Integrated Virtualization Manager

ESCALA Power7

BULL

ESCALA Models Reference

The ESCALA Power7 publications concern the following models:

Bull Escala E1-700 / E3-700	(31E/2B ,8231-E2B)
Bull Escala E1-705	(31E/1C, 8231-E1C)
Bull Escala E1-715	(31E/1D, 8231-E1D)
Bull Escala E3-705	(31E/2C, 8231-E2C)
Bull Escala E3-715	(31E/2D, 8231-E2D)
Bull Escala E2-700 / E2-700T	(02E/4B, 8202-E4B)
Bull Escala E2-705 / E2-705T	(02E/4C, 8202-E4C)
Bull Escala E2-715 / E2-715T	(02E/4D, 8202-E4D)
Bull Escala E4-700 / E4-700T	(05F/6B, 8205-E6B)
Bull Escala E4-705	(05E/6C, 8205-E6C)
Bull Escala E4-715	(05E/6D, 8205-E6D)
Bull Escala E5-700	(33E/8B, 8233-E8B)
Bull Escala E5-715	(08E/8D, 8408-E8D)
Bull Escala M5-715	(09R/MD, 9109-RMD)
Bull Escala M6-700	(17M/MB, 9117-MMB)
Bull Escala M6-705	(17M/MC, 9117-MMC)
Bull Escala M6-715	(17M/MD, 9117-MMD)
Bull Escala M7-700	(79M/HB, 9179-MHB)
Bull Escala M7-705	(79M/HC, 9179-MHC)
Bull Escala M7-715	(79M/HD, 9179-MHD)
Bull Escala H9-700	(19F/HB, 9119-FHB)

References to 8236-E8C models are irrelevant.

Hardware

February 2013

Trademarks and Acknowledgements

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Contents

Integrated Virtualization Manager

You can use the Integrated Virtualization Manager (IVM), a component of the PowerVM® Editions hardware feature, to manage your Virtual I/O Server and client logical partitions.

The Integrated Virtualization Manager (IVM) provides a Web-based system management interface and a command-line interface that you can use to manage some servers and some blade servers that use the Virtual I/O Server. On the managed system, you can create logical partitions, manage virtual storage and virtual Ethernet, and view service information related to the server. The IVM is included with the Virtual I/O Server, but it is available and usable only on certain platforms, and where no Hardware Management Console (HMC) is present.

If you install the Virtual I/O Server on a supported server, and if there is no HMC attached to the server when you install the Virtual I/O Server, then the IVM is enabled on that server. You can then use the IVM to configure the managed system through the Virtual I/O Server.

For information about using the Virtual I/O Server on a system that is managed by the HMC, see Installing the Virtual I/O Server and client logical partitions.

Whats new in Integrated Virtualization Manager

Read about new or changed information for Integrated Virtualization Manager (IVM) since the previous update of this topic collection.

March 2013
- Added information about the 7/40 (02E/4D), 7/40 (05E/6D), 7/10 (31E/1D), 7/20 (31E/2D), and 7/50 (08E/8D) servers.

October 2011
- Added information about the 7/10 (31E/1C), 7/20 (02E/4C), 7/30 (31E/2C), and 7/40 (05E/6C) servers.

May 2011
- Added information about the BladeCenter® PS/703 and BladeCenter PS/704 servers.

September 2010
- Added information about the 7/10 (31E/2B) and 7/30 (31E/2B), 7/20 (02E/4B), and 7/40 (05F/6B) servers.

March 2010
- Added information about IBM® 7/50 (33E/8B) server.
- Added detailed version information to "Operating system support for logical partitions on POWER7 processor-based servers that are managed by the Integrated Virtualization Manager" on page 5.

February 2010

Added information about IBM Power Systems™ servers that contain the POWER7® processor.

Partitioning with the Integrated Virtualization Manager

The *Integrated Virtualization Manager* is a browser-based system management interface for the Virtual I/O Server. The Integrated Virtualization Manager provides you with the ability to create and manage logical partitions on a single server.

Virtual I/O Server is software that provides virtual storage and shared Ethernet resources to the other logical partitions on the managed system. Virtual I/O Server is not a general purpose operating system that can run applications. Virtual I/O Server is installed on a logical partition in the place of a general purpose operating system, and is used solely to provide virtual I/O resources to other logical partitions with general purpose operating systems. You use the Integrated Virtualization Manager to specify how these resources are assigned to the other logical partitions.

