged I/O

resources. Valid virtual I/O resource subtypes are **eth** for virtual ethernet, **hsl** for High Speed Link (HSL) OptiConnect, **virtualopti** for virtual OptiConnect, **scsi** for virtual SCSI, **serial** for virtual serial, and **slot** for virtual slot resources. Valid HEA resource subtypes are **logical** for logical HEA resources, and **phys** for physical HEA resources.

This option is required when listing physical I/O, virtual I/O resources, or HEA resources. This option is not valid when listing memory, processing, HCA, or SNI adapter resources.

-m The name of the managed system which has the hardware resources to list. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

--level The level of information to list. Valid values are **lpar** for partition, **pool** for pool, **port** for port, **port_group** for port group, **slot** for slot, and **sys** for system.

This option is required when listing I/O pool resources, virtual ethernet, serial, or slot resources, or memory, processing, HCA, or HEA resources.

Valid levels for I/O pool resources are **pool** or **sys**. Valid levels for virtual ethernet resources are **lpar** or **sys**. Valid levels for virtual serial resources are **lpar**. Valid levels for virtual slot resources are **lpar** or **slot**. Valid levels for memory resources are **lpar** or **sys**. Valid levels for processing resources are **lpar**, **pool**, or **sys**. Valid levels for HCA resources are **lpar** or **sys**. Valid levels for physical HEA resources are **port**, **port_group**, or **sys**. Valid levels for logical HEA resources are **port** or **sys**.

-R Only list information for partitions with hardware resources that can be restored due to a dynamic logical partitioning (DLPAR) operation failure. The

rsthwres command can be used to restore those hardware resources.

This option is only valid for listing physical I/O slots, partition level memory or processing resources, or logical HEA resources.

--maxmem

When this option is specified, the required minimum memory amount needed for partitions to support the maximum memory *quantity* specified is listed. All memory quantities are in megabytes, and are a multiple of the memory region size for the *managed-system*.

This information is useful for specifying memory amounts in partition profiles.

The required minimum memory amount listed is the minimum memory amount required for a partition by the managed system's system firmware. An operating system installed on the partition may require more memory than the amount listed.

This option is only valid when listing system level memory resources.

--procunits

When this option is specified, the range of optimal 5250 CPW percentages for partitions assigned the *quantity* of processing units specified is listed. The *quantity* of processing units specified can have up to 2 decimal places.

This information is useful when specifying the 5250 CPW percentages for partitions or partition profiles.

This option is only valid when listing system level processing resources. Also, this option is only valid when the *managed-system* supports the assignment of 5250 CPW percentages to partitions.

--stat When this option is specified, port counter statistics for HEA physical ports are listed.

This option is only valid when listing HEA physical port resources.

--filter The filter(s) to apply to the hardware resources to be listed. Filters are used to select which hardware resources of the specified type are to be listed. If no filters are used, then all of the

hardware resources of the specified type will be listed. For example, all of the physical I/O slots on a specific I/O unit and bus can be listed by using a filter to specify the I/O unit and the bus which has the slots to list. Otherwise, if no filter is used, then all of the physical I/O slots in the managed system will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

"filter-name=value,filter-name=value,..."

Note that certain filters accept a comma separated list of values, as follows:

""filter-name=value,value,...",..."

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a '\ ' character.

Unless otherwise indicated, multiple values can be specified for each filter.

Valid filter names for this command:

adapter_ids

Specify HCA or HEA adapter ID(s)

buses

Specify I/O bus ID(s)

lpar_ids

Specify partition ID(s)

lpar_names

Specify partition user-defined name(s)

pools

Specify pool ID(s)

port_groups

Specify HEA port group(s)

slots

Specify physical I/O slot DRC index(ices) or virtual I/O slot number(s)

sni_device_ids

Specify SNI adapter device ID(s)

units

Specify I/O unit physical location code(s)

vlan

Specify virtual LAN ID(s)

Valid filters with **-r io --rsubtype unit**:

units

Valid filters with **-r io --rsubtype bus**:

buses, units

Valid filters with **-r io --rsubtype slot**:

buses, lpar_ids | lpar_names, pools, slots, units

Valid filters with **-r io --rsubtype iopool --level pool**:

lpar_ids | lpar_names, pools

Valid filters with **-r io --rsubtype taggedio**:

lpar_ids | lpar_names

Valid filters with **-r virtualio --rsubtype eth --level lpar**:

lpar_ids | lpar_names, slots, vlans

Valid filters with **-r virtualio --rsubtype hsl**:

lpar_ids | lpar_names, pools

Valid filters with **-r virtualio --rsubtype virtualopti:**

lpar_ids | lpar_names, pools

Valid filters with **-r virtualio --rsubtype scsi:**

lpar_ids | lpar_names, slots

Valid filters with **-r virtualio --rsubtype serial --level lpar:**

lpar_ids | lpar_names, slots

Valid filters with **-r virtualio --rsubtype slot --level lpar:**

lpar_ids | lpar_names

Valid filters with **-r virtualio --rsubtype slot --level slot:**

lpar_ids | lpar_names, slots

Valid filters with **-r mem --level lpar:**

lpar_ids | lpar_names

Valid filters with **-r proc --level lpar:**

lpar_ids | lpar_names

Valid filters with **-r hca --level sys:**

adapter_ids

Valid filters with **-r hca --level lpar:**

adapter_ids, lpar_ids | lpar_names

Valid filters with **-r hea --rsubtype logical --level sys:**

adapter_ids, lpar_ids | lpar_names

Valid filters with **-r hea --rsubtype logical --level port:**

adapter_ids, lpar_ids | lpar_names, port_groups

Valid filters with **-r hea --rsubtype phys --level sys:**

adapter_ids

Valid filters with **-r hea --rsubtype phys --level port:**

adapter_ids, port_groups

Valid filters with **-r hea --rsubtype phys --level port_group:**

adapter_ids, port_groups

Valid filters with **-r sni:**

lpar_ids | lpar_names, sni_device_ids

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each hardware resource. If no attribute names are specified, then values for all of the attributes for each hardware resource will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Isled

List LEDs.

Synopsis

```
Isled -r sa -t {phys | virtualpar | virtualsys} -m managed-system [--filter "filter-data"] [-F [attribute-names] [--header]] [--help]
```

Description

Isled lists LED information for the *managed-system*.

Options

-r The type of LED resources to list. The only valid value is **sa** for System Attention (SA) LEDs.

-t The type of System Attention (SA) LEDs to list. Valid values are **phys** for the physical SA LED for the *managed-system*, **virtualpar** for virtual partition SA LEDs, or **virtualsys** for the virtual SA LED for the *managed-system*.

-m The name of the managed system which has the LEDs to list. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

--filter The filter to apply to the virtual partition SA LEDs to be listed. A filter is used to select which virtual partition SA LEDs are to be listed. If no filter is used, then all of the virtual partition SA LEDs for the managed-system will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

```
"filter-name=value,filter-name=value,..."
```

Note that certain filters accept a comma separated list of values, as follows:

```
""filter-name=value,value,...",..."
```

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Valid filter names for this command are **lpar_names** or **lpar_ids**. Only one of these filters may be specified. Multiple partitions can be specified with the filter.

This option is not valid when listing the physical SA LED or the virtual SA LED for the *managed-system*.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each LIC level. If no attribute names are specified, then values for all of the attributes for each LIC level will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Islic

List Licensed Internal Code levels.

Synopsis

```
Islic {-m managed-system | -e managed-frame | -w} [-t {sys | power | syspower | powerfru}] [-r {ibmretain | ibmwebsite | ftp | dvd | disk | mountpoint}] [-h host-name] [-u user-ID] [--passwd password] [-d directory] [-F [attribute-names] [--header]] [--help]
```

Description

Isled lists Licensed Internal Code (LIC) levels installed, activated, and accepted. The LIC levels that are available to be retrieved from a repository can also be listed.

Options

- m** The name of the managed system for which LIC levels are to be listed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- e** The name of the managed frame for which LIC levels are to be listed. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.
- w** List Licensed Internal Code levels on all High Performance Switches managed by the HMC.
- t** The type of LIC levels to list. Valid values are **sys** for Managed System LIC levels only, **power** for Power LIC levels only, **syspower** for both Managed System and Power LIC levels, or **powerfru** for Power FRU levels.
- r** The repository to query for LIC levels that are available to be retrieved for the *managed-system*. Valid values are **ibmretain** for the IBM support system, **ibmwebsite** for the IBM service Internet site, **ftp** for a remote FTP site, **dvd** for the DVD drive on the Hardware Management Console (HMC), **disk** for the internal hard disk drive on the HMC, or **mountpoint** for the specified mountpoint.
- h** The host name or IP address of the remote FTP server.

This option is required when displaying LIC levels that are available to be retrieved from a remote FTP site. This option is not valid otherwise.
- u** The user ID to use to log in to the remote FTP site.

This option is required when displaying LIC levels that are available to be retrieved from a remote FTP site. This option is not valid otherwise.

--passwd

The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.

This option is only valid when displaying LIC levels that are available to be retrieved from a remote FTP site.

-d The mountpoint location or the directory to use on the remote FTP site. If this option is not specified for FTP, then the **/opt/ccfw/data** directory will be used.

This option is only valid when displaying LIC levels that are available to be retrieved from a mountpoint or a remote FTP site.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each LIC level. If no attribute names are specified, then values for all of the attributes for each LIC level will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Islock

List lock information.

Synopsis

Islock -e *managed-frame* [-F [*attribute-names*] [--header]] [--help]

Description

Islock lists which Hardware Management Console (HMC) owns the lock on the *managed-frame*. If the *managed-frame* is not locked, then "No results were found." will be displayed.

Options

-e The name of the managed frame for which to list lock information. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed. If no attribute names are specified, then values for all of the attributes will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

lsiparutil

List utilization data.