To use the Integrated Virtualization Manager, you must first install Virtual I/O Server on an unpartitioned server. Virtual I/O Server automatically creates a logical partition for itself, which is called the *management partition* for the managed system. The management partition is the Virtual I/O Server logical partition that controls all of the physical I/O resources on the managed system. After you install Virtual I/O Server, you can configure a physical Ethernet adapter on the server so that you can connect to the Integrated Virtualization Manager from a computer with a Web browser.

The following figure illustrates an systems server or an BladeCenter blade server with Power Architecture® technology. The Virtual I/O Server is in its own logical partition, and the client logical partitions are managed by the Virtual I/O Server logical partition. The browser on the PC connects to the Integrated Virtualization Manager interface over a network, and you can use the Integrated Virtualization Manager to create and manage the logical partitions on the server.
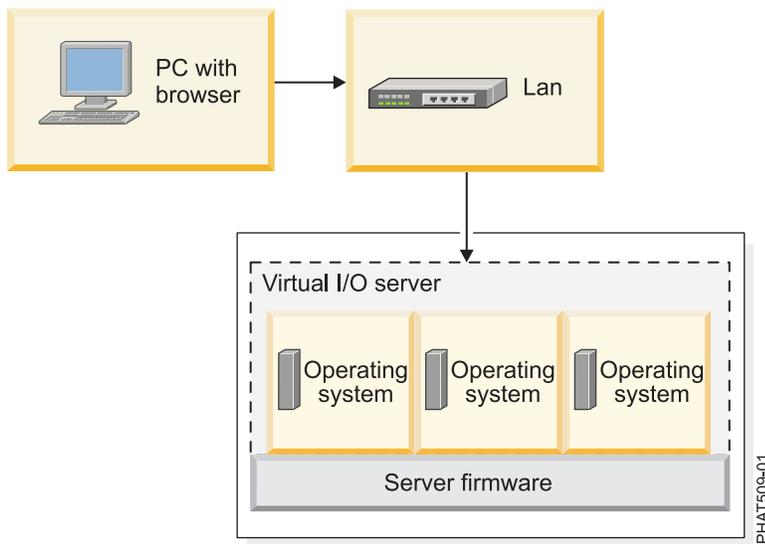
Resource assignment

When you use the Integrated Virtualization Manager to create logical partitions, you can assign memory and processor resources directly to logical partitions. If a logical partition uses dedicated processors, you specify the exact number of dedicated processors for the logical partition to use. If a logical partition uses shared processors, you can specify the number of virtual processors for the logical partition, and the Integrated Virtualization Manager calculates the number of processing units it assigns to the logical partition based on the number of virtual processors. If the logical partition uses dedicated memory, you can specify the amount of physical memory for the logical partition to use. If the logical partition uses shared memory, you can specify the amount of logical memory for the logical partition to use. In all cases, the amount of resources that you assign to a logical partition is committed to the logical partition

from the time that you create the logical partition until the time that you change this amount or delete the logical partition. You cannot overcommit processor and memory resources to logical partitions by using the Integrated Virtualization Manager.

A logical partition that is created by using the Integrated Virtualization Manager has minimum and maximum processor values. The minimum and maximum values are used when you use a workload management application on the managed system, when you restart the managed system after a processor failure, or when you dynamically move resources to or from the Virtual I/O Server management partition. By default, the minimum and maximum values are set to the same value as the actual amount of committed resources. You can change the minimum and maximum processor values at any time.

A logical partition that is created by using the Integrated Virtualization Manager has minimum and maximum memory values. For logical partitions that are configured to use dedicated memory, these values refer to physical memory. The minimum and maximum values are used when you use a workload management application on the managed system, when you restart the managed system, or when you dynamically move memory to or from the Virtual I/O Server management partition. For logical partitions that are configured to use shared memory, these values refer to logical memory. The minimum and maximum values are used when you use a workload management application on the managed system, when you restart the managed system, or when you dynamically add or remove memory to or from a logical partition that uses shared memory. For logical partitions that are configured to use either dedicated or shared memory, you can change the minimum and maximum memory values only while the logical partition is not running.