Synopsis

To list utilization data collected for a managed system:

```
lsiparutil -r {hmc | lpar | pool | sys | all} -m managed-system [-d number-of-days] [-h number-of-hours]
[--startyear year] [--startmonth month] [--startday day] [--starthour hour] [--endyear year] [--endmonth
month] [--endday day] [--endhour hour] [-n number-of-events] [-s sample-rate] [--filter "filter-data"] [-F
[attribute-names] [--header]] [--help]
```

To list HMC settings for utilization data collection:

```
lsiparutil -r config [-m managed-system] [-F [attribute-names] [--header]] [--help]
```

Description

lsiparutil lists utilization data collected for a *managed-system*. This command also lists the Hardware Management Console (HMC) settings for utilization data collection.

The HMC collects the following types of utilization data: sampling events, state change events, configuration change events, and Utility Capacity on Demand (CoD) processor usage events.

Sampling events are collected for the managed system, for each partition in the managed system, and for the shared processor pool in the managed system. Sampling events are collected hourly, daily at midnight, and monthly at midnight on the first day of each month. Sampling events are also collected immediately following the collection of a Utility CoD processor usage event. Sampling events contain information about memory and processor utilization.

State change events are collected for the managed system, for each partition in the managed system, and for the HMC. State change events are collected when a state change occurs for the managed system, a partition, or when the HMC is started or shut down.

Configuration change events are collected for the managed system, for each partition in the managed system, and for the HMC. Configuration change events are collected when a configuration change affecting memory or processor resources occurs for the managed system or for a partition. Configuration change events are also collected when the local time is changed on the HMC.

Utility CoD processor usage events are collected for the managed system when a Utility CoD processor minute is used. All Utility CoD processor minutes used during a single minute are grouped into one event.

Hourly sampling events and all state change, configuration change, and Utility CoD processor usage events collected are only saved on the HMC for about 2 months. Daily sampling events are saved for about 2 years, and monthly sampling events are saved for about 10 years.

Utilization data collection for managed systems is not automatically enabled. The **chlp_{ar}util** command can be used to enable utilization data collection.

Options

- r** The type of system resources for which events are to be listed. Valid values are **hmc** for HMC, **lpar** for partitions, **pool** for shared processor pools, **sys** for managed system, **all** for HMC, partitions, shared processor pools, and managed system, and **config** for HMC configuration settings for utilization data collection.
- m** The name of the managed system for which the collected utilization data or the HMC configuration settings is to be listed. The name may either be the user-defined name for the managed system, or be in the form *ttt-*mmm***sssssss**, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-*mmm***sssssss** form must be used if there are multiple managed systems with the same user-defined name, or if the HMC does not currently have a connection to the managed system.
- If this option is specified when listing HMC configuration settings, then the HMC configuration settings for the managed-system will be listed. Otherwise, the HMC configuration settings for all of the systems currently managed by this HMC, and for all of the systems for which utilization data has been previously collected by this HMC will be listed.
- d** The number of days prior to today for which events will be listed. Events that were collected today will be listed, along with events that were collected during the past *number-of-days* days.
- This option cannot be specified with the **-h**, **--startyear**, **--startmonth**, **--startday**, **--starthour**, **--endyear**, **--endmonth**, **--endday**, or **--endhour** options.
- h** The number of hours prior to the current hour for which events will be listed. Events that were collected during the current hour will be listed, along with events that were collected during the past *number-of-hours* hours.
- This option cannot be specified with the **-d**, **--startyear**, **--startmonth**, **--startday**, **--starthour**, **--endyear**, **--endmonth**, **--endday**, or **--endhour** options.
- startyear**
The starting year for which events will be listed. The default value for this option is **1970**.
- This option cannot be specified with the **-d** or **-h** options.
- startmonth**
The starting month for which events will be listed. Valid values are **1** for January through **12** for December. The default value for this option is **1** (January).
- This option cannot be specified with the **-d** or **-h** options.
- startday**
The starting day for which events will be listed. Valid values are **1** through **31**. The default value for this option is **1**.
- This option cannot be specified with the **-d** or **-h** options.
- starthour**
The starting hour for which events will be listed. Valid values are **0** for midnight through **23** for 11:00 pm. The default value for this option is **0** (midnight).
- This option cannot be specified with the **-d** or **-h** options.
- endyear**
The ending year for which events will be listed. The default value for this option is now.
- This option cannot be specified with the **-d** or **-h** options.

--endmonth

The ending month for which events will be listed. Valid values are **1** for January through **12** for December. The default value for this option is now.

This option cannot be specified with the **-d** or **-h** options.

--endday

The ending day for which events will be listed. Valid values are **1** through **31**. The default value for this option is now.

This option cannot be specified with the **-d** or **-h** options.

--endhour

The ending hour for which events will be listed. Valid values are **0** for midnight through **23** for 11:00 pm. The default value for this option is now.

This option cannot be specified with the **-d** or **-h** options.

-n

The maximum number of events to be listed, starting with the most recent event. The number specified must be greater than 0.

If this option is not specified, and neither are any of the **-d**, **-h**, **--startyear**, **--startmonth**, **--startday**, **--starthour**, **--endyear**, **--endmonth**, **--endday**, or **--endhour** options, then only the most recent event will be listed.

-s

Use this option to specify which type of utilization data is to be listed. Valid values are **h** for hourly sampling events and all state change, configuration change, and Utility CoD processor usage events, **d** for daily sampling events, and **m** for monthly sampling events.

If this option is not specified, then hourly sampling events and all state change, configuration change, and Utility CoD processor usage events will be listed.

--filter

The filter(s) to apply to the events to be listed. Filters are used to select which events for the specified resource type are to be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

```
"filter-name=value,filter-name=value,..."
```

Note that certain filters accept a comma separated list of values, as follows:

```
""filter-name=value,value,...","..."
```

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Multiple values can be specified for each filter.

Valid filter names for this command:

lpar_ids

Specify partition ID(s)

lpar_names

Specify partition user-defined name(s)

event_types

Specify one or more of the values:

sample, **state_change**, **config_change**, **utility_cod_proc_usage**

Valid filters with **-r hmc**:

event_types

Valid filters with **-r lpar**:

event_types, lpar_ids | lpar_names

Valid filters with **-r pool**:

event_types

Valid filters with **-r sys**:

event_types

Valid filters with **-r all**:

event_types, lpar_ids | lpar_names

The **lpar_ids** and **lpar_names** filter will only apply to partition events

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each event. If no attribute names are specified, then values for all of the attributes for each event will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

Command attributes:

borrowed_pool_proc_units

Processing units that are being borrowed from powered off partitions with dedicated processors.

capped_cycles

The number of capped processing cycles utilized by this partition since the managed system was started.

configurable_pool_proc_units

The number of configurable processing units in the shared processor pool.

configurable_sys_mem

The amount of configurable system memory (in megabytes).

configurable_sys_proc_units

The number of configurable system processing units.

curr_5250_cpw_percent

The 5250 CPW percent assigned to the partition.

curr_avail_5250_cpw_percent

The 5250 CPW percent available to be assigned to partitions.

curr_avail_pool_proc_units

The number of processing units available to be assigned to partitions.

curr_avail_sys_mem

The amount of memory (in megabytes) available to be assigned to partitions.

curr_avail_sys_proc_units

The number of processing units available to be assigned to partitions.

curr_mem

The amount of memory (in megabytes) assigned to the partition.

curr_proc_mode

The processing mode for the partition. Possible values are **ded** or **shared**.

curr_proc_units
The number of processing units assigned to the partition.

curr_procs
The number of processors or virtual processors assigned to the partition.

curr_sharing_mode
The sharing mode of the partition. Possible values are **keep_idle_procs**, **share_idle_procs**, **share_idle_procs_active**, **share_idle_procs_always**, **cap**, or **uncap**.

curr_uncap_weight
The current weighted average of processing priority when in uncapped sharing mode.
The smaller the value, the lower the weight. Possible values are 0 - 255.

entitled_cycles
The number of processing cycles to which the partition has been entitled since the managed system was started. This value is based on the number of processing units assigned to the partition, and may be greater than or smaller than the number of cycles actually used.

event_type
The type of event. Possible values are **sample**, **state_change**, **config_change**, or **utility_cod_proc_usage**.

lpar_id
The unique integer identifier for the partition.

lpar_name
The user-defined name of the partition at the time the event was collected.

name The user-defined name of the managed system.

prev_time
The time on the HMC when the HMC time was changed.

proc_cycles_per_second
Processing cycles per second on one physical processor. This value is static for a particular managed system.

resource_type
The type of system resource for which the event was collected. Possible values are **hmc**, **lpar**, **pool**, or **sys**.

sample_rate
The rate, in seconds, at which samples are obtained. This rate can be changed with the **chlparrutil** command.

shared_cycles_while_active
The number of dedicated processing cycles shared by this partition while it has been active since the managed system was started.

shared_proc_pool_id
The unique integer identifier for the shared processor pool.

state For system events, this is the state of the managed system at the time the event was collected. For partition events, this is the state of the partition at the time the event was collected.

sys_firmware_mem
Amount of memory, in megabytes, on the managed system that is being used by system firmware.

sys_time
The time on the managed system that the sample was taken.

- time** The time on the HMC that the event was collected.
- time_cycles**
The number of time cycles since the managed system was started.
- time_shut_down**
The time the HMC was shut down or rebooted.
- total_pool_cycles**
The total number of processing cycles available in the shared processor pool since the managed system was started.
- type_model_serial_num**
The machine type, model, and serial number of the managed system.
- uncapped_cycles**
The number of uncapped processing cycles utilized by this partition since the managed system was started.
- unreported_proc_min**
The total number of Utility CoD processor minutes that have not been reported.
- used_proc_min**
The number of Utility CoD processor minutes that were used during the last minute.
- utilized_pool_cycles**
The number of processing cycles in the shared processor pool that have been utilized since the managed system was started.
- header**
Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.

lsmediadev

List storage media devices.