When you use the Integrated Virtualization Manager to create logical partitions on your managed system, a fraction of the memory and a fraction of the processors on the managed system are assigned to the Virtual I/O Server management partition. If desired, you can change the memory and processor resources that are assigned to the management partition to match your Virtual I/O Server workload. Physical disks can be assigned directly to logical partitions, or they can be assigned to storage pools, and virtual disks (or logical volumes) can be created from these storage pools and assigned to logical partitions. Physical Ethernet connections are generally shared by configuring the physical Ethernet adapter as a virtual Ethernet bridge between the virtual LAN on the server and an external, physical LAN.

Related concepts:

"Supported server models for Integrated Virtualization Manager" on page 4
The Integrated Virtualization Manager is available as part of the PowerVM Editions for use on certain server models.

"Operating system support for logical partitions on POWER7 processor-based servers that are managed by the Integrated Virtualization Manager" on page 5
The Integrated Virtualization Manager (IVM) supports a number of operating systems for client logical partitions.

Planning for the Integrated Virtualization Manager

Develop a plan for setting up a server that is managed by the Integrated Virtualization Manager (IVM).

About this task

Proper planning is essential for the successful setup and use of your server. When you install the Integrated Virtualization Manager (IVM), it automatically creates a logical partition for itself on the server. This logical partition is called the *management partition*. The IVM automatically assigns a fraction of the memory and processors on the server to the management partition. You can change the default amount of memory and processor resources that are assigned to the management partition.

You need to develop a plan that includes information such as the following:

- System resource requirements for the management partition. The system resource requirements for the management partition can depend on many factors. These factors can include the server model, the number of logical partitions that you create on the managed system, and the number of virtual devices used by those logical partitions.
- Storage needs of each logical partition that you are to create on your managed system. Calculate how much storage space each logical partition requires for its operating system, applications, and data. For more information about the storage requirements for each operating system, consult the operating system documentation.

Use the following information resources to help you create a system plan for your server:
- Planning for the Virtual I/O Server.

  Note: Although this information is focused on planning for the Virtual I/O Server (VIOS) on a system that is managed by a Hardware Management Console (HMC) most of the information also applies to planning for the VIOS on a system that is managed by the IVM.

Supported server models for Integrated Virtualization Manager

The Integrated Virtualization Manager is available as part of the PowerVM Editions for use on certain server models.

The Integrated Virtualization Manager is included in the PowerVM Express Edition, the PowerVM Standard Edition, and the PowerVM Enterprise Edition.

The Integrated Virtualization Manager version 2.1.2, or later, is available for the following server models:
- 02E/4B
- 02E/4C
- 02E/4D
- 05F/6B
- 05E/6C
- 05E/6D
- 31E/2B
- 31E/1C
- 31E/2C
- 31E/1D
- 31E/2D
- 33E/8B
- 08E/8D
- BladeCenter PS/700
- BladeCenter PS/701
- BladeCenter PS/702
- BladeCenter PS/703
- BladeCenter PS/704

Related concepts:

"Operating system support for logical partitions on POWER7 processor-based servers that are managed by the Integrated Virtualization Manager"
The Integrated Virtualization Manager (IVM) supports a number of operating systems for client logical partitions.

Operating system support for logical partitions on POWER7 processor-based servers that are managed by the Integrated Virtualization Manager

The Integrated Virtualization Manager (IVM) supports a number of operating systems for client logical partitions.

The following information applies to IVM Version 2.1.2, and later.

On servers with POWER7 processor-based technology, you can install the following operating systems on logical partitions that you create by using the IVM.