Synopsis

lsmediadev [-F *[attribute-names]*] [--header] [--help]

Description

lsmediadev lists the storage media devices that are available for use on the Hardware Management Console (HMC).

Options

- F** A delimiter separated list of attribute names for the desired attribute values to be displayed. If no attribute names are specified, then values for all of the attributes will be displayed.
- When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.
- This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

lsrefcode

List reference codes.

Synopsis

```
lsrefcode -r {sys | lpar} -m managed-system [-s {p | s}] [-n number] [--filter "filter-data"] [-F [attribute-names] [--header]] [--help]
```

Description

lsrefcode lists reference codes for the *managed-system* or for partitions in the *managed-system*.

Options

-r The type of reference codes to list. Valid values are **sys** for managed system reference codes, and **lpar** for partition reference codes.

-m The name of the managed system which has the reference codes to list. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

-s When listing managed system reference codes, use this option to specify the service processor for which reference codes are to be listed. Valid values are **p** for the primary service processor and **s** for the secondary service processor. If this option is not specified, reference codes for the primary service processor will be listed.

This option is only valid when listing managed system reference codes.

-n The number of reference codes to list, starting with the current reference code, for the *managed-system* or for each partition. Reference codes are listed in order, with the most recent (current) reference code first.

The *number* specified must be greater than 0. If there are fewer reference codes available than *number*, only the available reference codes will be listed.

If this option is omitted, only the current reference code will be listed.

--filter The filter to apply to the partition reference codes to be listed. A filter is used to select the partitions for which reference codes are to be listed. If no filter is specified, then reference codes for all partitions in the *managed-system* will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

```
filter-name=value filter-name=value,...<LF>
```

Note that certain filters accept a comma separated list of values, as follows:

```
"filter-name=value,value,..."<LF>
```

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Valid filter names for this command are **lpar_names** or **lpar_ids**. Only one of these filters may be specified. Multiple partitions can be specified with the filter.

This option is not valid when listing managed system reference codes.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed. If no attribute names are specified, then values for all of the attributes will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Issacfg

List Service Agent configuration information.

Synopsis

```
Issacfg -t {email | ftpfirewall | ftpoffload | snmp | snmptrapnames} [-F [attribute-names] [--header]]  
[--help]
```

Description

Issacfg lists Service Agent configuration information.

Options

-t The type of Service Agent configuration information to list. Valid values are **email** for customer email notification settings, **ftppfirewall** for FTP firewall settings, **ftppoffload** for FTP offload server settings, **snmp** for SNMP trap notification settings, and **snmptrapnames** to list all defined SNMP traps.

-F A delimiter separated list of attribute names representing the desired attribute values to display. If this option is specified without any attribute names, then all of the attributes will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

lssvcevents

List console or serviceable events.

Synopsis

lssvcevents **-t** {**console** | **hardware**} [**-d** *number-of-days* | **-i** *number-of-minutes*] [**-m** *managed-system*] [**--filter** "*filter-data*"] [**-F** [*attribute-names*] [**--header**]] [**--help**]

Description

lssvcevents lists console events logged by the Hardware Management Console (HMC), or serviceable events.

Options

-t The type of events to list. Valid values are **console** for console events, or **hardware** for serviceable events.

-d The number of days prior to today for which events will be listed. Events that occurred today will be listed, along with any events that occurred during the past *number-of-days* days.

If this option is omitted when listing console events, console events that occurred within the past 7 days will be listed.

If this option is omitted when listing serviceable events, all serviceable events will be listed.

-i The number of minutes to go back and search for events. This search is based on the time that the event was initially created on the HMC, and is not affected by later updates to the event.

-m The name of the managed system for which serviceable events are to be listed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

If this option is omitted, all serviceable events will be listed.

This option is only valid when listing serviceable events.

--filter The filter to apply to the serviceable events to be listed. A filter is used to select which serviceable events are to be listed. For example, only open serviceable events can be listed by using a filter to specify the status (open) of the serviceable events to list. If a filter is not used, then all serviceable events will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

"filter-name=value,filter-name=value,..."

Note that certain filters accept a comma separated list of values, as follows:

""filter-name=value,value,...",..."

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Multiple values can be specified for each filter.

Valid filter names for serviceable events:

problem_nums

Specify event problem number(s)

status Specify event status. Valid values are **open** or **closed**.

This option is not valid when listing console events.

- F A delimiter separated list of attribute names for the desired attribute values to be displayed for each event. If no attribute names are specified, then values for all of the attributes for each event will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

- help** Display the help text for this command and exit.

Issyscfg

List system resources.

Synopsis

```
issyscfg -r {lpar | prof | sys | sysprof | cage | frame} [-m managed-system | -e managed-frame] [--filter "filter-data"] [-F [attribute-names] [--header]] [--help]
```

Description

Issyscfg lists the attributes of partitions, partition profiles, or system profiles for the *managed-system*. It can also list the attributes of the *managed-system*, and of all of the systems managed by this Hardware Management Console (HMC).

Issyscfg can also list the attributes of cages in the *managed-frame*, the attributes of the *managed-frame*, or the attributes of all of the frames managed by this HMC.

Options

- r The type of resources to list. Valid values are **lpar** for partitions, **prof** for partition profiles, **sys** for managed systems, **sysprof** for system profiles, **cage** for managed frame cages, and **frame** for managed frames.
- m The name of either the managed system to list, or the managed system which has the system resources to list. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

This option is required when listing partitions, partition profiles, or system profiles. This option is optional when listing managed systems, and if it is omitted, then all of the systems managed by this HMC will be listed. This option is not valid when listing managed frame cages or managed frames.
- e The name of either the managed frame to list, or the managed frame which contains the cages to list. The name may either be the user-defined name for the managed frame, or be in the form

*ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

This option is required when listing managed frame cages. This option is optional when listing managed frames, and if it is omitted, then all of the frames managed by this HMC will be listed. This option is not valid when listing partitions, partition profiles, system profiles, or managed systems.

--filter The filter(s) to apply to the resources to be listed. Filters are used to select which resources of the specified resource type are to be listed. If no filters are used, then all of the resources of the specified resource type will be listed. For example, specific partitions can be listed by using a filter to specify the names or IDs of the partitions to list. Otherwise, if no filter is used, then all of the partitions in the managed system will be listed.

The filter data consists of filter name/value pairs, which are in comma separated value (CSV) format. The filter data must be enclosed in double quotes.

The format of the filter data is as follows:

"filter-name=value,filter-name=value,..."

Note that certain filters accept a comma separated list of values, as follows:

""filter-name=value,value,...",..."

When a list of values is specified, the filter name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character. Multiple values can be specified for each filter.

Valid filter names for partitions:

lpar_names | lpar_ids | work_groups

Only one of these three filters may be specified.

Valid filter names for partition profiles:

lpar_names | lpar_ids, profile_names

Valid filter names for system profiles:

profile_names

This option is not valid when listing managed systems, managed frame cages, or managed frames.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each resource. If no attribute names are specified, then values for all of the attributes for the resource will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Issysconn

List system connections.

Synopsis

Issysconn -r all [-F *[attribute-names]*] [--header] [--help]

Description

Issysconn lists connection information for all of the systems and frames managed by this Hardware Management Console (HMC). Connection information for all systems and frames to which this HMC is connected or attempting to connect is listed.

Options

- r** The type of resources for which to list connection information. The only valid value is **all** for all managed systems and managed frames.
- F** A delimiter separated list of attribute names for the desired attribute values to be displayed for each resource. If no attribute names are specified, then values for all of the attributes for the resource will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
- header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
- help** Display the help text for this command and exit.

Issysplan

List system plans.

Synopsis

Issysplan [-F *[attribute-names]*] [--header] [--help]

Description

Issysplan lists the system plan files in the system plan file directory on the Hardware Management Console (HMC).

Options

- F** A delimiter separated list of attribute names for the desired attribute values to be displayed for each file. If no attribute names are specified, then values for all of the attributes for each file will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

The possible attributes that can be listed are: **name**, **description**, **source**, **version**, and **date**.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Issysplanres

List system plan resources.

Synopsis

Issysplanres -r osinstall [-F [attribute-names][--header]] [--help]

Description

Issysplanres lists the system plan resources that are defined on this Hardware Management Console (HMC). These resources can be used when deploying system plans from this HMC.

Options

-r The type of system plan resources to list. The only valid value is **osinstall** for operating system installation resources.

-F A delimiter separated list of attribute names for the desired attribute values to be displayed for each system plan resource. If no attribute names are specified, then values for all of the attributes for each system plan resource will be displayed.

When this option is specified, only those specified attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.

--header

Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.

--help Display the help text for this command and exit.

Isvet

List Capacity on Demand advanced functions activation information.

Synopsis

Isvet -t {code | hist} -m managed-system [-F [attribute-names] [--header]] [--help]

Description

Isvet lists Capacity on Demand (CoD) advanced functions activation information for the *managed-system*. CoD advanced functions include Advanced POWER Virtualization and Enterprise Enablement.

CoD advanced functions are sometimes referred to as Virtualization Engine systems technologies.

Options

- t** The type of information to list. Valid values are **code** for information used to generate CoD advanced functions activation codes, and **hist** for the CoD advanced functions activation history log.
 - m** The name of the managed system for which information is to be listed. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the managed system. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed systems with the same user-defined name.
 - F** A delimiter separated list of attribute names representing the desired attribute values to display. If this option is specified without any attribute names, then all of the attributes will be displayed.

When this option is specified, only attribute values will be displayed. No attribute names will be displayed. The attribute values displayed will be separated by the delimiter which was specified with this option.

This option is useful when only attribute values are desired to be displayed, or when the values of only selected attributes are desired to be displayed.
 - header** Display a header record, which is a delimiter separated list of attribute names for the attribute values that will be displayed. This header record will be the first record displayed. This option is only valid when used with the **-F** option.
 - help** Display the help text for this command and exit.
-

migrcfg

Migrate configuration.