Table 1. Minimum operating system versions required for logical partitions on POWER7 processor-based servers that are managed by the IVM

POWER7 processor-based servers	Minimum operating system versions
02E/4B 02E/4C 05F/6B 05E/6C 31E/2B 31E/1C 31E/2C 33E/8B - BladeCenter PS/700 - BladeCenter PS/701 - BladeCenter PS/702 - BladeCenter PS/703 - BladeCenter PS/704	AIX To view specific AIX® versions for your server, complete the following steps: 1. Go to the Fix Level Recommendation tool (FLRT) website: http://www14.software.ibm.com/webapp/set2/flrt/home. 2. In the Select your OS family section, select **AIX**. 3. In the Select products and enter version information section, select your server. 4. Select the GHz of your server. 5. Select **AIX**. The AIX field displays the AIX versions that are supported on the selected server. AIX version numbers are displayed as *xxxx-yy-zz*, where *xxxx* is the release, *yy* is the technology level, and *zz* is the service pack.
02E/4B 02E/4C 05F/6B 05E/6C 31E/2B 31E/1C 31E/2C 33E/8B - BladeCenter PS/700 - BladeCenter PS/701 - BladeCenter PS/702 - BladeCenter PS/703 - BladeCenter PS/704	SUSE Linux Enterprise Server 11 Service Pack 1
08E/8D	SUSE Linux Enterprise Server 11 Service Pack 3

Table 1. Minimum operating system versions required for logical partitions on POWER7 processor-based servers that are managed by the IVM (continued)

POWER7 processor-based servers	Minimum operating system versions
• 02E/4C • 02E/4D • 05E/6C • 05E/6D • 31E/1C • 31E/1D • 31E/2C • 31E/2D • BladeCenter PS/703 • BladeCenter PS/704	SUSE Linux Enterprise Server 10 Service Pack 4
• 02E/4B • 05F/6B • 31E/2B • 33E/8B • BladeCenter PS/700 • BladeCenter PS/701 • BladeCenter PS/702	SUSE Linux Enterprise Server 10 Service Pack 3
• 02E/4B • 05F/6B • 31E/2B • 33E/8B • BladeCenter PS/700 • BladeCenter PS/701 • BladeCenter PS/702	Red Hat Enterprise Linux Version 5.5
• BladeCenter PS/703 • BladeCenter PS/704	Red Hat Enterprise Linux Version 5.6
• 02E/4C • 05E/6C • 31E/1C • 31E/2C	Red Hat Enterprise Linux Version 5.7
• 08E/8D	Red Hat Enterprise Linux Version 5.8
• 02E/4B • 05F/6B • 31E/2B • 33E/8B • BladeCenter PS/700 • BladeCenter PS/701 • BladeCenter PS/702 • BladeCenter PS/703 • BladeCenter PS/704	Red Hat Enterprise Linux Version 6

Table 1. Minimum operating system versions required for logical partitions on POWER7 processor-based servers that are managed by the IVM (continued)

POWER7 processor-based servers	Minimum operating system versions
• 02E/4C • 05E/6C • 31E/1C • 31E/1D • 31E/2C • 31E/2D	Red Hat Enterprise Linux Version 6.1
• 08E/8D	Red Hat Enterprise Linux Version 6.3

Related concepts:

"Supported server models for Integrated Virtualization Manager" on page 4
The Integrated Virtualization Manager is available as part of the PowerVM Editions for use on certain server models.

Installing the Integrated Virtualization Manager

Install the Virtual I/O Server management partition on an server or an BladeCenter blade server. Then, connect to the Integrated Virtualization Manager Web-based interface.

Installing the Virtual I/O Server and enabling the Integrated Virtualization Manager on servers

When you install the Virtual I/O Server in an environment where no Hardware Management Console (HMC) is present, the Virtual I/O Server automatically creates a management partition whose interface is the Integrated Virtualization Manager.

Before you begin

Before you start, ensure that you have completed the following tasks:

1. Verify that you have cabled the server. Specifically, ensure that you have connected a serial cable from a PC or ASCII terminal to a system port on the server.
2. Verify that the system has a 512–byte disk drive available for the installation. The Virtual I/O Server recognizes only 512–byte disk drives.
3. Verify that you have access to the Advanced System Management Interface (ASMI) by using the Web interface.
4. Verify that you have administrator or authorized service provider authority in ASMI.
5. Using the Web-based ASMI, change the following settings as appropriate for the type of partition on which you are installing the Integrated Virtualization Manager:

   For an AIX or Linux partition, complete the following steps to change the partition boot mode:

   a. In the navigation area, expand **Power/Restart Control**.
   b. Click **Power On/Off System**.
   c. Select **Boot to SMS menu** in the **AIX or Linux partition mode** by boot field.
   d. Click **Save settings and power on**.
6. Open a terminal session on the PC, using an application such as HyperTerminal, and wait for the SMS menu to appear. Be sure that the line speed is set to 19,200 bits per second to communicate with the system unit.
7. Using the Web-based ASMI, change the partition boot mode back so that the server loads the operating environment during startup:

a. Expand **Power/Restart Control**.

b. Click **Power On/Off System**.

c. Select **Continue to operating system** in the **AIX or Linux partition mode** boot field.

d. Click **Save settings**.