Synopsis

migrcfg -m *managed-system* **-t 1 -f** *file* [**--help**]

Description

migrcfg migrates partition configuration data to a *managed-system*.

Options

- m** The name of the managed system to which to migrate the partition configuration data. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmmm*ssssssss* where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the managed system. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed systems with the same user-defined name.
- t** The migration data type. The only valid value is **1**.
- f** The name of the file on floppy diskette that contains the partition configuration data to migrate.
- help** Display the help text for this command and exit.

mkaccfg

Create access control object.

Synopsis

```
mkaccfg -t {resourcerole | taskrole} {-f configuration-file | -i "configuration-data"} [--help]
```

Description

mkaccfg creates a new access control role.

Options

-t The type of access control role to create. Valid values are **resourcerole** for managed resource role and **taskrole** for task role.

-f The name of the file containing the configuration data needed to create the access control role. The configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. These attribute name/value pairs form a configuration record. A line feed marks the end of a configuration record. There can only be one configuration record in the file.

The format of a configuration record is as follows:

attribute-name=value,attribute-name=value,...<LF>

Note that certain attributes accept a comma separated list of values, as follows:

"attribute-name=value,value,...",...<LF>

When a list of values is specified, the attribute name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Attribute names for managed resource roles (all attributes are required):

name name of the managed resource role to create

resources

comma separated list of managed resource objects

Attribute names for task roles (all attributes are required):

name name of the task role to create

resources

comma separated list of tasks

parent name of the parent task role on which to base this task role. Valid values are **hmcsuperadmin**, **hmcoperator**, **hmcviewer**, **hmcpe**, **hmcservicerep**, or a user-defined task role.

The **-f** and the **-i** options are mutually exclusive.

-i This option allows you to enter configuration data on the command line, instead of using a file. Data entered on the command line must follow the same format as data in a file, and must be enclosed in double quotes.

The **-i** and the **-f** options are mutually exclusive.

--help Display the help text for this command and exit.

mkhmcusr

Create a Hardware Management Console user.

Synopsis

```
mkhmcusr -u user-name -a task-role [-d description] [--passwd password] [-M number-of-days] [--help]
```

Description

mkhmcusr creates a Hardware Management Console (HMC) user.

Options

- u** The user name of the HMC user to create. The user name cannot be longer than 32 characters, and it must begin with a letter.
- a** The access control task role for this user. Valid values are **hmcsuperadmin**, **hmcoperator**, **hmcviewer**, **hmcpe**, **hmcserviceprep**, or a user-defined task role.
- d** The description for this user. *description* can be any string. If this option is not specified, then the description for this user will be set to "HMC User".
- passwd** The password for this user. If this option is omitted, you will be prompted to enter the password. The password must be at least 7 characters in length.
- M** The number of days until the password for this user expires. If this option is not specified, then this user's password will never expire.
- help** Display the help text for this command and exit.

mksyscfg

Create system resources.

Synopsis

```
mksyscfg -r {lpar | prof | sysprof} -m managed-system [{-f configuration-file | -i "configuration-data"}] [-o save {-p partition-name | --id partition-ID}] [-n profile-name] [--help]
```

Description

mksyscfg creates partitions, partition profiles, or system profiles for the *managed-system*.

mksyscfg can be used to save the current configuration of a partition to a new partition profile.

Options

- r** The type of system resources to create. Valid values are **lpar** for partitions, **prof** for partition profiles, and **sysprof** for system profiles.
When a partition is created, the default profile for the partition is also created.
- m** The name of the managed system for which the system resources are to be created. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the managed system. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed systems with the same user-defined name.
- f** The name of the file containing the configuration data needed to create the system resources. The

configuration data consists of attribute name/value pairs, which are in comma separated value (CSV) format. These attribute name/value pairs form a configuration record. A line feed marks the end of a configuration record. The file must contain one configuration record for each resource to be created, and each configuration record must be for the same resource type.

The format of a configuration record is as follows:

attribute-name=value,attribute-name=value,...<LF>

Note that certain attributes accept a comma separated list of values, as follows:

"attribute-name=value,value,...",...<LF>

When a list of values is specified, the attribute name/value pair must be enclosed in double quotes. Depending on the shell being used, nested double quote characters may need to be preceded by an escape character, which is usually a `'\'` character.

Attribute names for partitions (see below for attribute names that are common to both partitions and partition profiles):

name name of the partition to create

[lpar_id]

profile_name

name of the default profile to create

lpar_env

Valid values are **aixlinux**, **os400**, or **vioserver**

[shared_proc_pool_util_auth]

Valid values are:

0 - do not allow authority

1 - allow authority

Attribute names for partition profiles (see below for attribute names that are common to both partition profiles and partitions):

name name of the partition profile to create

lpar_name | lpar_id

name or ID of the partition for which to create the profile

Attribute names for both partitions and partition profiles:

[all_resources]

Valid values are:

0 - do not use all the managed system resources

1 - use all the managed system resources (this option is not valid for i5/OS partitions on IBM System p5 or eServer p5 servers)

min_mem

megabytes

desired_mem

megabytes

max_mem

megabytes

[min_num_huge_pages]

AIX and Linux only

[desired_num_huge_pages]

AIX and Linux only

[max_num_huge_pages]

AIX and Linux only

[proc_mode]

Valid values are:

ded - dedicated processors
shared - shared processors
[min_procs]
[desired_procs]
max_procs
[min_proc_units]
[desired_proc_units]
[max_proc_units]
min_520_cpw_percent
 Only valid for i5/OS partitions in managed systems that support the assignment of 5250 CPW percentages
[desired_5250_cpw_percent]
 Only valid for i5/OS partitions in managed systems that support the assignment of 5250 CPW percentages
[max_5250_cpw_percent]
 Only valid for i5/OS partitions in managed systems that support the assignment of 5250 CPW percentages
[sharing_mode]
 Valid values for partitions using dedicated processors are:
keep_idle_procs
 nev er share processors
share_idle_procs
 share processors only when partition is inactive
share_idle_procs_active
 share processors only when partition is active (POWER6 servers only)
share_idle_procs_always
 always share processors (POWER6 servers only)
 Valid values for partitions using shared processors are:
cap - capped
uncap - uncapped
[uncap_weight]
[io_slots]
 Comma separated list of I/O slots, with each I/O slot having the following format:
slot-DRC-index/slot-IO-pool-ID/ is-required
 Both '/' characters must be present, but optional values may be omitted. Optional values are *slot-IO-pool-ID*.
 Valid values for *is-required*:
 0 - no
 1 - yes
[lpar_io_pool_ids]
 comma separated
[load_source_slot]
 i5/OS only, required on POWER5 servers DRC index of I/O slot, or virtual slot number
[alt_restart_device_slot]
 i5/OS only, DRC index of I/O slot, or virtual slot number
console_slot
 i5/OS only, DRC index of I/O slot, DRC index of HEA logical port (POWER6 servers only), virtual slot number, or the value **hmc**
[alt_console_slot]
 i5/OS only, DRC index of I/O slot
[op_console_slot]
 i5/OS only, DRC index of I/O slot
[auto_start]
 Valid values are:

0 - off

1 - on

[boot_mode]

AIX, Linux, and virtual I/O server only

Valid values are:

norm - normal

dd - diagnostic with default boot list

ds - diagnostic with stored boot list

of - Open Firmware OK prompt

sms - System Management Services

[power_ctrl_lpar_ids | power_ctrl_lpar_names]

comma separated

[conn_monitoring]

Valid values are:

0 - off

1 - on

[hsl_pool_id]

AIX, Linux, and virtual I/O server only

Valid values are:

0 - HSL OptiConnect is disabled

1 - HSL OptiConnect is enabled

[virtual_opti_pool_id]

AIX, Linux, and virtual I/O server only

Valid values are:

0 - virtual OptiConnect is disabled

1 - virtual OptiConnect is enabled

[max_virtual_slots]

[virtual_eth_adapters]

Comma separated list of virtual ethernet adapters, with each adapter having the following format:

virtual-slot-number/is-IEEE/ port-vlan-ID/additional-vlan-IDs/ trunk-priority/is-required

All 5 '/' characters must be present, but optional values may be omitted. Optional values are *additional-vlan-IDs* and *trunk-priority*.

Valid values for *is-IEEE* and *is-required*:

0 - no

1 - yes

Valid values for *trunk priority*:

0 - this adapter is not a trunk adapter

1 - 15 - this adapter is a trunk adapter with the specified priority

[virtual_scsi_adapters]

Comma separated list of virtual SCSI adapters, with each adapter having the following format:

virtual-slot-number/client-or-server/remote-lpar-ID/remote-lpar-name/remote-slot-number/is-required

All 5 '/' characters must be present, but optional values may be omitted. Optional values for server adapters are *remote-lpar-ID*, *remote-lpar-name*, and *remote-slot-number*. Optional values for client adapters are *remote-lpar-ID* or *remote-lpar-name* (one of those values is required, but not both).

Valid values for *client-or-server*:

client

server

Valid values for *is-required*:

0 - no

1 - yes

[virtual_serial_adapters]

Comma separated list of virtual serial adapters, with each adapter having the following format:

virtual-slot-number/client-or-server/supports-HMC/remote-lpar-ID/remote-lpar-name/remote-slot-number/is-required

All 6 '/' characters must be present, but optional values may be omitted. Optional values for server adapters are *supports-HMC*, *remote-lpar-ID*, *remote-lpar-name*, and *remote-slot-number*. Optional values for client adapters are *remote-lpar-ID* or *remote-lpar-name* (one of those values is required, but not both), and the *supports-HMC* value is not allowed.

Valid values for *client-or-server*:

client

server

Valid values for *supports-HMC*:

0 - no

Valid values for *is-required*:

0 - no

1 - yes

[hca_adapters]

AIX, Linux, and virtual I/O server only

Comma separated list of Host Channel adapters (HCA), with each adapter having the following format:

adapter-ID/GUID/capability

All 3 values must be specified for each adapter.

Valid values for *capability*:

1 - low

2 - medium

3 - high

4 - dedicated

[lhea_logical_ports]

POWER6 servers only

Comma separated list of Logical Host Ethernet adapter (LHEA) logical ports, with each logical port having the following format:

adapter-ID/port-group/physical-port-ID/ logical-port-ID/allowed-VLAN-IDs

All 4 '/' characters must be present, but optional values may be omitted. Optional values are *allowed-VLAN-IDs*.

[lhea_capabilities]

POWER6 servers only Comma separated list of LHEA capabilities, with each capability having one of the following formats:

adapter-ID/capability

or

adapter-ID/5/ieq/nieq/qc/cq/mr

where *ieq* (interruptible event queues), *niesq* (non-interruptible event queues), *qp* (queue pairs), *cq* (completion queues), and *mr* (memory regions) each specify the resource amount in addition to the base minimum.

Valid values for capability:

- 0 - base minimum
- 1 - low
- 2 - medium
- 3 - high
- 4 - dedicated

[sni_device_ids]

AIX, Linux, and virtual I/O server only

Comma separated list of Switch Network Interface (SNI) adapter device IDs

[work_group_id]

[redundant_err_path_reporting]

Valid values are:

- 0 - disable
- 1 - enable

[electronic_err_reporting]

i5/OS only, POWER6 servers only

Valid values are:

- 0 - disable
- 1 - enable

[lpar_proc_compat_mode]

POWER6 servers only

Valid values are:

- default** - default architected processor mode
- POWER6_enhanced** - POWER6 enhanced processor mode

Attribute names for system profiles:

name name of the system profile to create

lpar_names | lpar_ids

comma separated

profile_names

comma separated

Brackets around an attribute name indicate that the attribute is optional.

The **-f** and the **-i** options are mutually exclusive.

Configuration data is required to be specified with this option or the **-i** option except when **-o save** is specified to save the current configuration of a partition to a new partition profile. This option is not valid when **-o save** is specified.

- i** This option allows you to enter configuration data on the command line, instead of using a file. Data entered on the command line must follow the same format as data in a file, and must be enclosed in double quotes.

When this option is used, only a single system resource can be created.

The **-i** and the **-f** options are mutually exclusive.

Configuration data is required to be specified with this option or the **-f** option except when **-o save** is specified to save the current configuration of a partition to a new partition profile. This option is not valid when **-o save** is specified.

- o** The operation to perform. The only valid value is **save** to create a new partition profile by saving the current configuration of a partition.

If this option is not specified, then new system resources will be created using the configuration data specified with the **-f** or **-i** option.

- p** The name of the partition whose current configuration is to be saved to a new partition profile. You can either use this option to specify the name of the partition whose current configuration is to be saved, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.
- A partition is required to be specified with this option or the **--id** option when **-o save** is specified to save the current configuration of a partition to a new partition profile. This option is not valid otherwise.
- id** The ID of the partition whose current configuration is to be saved to a new partition profile. You can either use this option to specify the ID of the partition whose current configuration is to be saved, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.
- A partition is required to be specified with this option or the **-p** option when **-o save** is specified to save the current configuration of a partition to a new partition profile. This option is not valid otherwise.
- n** The name of the new partition profile to which to save the partition configuration.
- This option is required when **-o save** is specified to save the current configuration of a partition to a new partition profile. This option is not valid otherwise.
- help** Display the help text for this command and exit.

mksysconn

Create system connection.

Synopsis

mksysconn --ip *IP-address* [**-r** {**sys** | **frame**}] [**--passwd** *password*] [**--help**]

Description

mksysconn establishes a connection from the Hardware Management Console (HMC) to a system in the network and adds the system to the systems managed by the HMC. If a connection to the system cannot be established because the network is down, the service processor for the system is down, or too many other HMCs have already established a connection to the system, the system will be added as a managed system which is in the No Connection state.

mksysconn can also establish a connection from the HMC to a frame in the network and add the frame to the frames managed by the HMC. If a connection to the frame cannot be established because the network is down, the bulk power assembly (BPA) for the frame is down, or too many other HMCs have already established a connection to the frame, the frame will be added as a managed frame which is in the No Connection state.

If your HMC is set up as a DHCP server on a private network, do not use this command to establish HMC connections to managed systems and frames that are DHCP clients. This command is intended for use on a public network only, where the systems are set to use static IP addresses. Using this command in a DHCP environment establishes a temporary connection that will not continue to work properly over network configuration changes, system power loss, and service repair actions.

Options

- ip** To connect to a system and add the system to the systems managed by the HMC, specify the IP address or host name of the service processor for the system.

To connect to a frame and add the frame to the frames managed by the HMC, specify the IP address or host name of one side of the bulk power assembly (BPA) for the frame. Note that to properly connect to a frame, it is recommended that you issue this command twice, once for each side of the BPA, in order to connect to both sides of the BPA for the frame.

-r The type of resource to which to connect and add to the HMC. Valid values are **sys** for system and **frame** for frame. If this option is omitted, then the resource to which to connect and add to the HMC is assumed to be a system.

--passwd

The HMC Access password for the system or the frame to which to connect. If this option is omitted, you will be prompted to enter the password.

--help Display the help text for this command and exit.

mksysplan

Make system plan file.

Synopsis

mksysplan -f file-name -m managed-system [--check] [-d "description"] [-o noprobe] [-v] [--help]

Description

mksysplan creates a system plan file that represents the information known about a managed system's hardware, partitions, profiles, and partition provisioning information.

Options

-f Specifies the file name that will contain the system plan created by this command. If the file does not exist, it will be created in the system plan file directory on the Hardware Management Console (HMC). If the file exists, its contents will be overwritten unless the **--check** option is specified.

The file name is restricted to the alphanumeric characters (upper and lower case) and a set of special characters (comma, period, hyphen, underscore, and space). The file name cannot begin with a period or hyphen.

The file name must end with the **.sysplan** suffix.

-m Specifies the managed system's name that will be used to get the information to create the system plan file.

The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

--check

Specifies that this command should check the system plan directory and fail with an error if the file with the name specified with the **-f** option already exists.

-d Specifies a description that will be added to the created file.

-o Specifies the options for inventory collection. The only valid value is **noprobe**. When **noprobe** is specified, the inventory gathered will be limited to that of just the PCI slot devices without any further inventory probes. Specify **noprobe** if just PCI devices are desired.

-v Display verbose output during command processing, in addition to the default messages.

--help Display the help text for this command and exit.

mkvterm

Open a virtual terminal session.

Synopsis

mkvterm **-m** *managed-system* **{-p** *partition-name* **| --id** *partition-ID***}** **[--help]**

Description

mkvterm opens a virtual terminal session for an AIX, Linux, or virtual I/O server partition.

After establishing a virtual terminal session, the ~ character sequence can be entered in the terminal window to terminate it, or the **rmvterm** command can be used to force the session to be closed.

A partition can only have one open virtual terminal session at a time.

Options

- m** The name of the managed system which has the partition for which to open the virtual terminal session. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- p** The name of the partition for which to open the virtual terminal session.
You must either use this option to specify the name of the partition, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.
- id** The ID of the partition for which to open the virtual terminal session.
You must either use this option to specify the ID of the partition, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.
- help** Display the help text for this command and exit.

monhmc

Monitor HMC subsystems and system resources.

Synopsis

To monitor Hardware Management Console (HMC) subsystems:

monhmc **-s** **{hmcsvr | rmc}** **[-n** *<interval>***] [--help]**

To monitor HMC system resources:

monhmc **-r** **{disk | proc | mem | swap}** **[-n** *<interval>***] [--help]**

Description

monhmc provides a dynamic real-time view of HMC related subsystems and system resources. The **top**, **watch**, and **df** commands are used to implement this command. Refer to documentation for those commands for additional information.

Options

- s** The HMC subsystem to monitor. Valid values are **hmcsvr** for HMC server processes, and **rmc** for Resource Monitoring and Control (RMC) processes.
Either this option or the **-r** option is required. The **-s** and the **-r** options are mutually exclusive.
 - r** The HMC system resource to monitor. Valid values are **disk** for filesystem disk space usage, **proc** for processor (CPU) usage, **mem** for memory usage, and **swap** for swap space usage.
Either this option or the **-s** option is required. The **-r** and the **-s** options are mutually exclusive
 - n** The interval between updates in seconds. The default value for this option is 4 seconds.
If an interval of 0 is specified, then statistics are displayed only once, and this command exits. If any other interval is specified, or if this option is omitted, then statistics are updated every interval seconds, and this command runs until interrupted with Ctrl-c.
 - help** Display the help text for this command and exit.
-

pedbg

Product Engineering debug tools.

Synopsis

```
pedbg {-d {on | off} | -j {on | off} | -l {rmc | se} | -c | -s | -q {n} | -r} [--help]
```

Description

pedbg provides debug tools for Product Engineer/Support Personnel. This command requires PE authority to run, i.e, only hscpe user can access this command.

Options

- d** Turn on or off various debug tracing. This option will restart subsystems to start/stop internal tracing.
- j** Turn on or off Just in Time compiler. Turn off Just in Time compiler will result in loss of performance.
- l** List internal subsystem information. If **rmc** is specified, the list of RMC daemons will be displayed, along with its state. If **se** is specified, the IBM.ServiceEvent resource entries are displayed.
- c** Collect various logs and javacore. This option can copy the data collected onto DVD or leave a zip file in the /dump directory.
- s** Collect various managed system dumps that were sent to the HMC. This option can copy the data collected onto DVD or leave a zip file in the /dump directory.
- q** Collect logs or managed system dumps in quiet mode. Not prompted. Used with either the **-c** or the **-s** option.