About this task

To install the Virtual I/O Server and enable the Integrated Virtualization Manager, complete the following steps:

Procedure

1. Insert the *Virtual I/O Server* CD or DVD into the optical drive.

2. In SMS, select the CD or DVD as the boot device:

   a. Select **Select Boot Options**, and press Enter.

   b. Select **Select Install/Boot Device**, and press Enter.

   c. Select **CD/DVD**, and press Enter.

   d. Select the media type that corresponds to the optical device, and press Enter.

   e. Select the device number that corresponds to the optical device, and press Enter.

   f. Select **Normal Boot**, and confirm that you want to exit SMS.

3. Install the Virtual I/O Server:

   a. Select the console, and press Enter.

   b. Select a language for the BOS menus, and press Enter.

   c. Select **Start Install Now with Default Settings**.

   d. Select **Continue with Install**. The managed system restarts after the installation is complete, and the login prompt is displayed on the ASCII terminal.

What to do next

After you install the Integrated Virtualization Manager, finish the installation by accepting the license agreement, checking for updates, and configuring the TCP/IP connection. For instructions, see Finishing the Integrated Virtualization Manager installation.

Installing the Virtual I/O Server and enabling the Integrated Virtualization Manager on a blade server with Power Architecture technology

When you install the Virtual I/O Server on a blade server with Power Architecture technology, the firmware automatically creates a management partition whose interface is the Integrated Virtualization Manager.

Before you begin

Before you start, ensure that you have completed the following tasks:

1. Start a Telnet or SSH session to the blade server management module.

2. Start a Serial over LAN (SOL) session.

3. Start the System Management Services (SMS) utility. For instructions, see Starting system management services.

About this task

To install the Virtual I/O Server and enable the Integrated Virtualization Manager, complete the following steps:

Procedure

1. Insert the Virtual I/O Server CD or DVD into the optical drive.
2. Assign the media tray to the blade server on which you plan to install the Virtual I/O Server:
   a. From the management module Web interface, select **Blade Tasks** > **Remote Control**.
   b. Select **Start Remote Control**.
   c. In the Change media tray owner field, select the blade server on which you plan to install the Virtual I/O Server.

   Alternatively, you can assign the media try to the blade server by using the control panel.
3. In SMS, select the CD or DVD as the boot device:
   a. Select **Select Boot Options**, and then press Enter.
   b. Select **Select Install/Boot Device**, and then press Enter.
   c. Select **List all Devices**, and then press Enter.
   d. Select the device number that corresponds to the optical device, and then press Enter.
   e. Select **Normal Boot Mode**, and then press Enter.
   f. Exit the SMS menu by pressing the x key, and confirm that you want to exit SMS.
4. Install the Virtual I/O Server:
   a. Select the console, and then press Enter.
   b. Select a language for the BOS menus, and then press Enter.
   c. Select **Change/Show Installation Settings and Install**, and then press Enter.
   d. Select **1** to verify that Disk Where You Want to Install field is set appropriately. Verify the actual location code (for example, 01-08-00-1,0) of the target hard disk. The logical name for the hard disks (for example, hdisk0) that is displayed in this menu can be different from the logical name for the same hard disk that is listed within the Virtual I/O Server (for example, from the **lspv** command) that runs on the same machine. This can happen when you add disks after you install the Virtual I/O Server.
   e. Return to the Installation and Maintenance menu and select **Start Install Now with Default Settings**.
   f. Select **Continue with Install**. The managed system restarts after the installation is complete, and the login prompt is displayed on the ASCII terminal.

What to do next

After you install the Integrated Virtualization Manager, finish the installation by accepting the license agreement, checking for updates, and configuring the TCP/IP connection. For instructions, see Finishing the Integrated Virtualization Manager installation.