Options for log collection:

- 1 = network info only
- 2 = network info + base logs
- 3 = network info + base logs + extended logs
- 4 = all logs - network info + base logs + extended logs + archives
- 5 = collect files in /home/hscpe/ibmsupt only
- 9 = run prompt to copy files to media

Options for managed system dumps:

- 1 collect all system dump types
- 2 collect FSPDUMP

- 3 collect SYSDUMP
- 4 collect LOGDUMP
- 5 collect SMADUMP
- 6 collect PWRDUMP
- 8 delete all system dumps
- 9 = run prompt to copy files to media

-r Remove the log files collected that are put in /dump.

--help Display the help text for this command and exit.

pesh

Provides PE Shell access.

Synopsis

pesh <serial number of machine>

Description

pesh provides full shell access to Product Engineer/Support Personnel. **pesh** takes the serial number of the machine where full shell access is requested, then prompts the user for a 1 day password obtained from the support organization. If the password is valid, the user will be granted full shell access. Only user hscpe can access this command.

rmaccfg

Remove access control object.

Synopsis

rmaccfg -t {resource | resourcerole | taskrole} **-n** name **[--help]**

Description

rmaccfg removes an access control role from the Hardware Management Console (HMC), or it removes inactive managed resource objects assigned to an HMC user.

Options

- t** The type of access control objects to remove. Valid values are resource for inactive managed resource objects, **resourcerole** for a managed resource role, and **taskrole** for a task role.
- n** When removing inactive managed resource objects assigned to an HMC user, use this option to specify the user name of the HMC user from which to remove the inactive objects.

When removing an access control role, use this option to specify the name of the role to remove. Note that the predefined task roles **hmcsuperadmin**, **hmcoperator**, **hmcviewer**, **hmcpe**, and **hmcservicerep** cannot be removed.

If the specified access control role is currently assigned to one or more HMC users, you will be prompted to confirm that you want to remove the role.
- help** Display the help text for this command and exit.

rmhmcusr

Remove a Hardware Management Console user.

Synopsis

rmhmcusr **-u** *user-name* [**--help**]

Description

rmhmcusr removes a Hardware Management Console (HMC) user.

Options

- u** The user name of the HMC user to remove. The HMC users **root** and **hscroot** cannot be removed.
- help** Display the help text for this command and exit.

rmlock

Remove lock.

Synopsis

rmlock **-e** *managed-frame* [**--help**]

Description

rmlock forces a Hardware Management Console (HMC) lock on the *managed-frame* to be released.

Options

- e** The name of the managed frame to unlock. The name may either be the user-defined name for the managed frame, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the type, *mmm* is the model, and *ssssssss* is the serial number of the managed frame. The *tttt-mmmm*ssssssss* form must be used if there are multiple managed frames with the same user-defined name.
- help** Display the help text for this command and exit.

rmlparutil

Remove utilization data.

Synopsis

rmlparutil **-m** *managed-system* [**--help**]

Description

rmlparutil removes the utilization data collected for a managed system from the Hardware Management Console (HMC).

Options

- m** The name of the managed system for which collected utilization data is to be removed. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmmm*ssssssss*, where *tttt* is the machine type, *mmm* is the model, and *ssssssss* is the serial number of the

managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name, or if the HMC does not currently have a connection to the managed system.

Removing the utilization data for a managed system does not disable the collection of utilization data for that managed system. Use the **chlparutil** command to disable the collection of utilization data.

--help Display the help text for this command and exit.

rmprofdata

Remove profile data.

Synopsis

rmprofdata -m *managed-system* **-f** *file* [**--help**]

Description

rmprofdata removes a profile data backup file for the *managed-system*.

Options

-m The name of the managed system for which to remove the profile data backup file. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name, or if the HMC does not currently have a connection to the managed system.

-f The name of the profile data backup file to be removed. If *file* is not fully qualified, *file* will be removed from the **/var/hsc/profiles/serial-number** directory on the HMC (*serial-number* is the serial number of the managed system).

To remove profile data from removable media, the media must be present in the removable media device and the device must be mounted with the **mount** command before this command is issued. The **lsmediadev** command can be used to display all of the removable media devices on the HMC.

--help Display the help text for this command and exit.

rmsyscfg

Remove a system resource.

Synopsis

rmsyscfg -r {**lpar** | **prof** | **sysprof**} **-m** *managed-system* [**-n** *resource-name*] [**-p** *partition-name*] [**--id** *partition-ID*] [**--help**]

Description

rmsyscfg removes a partition, a partition profile, or a system profile from the *managed-system*.

Options

-r The type of system resource to remove. Valid values are **lpar** for a partition, **prof** for a partition profile, and **sysprof** for a system profile.

When a partition is removed, all of the partition profiles that are defined for that partition are also removed.

When a partition profile is removed, any system profiles that contain just that one partition profile are also removed.

- m** The name of the managed system from which the system resource is to be removed. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name, or if the HMC does not currently have a connection to the managed system.
- n** The name of the system resource to remove.

To remove a partition, you must either use this option to specify the name of the partition to remove, or use the **--id** option to specify the partition's ID. The **-n** and the **--id** options are mutually exclusive when removing a partition.

To remove a partition profile or a system profile, you must use this option to specify the name of the profile to remove.
- p** The name of the partition which has the partition profile to remove. This option is only valid when removing a partition profile.

To remove a partition profile, you must either use this option to specify the name of the partition which has the partition profile to remove, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.
- id** The partition's ID.

To remove a partition, you must either use this option to specify the ID of the partition to remove, or use the **-n** option to specify the partition's name. The **--id** and the **-n** options are mutually exclusive when removing a partition.

To remove a partition profile, you must either use this option to specify the ID of the partition that has the profile to remove, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive when removing a partition profile.

This option is not valid when removing a system profile.
- help** Display the help text for this command and exit.

rmsysconn

Remove a system connection.

Synopsis

```
rmsysconn -o {remove | reset} {-m managed-system | -e managed-frame | --ip IP-address} [--help]
```

Description

rmsysconn removes or resets a connection from the Hardware Management Console (HMC) to a managed system or a managed frame.

If your HMC is set up as a DHCP server on a private network, do not use this command to remove HMC connections to managed systems and frames. The remove option of this command is intended for use on a public network only, where the HMC is not set up as a DHCP server. Using the remove option of this command prevents the HMC from managing any system or frame at that IP address, even though that address may still be assigned through DHCP.

Options

- o** The operation to perform. Valid values are **remove** or **reset**. When **remove** is specified, the HMC disconnects from the specified managed system or the specified managed frame. If all connections to the managed system or managed frame are removed, then the managed system or managed frame is removed from the HMC.

When **reset** is specified, the HMC disconnects from the specified managed system or the specified managed frame then attempts to reconnect.

The **reset** operation is useful for retrying to establish a connection to a managed system or a managed frame that is in the "No Connection" state.

- m** The name of the managed system to remove or to reset the connection to. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

If the managed system has a single service processor, the connection to the service processor is removed or reset. When the connection is removed, the managed system is removed from the HMC.

If the managed system has two service processors, the connections to both service processors for the managed system are removed or reset. When the connections to both service processors for the managed system are removed, the managed system is removed from the HMC. To remove or reset the connection to just one service processor for the managed system, use the **--ip** option.

Either this option, the **--ip** option, or the **-e** option is required. The **-m**, **--ip**, and the **-e** options are mutually exclusive.

- e** The name of the managed frame to remove or to reset the connection to. The name may either be the user-defined name for the managed frame, or be in the form *tttt-mmm*sssssss*, where *tttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *tttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

When this option is used to specify the managed frame to remove or to reset the connection to, the connections to both sides of the bulk power assembly (BPA) for the managed frame are removed or reset. When the connections to both sides of the BPA for the managed frame are removed, the managed frame is removed from the HMC.

To remove or reset the connection to just one side of the BPA for the managed frame, use the **--ip** option.

Either this option, the **--ip** option, or the **-m** option is required. The **-e**, **--ip**, and the **-m** options are mutually exclusive.

- ip** To remove or reset the connection to a managed system with a single service processor, you can use this option to specify the IP address or host name of the service processor for the managed system to remove or to reset the connection to. Alternatively, you can use the **-m** option to specify the name of the managed system to remove or to reset the connection to.

To remove or reset the connection to just one service processor for a managed system with two service processors, you can use this option to specify the IP address or host name of the service processor to remove or to reset the connection to. To remove or reset the connection to both service processors for a managed system, use the **-m** option. Note that a managed system with two service processors will not be removed from the HMC until the connections to both service processors for the managed system are removed.

To remove or reset the connection to just one side of the BPA for a managed frame, you can use this option to specify the IP address or host name of the BPA side to remove or to reset the connection to. To remove or reset the connection to both sides of the BPA for a managed frame,

use the **-e** option. Note that a managed frame will not be removed from the HMC until the connections to both sides of the BPA for the managed frame are removed.

Either this option, the **-m** option, or the **-e** option is required. The **--ip**, **-m**, and the **-e** options are mutually exclusive.

--help Display the help text for this command and exit.

rmsysplan

Remove system plan.

Synopsis

rmsysplan -f *file-name* [--help]

Description

rmsysplan removes a system plan file from the system plan file directory on the Hardware Management Console (HMC).

Options

-f Specifies the name of the file that will be removed. Only files in the system plan file directory on the HMC will be removed.

--help Display the help text for this command and exit.

rmsysplanres

Remove system plan resource.

Synopsis

rmsysplanres -r *osinstall* -n *resource-name* [--help]

Description

rmsysplanres removes a system plan resource that is defined on this Hardware Management Console (HMC). These resources can be used when deploying system plans from this HMC.

Options

-r Specifies the type of system plan resource to remove. The only valid value is **osinstall** for an operating system installation resource.

-n Specifies the name of the system plan resource to remove.

--help Display the help text for this command and exit.

rmvterm

Close a virtual terminal session.

Synopsis

rmvterm -m *managed-system* {-p *partition-name* | --id *partition-ID*} [--help]

Description

rmvterm forces the closure of a virtual terminal session for an AIX, Linux, or virtual I/O server partition.

To close the virtual terminal session normally, enter the `~.` character sequence in the terminal window.

Options

- m** The name of the managed system which has the partition for which to close the virtual terminal session. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- p** The name of the partition for which to close the virtual terminal session.
You must either use this option to specify the name of the partition, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.
- id** The ID of the partition for which to close the virtual terminal session.
You must either use this option to specify the ID of the partition, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.
- help** Display the help text for this command and exit.

rsthwres

Restore hardware resources.

Synopsis

To restore memory or processing resources:

```
rsthwres -r {mem | proc} -m managed-system [{-p partition-name | --id partition-ID}]
```

To restore physical I/O slots:

```
rsthwres -r io -m managed-system [{-p partition-name | --id partition-ID}] [-l slot-DRC-index]
```

To restore Host Ethernet Adapter (HEA) resources (POWER6 servers only):

```
rsthwres -r hea -m managed-system [{-p partition-name | --id partition-ID}] [-l HEA-adapter-ID] [-g port-group --logport logical-port-ID]
```

Description

rsthwres restores the hardware resource configuration of partitions in the *managed-system*. This operation may need to be performed after a dynamic logical partitioning (DLPAR) operation fails.

Options

- r** The type of hardware resources to restore. Valid values are *mem* for memory, *proc* for processing resources, *io* for physical I/O slots, and *hea* for Host Ethernet Adapter (HEA) resources.
HEA resources are only supported on POWER6 servers.
- m** The name of the managed system which has the partitions for which to restore the hardware resources. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

- p** The name of the partition for which to restore the hardware resources.
 To restore hardware resources for a single partition, you must either use this option to specify the name of the partition, or use the **--id** option to specify the partition's ID. Otherwise, hardware resources for all partitions in the *managed-system* will be restored.
 The **-p** and the **--id** options are mutually exclusive.
- id** The ID of the partition for which to restore the hardware resources.
 To restore hardware resources for a single partition, you must either use this option to specify the ID of the partition, or use the **-p** option to specify the partition's name. Otherwise, hardware resources for all partitions in the *managed-system* will be restored.
 The **--id** and the **-p** options are mutually exclusive.
- l** When restoring physical I/O slots, specify the DRC index of the physical I/O slot to restore. If this option is omitted and a partition is specified with the **-p** or **--id** option, then all physical I/O slots assigned to the specified partition will be restored. If this option is omitted and a partition is not specified, then all physical I/O slots in the *managed-system* will be restored.
 When restoring HEA resources, specify the adapter ID of the HEA to restore. If this option is omitted and a partition is specified with the **-p** or **--id** option, then all HEA resources, including Logical Host Ethernet Adapters and logical ports, assigned to the specified partition will be restored. If this option is omitted and a partition is not specified, then all HEA resources in the *managed-system* will be restored. This option is required when the **-g** and **--logport** options are specified to restore a specific logical port.
 This option is only valid when restoring physical I/O slots or HEA resources.
- g** The port group containing the HEA logical port to restore. This option is required when the **--logport** option is specified to restore a specific logical port.
- logport** The ID of the HEA logical port to restore.
- help** Display the help text for this command and exit.

rstprofdata

Restore profile data.

Synopsis

```
rstprofdata -m managed-system -l restore-type [-f file] [--help]
```

Description

rstprofdata restores profile data for the *managed-system* from a backup file. **rstprofdata** can also be used to initialize the profile data for the *managed-system*.

The **bkprofdata** command can be used to back up profile data for the *managed-system*.

Options

- m** The name of the managed system for which to restore or initialize profile data. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- l** The type of restore to perform. Valid values are:

- 1 - full restore from the backup file.
 - 2 - merge the current profile data and profile data from the backup file, giving priority to the backup data. If the profile data conflicts, the backup data is restored over the current data.
 - 3 - merge the current profile data and profile data from the backup file, giving priority to the current data. If the profile data conflicts, the backup data is not restored over the current data.
 - 4 - initialize the profile data. All partitions, partition profiles, and system profiles for the managed system will be deleted.
- f** The name of the backup file that contains the profile data to be restored. If *file* is not fully qualified, *file* must exist in the `/var/hsc/profiles/serial-number` directory on the HMC (*serial-number* is the serial number of the managed system).
- To restore the profile data from removable media, the media must be present in the removable media device and the device must be mounted with the **mount** command before this command is issued. The **lsmediadev** command can be used to display all of the removable media devices on the HMC.
- This option is required for all restore types except **4** (initialize).
- help** Display the help text for this command and exit.

rstupgdata

Restore upgrade data.

Synopsis

rstupgdata -r dvd [--help]

Description

rstupgdata copies the current partition profile data, Hardware Management Console (HMC) user data, and HMC configuration data previously saved on DVD-RAM into a portion of the HMC hard drive that the HMC upgrade process cannot erase. After this command has been executed, reboot the HMC to automatically recover the data.

The DVD-RAM media must be present in the drive, and mounted with the **mount** command, before running this command.

Note: Time on the HMC will need to be set after the data has been recovered.

Options

- r** If **dvd** is specified, upgrade data will only be read from the DVD-RAM media.
- help** Display the help text for this command and exit.

saveupgdata

Save upgrade data.

Synopsis

saveupgdata -r {disk | diskdvd} [--help]

Description

saveupgdata stores the current partition profile data, Hardware Management Console (HMC) user data, and HMC configuration data in a portion of the HMC hard drive that the HMC upgrade process cannot erase. The HMC automatically recovers the data after the upgrade process completes.

This command should be run immediately prior to performing an HMC upgrade. If the HMC is rebooted without performing an upgrade after running this command, this command needs to be run again.

Options

- r** If **disk** is specified, upgrade data will only be saved on the HMC hard drive.
If **diskdvd** is specified, then in addition to storing the upgrade data on the HMC hard drive, this command will copy the same upgrade data onto DVD-RAM media. You must ensure that the media is present in the DVD drive and that the DVD drive is mounted with the **mount** command before issuing this command.
- help** Display the help text for this command and exit.

sendfile

Transfer file from the HMC to a remote system.

Synopsis

```
sendfile -f filename -h remote-system -d remote-directory -u user [--passwd password] [-s] [-k keyfile] [--help]
```

Description

sendfile transfer a file from the HMC to a remote system using File Transfer Protocol. Optionally allows Secure FTP over an encrypted ssh transport to be used. When selecting the secure ftp option, user have the option to specify an identity key file, generated by the ssh-keygen command for public key authentication. If the matching public key file resides on the remote system, and the passphrase is empty, no password will be prompted.

Options

- f** The file name to transfer.
- h** The remote system name. An IP address can also be specified.
- d** The directory on the remote system to put the file.
- u** The user name on the remote system.
- passwd** The user's password on the remote system. If not specified, the password will be prompted.
- s** Specify the option to use Secure File Transfer Protocol.
- k** Specify the identity key file for public key authentication. This is the key file generated by the ssh-keygen command. If the public key file is deployed on the remote system, and the passphrase is empty, the password will not be prompted during secure file transfer.
- help** Prints help message.

startdump

Start dump.

Synopsis

startdump {-m *managed-system* | -e *managed-frame*} -t {pss | sp | sys} [-s {a | b | p | s}] [--help]

Description

startdump initiates a dump on the *managed-system* or the *managed-frame*.

The **lsdump** command can be used to determine when the dump has completed and is available. The **getdump** command can then be used to offload the dump from the *managed-system* or the *managed-frame* to the Hardware Management Console (HMC).

Options

- m** The name of the managed system on which to initiate the dump. The name may either be the user-defined name for the managed system, or be in the form *ttt-mmm*sssssss*, where *ttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *ttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.

This option is required when initiating a service processor dump or a platform dump. This option is not valid otherwise.
- e** The name of the managed frame on which to initiate the dump. The name may either be the user-defined name for the managed frame, or be in the form *ttt-mmm*sssssss*, where *ttt* is the type, *mmm* is the model, and *sssssss* is the serial number of the managed frame. The *ttt-mmm*sssssss* form must be used if there are multiple managed frames with the same user-defined name.

This option is required when initiating a power subsystem dump. This option is not valid otherwise.
- t** The dump to initiate. Valid values are **pss** for a power subsystem dump, **sp** for a service processor dump, or **sys** for a platform dump.

When a service processor dump is started on the primary service processor, all communications between the HMC and the *managed-system* will be halted. When the dump has completed, communications will be resumed.

When a platform dump is started, the *managed-system* will be halted. When the dump has completed, the *managed-system* will be restarted.
- s** When initiating a power subsystem dump, use this option to specify the side of the managed frame's bulk power assembly (BPA) on which to initiate the dump. Valid values are **a** for side A and **b** for side B.

When initiating a service processor dump, use this option to specify the service processor on which to initiate the dump. Valid values are **p** for the primary service processor and **s** for the secondary service processor. If this option is not specified, the service processor dump will be initiated on the primary service processor.
- help** Display the help text for this command and exit.

updhmc

Update code on the Hardware Management Console.

Synopsis

```
updhmc -t {m | s | l} [-h ftp-server -u user-id [-p password | -i]] [-f patch-file] [-r] [-c] [--help]
```

Description

updhmc updates code on the Hardware Management Console (HMC). This command performs the equivalent of the Install Corrective Service task under Licensed Internal Code Maintenance/HMC Code Update on the console.

Options

- t** The source type to update from. Valid values are:
 - m** - media
 - s** - server
 - l** - local file system. This is only valid when specifying **-f** and the file is on the local file system.
- h** Host name or IP address of the FTP server where the patch file is located. Only valid when **s** is specified on the **-t** flag.
- u** User ID to use on the FTP server.
- p** Password to use on the FTP server. The password will be in clear text. When running the command interactively, use the **-i** parameter for entering a password without echo.
- i** Prompts for password. Password will be hidden.
- f** File on the FTP server to obtain, or locally.
- r** Reboot HMC after applying the update.
- c** Remove the file from the local file system after the installation.
- help** Display the help text for this command and exit.

updlc

Update Licensed Internal Code (LIC).

Synopsis

To retrieve, install, and activate LIC updates on a managed system:

```
updlc -o a -m managed-system -t {sys | power | syspower | io | all} -r {ibmretain | ibmwebsite | ftp | dvd | disk | mountpoint} -l {latest | latestconcurrent | sss | ccc,ppp} [-h host-name] [-u user-ID] [--passwd password] [-d directory] [-q]
```

To retrieve and install, but not activate LIC updates on a managed system:

```
updlc -o i -m managed-system -t {sys | power | syspower | io | all} -r {ibmretain | ibmwebsite | ftp | dvd | disk | mountpoint} -l {latest | latestconcurrent | sss | ccc,ppp} [-h host-name] [-u user-ID] [--passwd password] [-d directory] [-q]
```

To remove the most recently installed LIC updates and activate the previously accepted level on a managed system:

updlc -o r -m *managed-system* -t syspower [-q]

To change a managed system's LIC update control to the Hardware Management Console (HMC):

updlc -o h -m *managed-system*

To change a managed system's LIC update control to Operating System:

updlc -o o -m *managed-system*

To disruptively activate LIC updates on a managed system:

updlc -o d -m *managed-system* [-q]

To accept currently activated LIC updates on a managed system:

updlc -o c -m *managed-system*

To reject installed LIC updates on a managed system:

updlc -o j -m *managed-system*

To upgrade Licensed Internal Code to a new release on a managed system:

updlc -o u -m *managed-system* -r {ibmretain | ibmwebsite | ftp | dvd | mountpoint} [-h *host-name*] [-u *user-ID*] [--passwd *password*] [-d *directory*] [-q]

To check system readiness on a managed system:

updlc -o k -m *managed-system*

To retrieve, install, and activate LIC updates on all High Performance Switches managed by the HMC:

updlc -o a -w -r {ibmretain | ibmwebsite | ftp | dvd | disk | mountpoint} -l {latest | latestconcurrent | sss | ccc,ppp} [-h *host-name*] [-u *user-ID*] [--passwd *password*] [-d *directory*] [-q]

To retrieve and install, but not activate LIC updates on all High Performance Switches managed by the HMC:

updlc -o i -w -r {ibmretain | ibmwebsite | ftp | dvd | disk | mountpoint} -l {latest | latestconcurrent | sss | ccc,ppp} [-h *host-name*] [-u *user-ID*] [--passwd *password*] [-d *directory*] [-q]

To remove the most recently installed LIC updates and activate the previously accepted level on all High Performance Switches managed by the HMC:

updlc -o r -w [-q]

To disruptively activate LIC updates on all High Performance Switches managed by the HMC:

updlc -o d -w [-q]

To accept currently activated LIC updates on all High Performance Switches managed by the HMC:

updlc -o c -w

To reject installed LIC updates on all High Performance Switches managed by the HMC:

updlic -o j -w

To upgrade Licensed Internal Code to a new release on all High Performance Switches managed by the HMC:

updlic -o u -w -r {ibmretain | ibmwebsite | ftp | dvd | mountpoint} [-h *host-name*] [-u *user-ID*] [--passwd *password*] [-d *directory*] [-q]

To check system readiness on all High Performance Switches managed by the HMC:

updlic -o k -w

Description

updlic updates Licensed Internal Code (LIC) on the *managed-system* or on all High Performance Switches managed by this Hardware Management Console (HMC).

Options

- o** The operation to perform. Valid values are **a**, **i**, **r**, **h**, **o**, **d**, **c**, **j**, **u**, and **k**.
 - Use the **a** operation to retrieve, install, and activate LIC updates. Previously activated updates will be automatically accepted.
 - Use the **i** operation to retrieve and install, but not activate, LIC updates.
 - Use the **r** operation to remove the most recently installed LIC updates and activate the previously accepted level. This operation is only valid when the LIC type is both Managed System and Power.
 - Use the **h** operation to change LIC update control to the Hardware Management Console (HMC). This option is only valid for a managed system.
 - Use the **o** operation to change LIC update control to Operating System. This option is only valid for a managed system.
 - Use the **d** operation to disruptively activate LIC updates.
 - Use the **c** operation to accept currently activated LIC updates (copy T to P).
 - Use the **j** operation to reject installed LIC updates (copy P to T).
 - Use the **u** operation to upgrade Licensed Internal Code to a new release.
 - Use the **k** operation to check system readiness for LIC operations.
- m** The name of the managed system on which to update LIC. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- w** Update LIC on all High Performance Switches managed by the HMC.
- t** The type(s) of LIC updates to install. Valid values are **sys** for Managed System LIC updates only, **power** for Power LIC updates only, **syspower** for both Managed System and Power LIC updates, **io** for I/O LIC updates only, or **all** for Managed System, Power, and I/O LIC updates. This option is only valid for a managed system.
 - This option is required for **a** and **i** operations, and is optional for the **r** operation. This option is not valid otherwise.
- l** The LIC level to retrieve. Valid values are **latest**, **latestconcurrent**, *sss*, or *ccc.ppp*.

This option is required for **a** and **i** operations. This option is not valid otherwise.

Specify **latest** to retrieve the latest LIC updates, even if disruptive.

Specify **latestconcurrent** to retrieve the latest concurrent LIC updates.

Specify **sss** to retrieve a specific level of Managed System or Power LIC updates, even if disruptive. **sss** is the three character identifier of the specific level to retrieve. This is only valid when the LIC type is either Managed System only or Power only.

Specify **ccc,ppp** to retrieve a specific level of Managed System and Power LIC updates, even if disruptive. **ccc** is the three character identifier of the specific level of Managed System LIC updates to retrieve. **ppp** is the three character identifier of the specific level of Power LIC updates to retrieve. This is only valid when the LIC type is both Managed System and Power.

- r** The repository from which to retrieve the LIC updates. Valid values are **ibmretain** for the IBM support system, **ibmwebsite** for the IBM service Internet site, **ftp** for a remote FTP site, **dvd** for the DVD drive on the Hardware Management Console (HMC), **disk** for the internal hard disk drive on the HMC, or **mountpoint** for the specified mountpoint.

This option is required for **a**, **i**, and **u** operations. This option is not valid otherwise.

- h** The host name or IP address of the remote FTP server.

This option is required when retrieving LIC updates from a remote FTP site. This option is not valid otherwise.

- u** The user ID to use to log in to the remote FTP site.

This option is required when retrieving LIC updates from a remote FTP site. This option is not valid otherwise.

--passwd

The password to use to log in to the remote FTP site. If this option is omitted, you will be prompted to enter the password.

This option is only valid when retrieving LIC updates from a remote FTP site.

- d** The mountpoint location or the directory to use on the remote FTP site. If this option is not specified for FTP, then the **/opt/ccfw/data** directory will be used.

This option is only valid when retrieving LIC updates from a mountpoint or a remote FTP site.

- q** Use this option to query the concurrency status of the specified update. The update is not performed when this option is specified.

This option allows you to determine if the specified update is disruptive. If so, you can shut down operating systems or configure I/O devices offline prior to performing the specified update.

When this option is used with **-m**, one of the following return codes will be returned:

- 0 - no updates are available.
- 1 - all updates are concurrent.
- 2 - Managed System and Power updates are concurrent. I/O updates are disruptive.
- 3 - Managed System and Power updates are disruptive. I/O updates are concurrent.
- 4 - all updates are disruptive.

Any other return code value indicates that an error occurred.

When this option is used with **-w**, one of the following return codes will be returned:

- 0 - no updates are available
- 1 - all updates are concurrent
- 4 - all updates are disruptive

Any other return code value indicates that an error occurred.

When this option is not used, a return code value of zero indicates success. Any other value indicates that an error occurred.

--help Display the help text for this command and exit.

viosvr cmd

Issue virtual I/O server command.

Synopsis

viosvr cmd **-m** *managed-system* **{-p** *partition-name* **|** **--id** *partition-ID* **}** **-c** "*command*" **[--help]**

Description

viosvr cmd issues an I/O server command line interface (ioscli) command to a virtual I/O server partition.

The ioscli commands are passed from the Hardware Management Console (HMC) to the virtual I/O server partition over an RMC session. RMC does not allow interactive execution of ioscli commands.

Options

- m** The name of the managed system which has the virtual I/O server partition to which to issue the command. The name may either be the user-defined name for the managed system, or be in the form *tttt-mmm*sssssss*, where *tttt* is the machine type, *mmm* is the model, and *sssssss* is the serial number of the managed system. The *tttt-mmm*sssssss* form must be used if there are multiple managed systems with the same user-defined name.
- p** The name of the virtual I/O server partition to which to issue the command.
You must either use this option to specify the name of the partition, or use the **--id** option to specify the partition's ID. The **-p** and the **--id** options are mutually exclusive.
- id** The ID of the virtual I/O server partition to which to issue the command.
You must either use this option to specify the ID of the partition, or use the **-p** option to specify the partition's name. The **--id** and the **-p** options are mutually exclusive.
- c** The I/O server command line interface (ioscli) command to issue to the virtual I/O server partition.
command must be enclosed in double quotes. Also, *command* cannot contain the semicolon (;), greater than (>), or vertical bar (|) characters.
- help** Display the help text for this command and exit.

Appendix E. Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

The following list includes the major accessibility features:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers
- Keys that are tactilely discernible and do not activate just by touching them
- Industry-standard devices for ports and connectors
- The attachment of alternative input and output devices

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