Finishing the Integrated Virtualization Manager installation

After you install the Integrated Virtualization Manager (IVM), you need to accept the license agreement, check for updates, configure the TCP/IP connection.

Before you begin

This procedure assumes that the IVM is installed. For instructions, see "Installing the Virtual I/O Server and enabling the Integrated Virtualization Manager on servers" on page 7 or "Installing the Virtual I/O

Server and enabling the Integrated Virtualization Manager on a blade server with Power Architecture technology" on page 8.

About this task

To finish the installation, complete the following steps:

Procedure

1. Log in to the management partition with the user ID **padmin**.
2. When prompted, change the login password to a secure password that adheres to your local password-security guidelines.
3. Accept the Virtual I/O Server license agreement by using the `license` command. For more information about using this command, see Virtual I/O Server and IVM commands.
4. Ensure that there is a network connection configured between the management partition and at least one of the physical Ethernet adapters on the managed system. This allows you to access the IVM interface from a computer that is connected to the physical Ethernet adapter. You cannot use the HMC1 and HMC2 ports to connect to the management partition.
5. Configure the TCP/IP connection for the Virtual I/O Server management partition by using the `mktcpip` command. For example: `mktcpip -hostname fred -inetaddr 9.5.4.40 -interface en0 -start -netmask 255.255.255.128 -gateway 9.5.4.1 -nsrvaddr 9.10.244.200 -nsrvdomain austin.century.com` You must configure TCP/IP before you can perform any dynamic logical partitioning operations. IVM version 1.5.2, and later, supports the use of IPv6 addresses. For more information about using the `mktcpip` command, see Virtual I/O Server and IVM commands.
6. Connect to the Web interface or the command-line interface. For instructions, see one of the following tasks:
   - Connecting to the IVM Web-based interface
   - Connecting to the Virtual I/O Server command-line interface
7. Check for updates to the IVM. For instructions, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

What to do next

When you are finished, configure the management partition and client logical partitions. For instructions, see "Configuring the management partition and client logical partitions" on page 11.

Related information:

➡ Viewing and accepting the Virtual I/O Server license

Connecting to the Integrated Virtualization Manager Web-based interface

Learn how to connect to the Web-based system management interface for the Integrated Virtualization Manager.

Before you begin

You must know the IP address that is assigned to the Integrated Virtualization Manager.

About this task

To connect to the Web-based interface for the Integrated Virtualization Manager, perform the following:

Procedure

1. Open a Web browser window, and connect using the HTTP or HTTPS protocol to the IP address that was assigned to the Integrated Virtualization Manager during the installation process. For example, enter `https://123.456.7.890` in your Web browser, where *123.456.7.890* is the IP address assigned to the Integrated Virtualization Manager. The Welcome window is displayed.

2. Enter the default user ID of **padmin**, and enter the password that you defined during the installation process. The Integrated Virtualization Manager interface is displayed.

What to do next

For information about the Web-based interface navigation, see the online help for the Integrated Virtualization Manager.

Connecting to the Virtual I/O Server command-line interface

Learn how to connect to the Virtual I/O Server command-line interface, which allows you to use commands for the Integrated Virtualization Manager.

About this task

Connect to the Virtual I/O Server command-line interface by using one of the following methods:

Open a virtual terminal session to the management partition
> For instructions, see Opening a virtual terminal session for a logical partition.

Telnet You can use Telnet to connect to the command-line interface. Telnet does not provide a secure connection to the Virtual I/O Server. Therefore, use Telnet only if the Ethernet adapter that you have configured to access the management partition is physically isolated from networks that are not secure.

OpenSSL or Portable OpenSSH
> You can use OpenSSL or Portable SSH to securely connect to the Virtual I/O Server from a remote location. For instructions, see Connecting to the Virtual I/O Server using OpenSSH.

Configuring the management partition and client logical partitions

You can configure virtual resources on the management partition and create the client logical partitions and partition profiles.

Before you begin

These instructions apply to configuring a system that is managed by the Integrated Virtualization Manager (IVM). If you are installing the Virtual I/O Server on a system that is managed by a Hardware Management Console (HMC), use the instructions for installing the Virtual I/O Server and client logical partitions instead.

Before you begin, complete the following tasks:
- Determine the system resource requirements for the Virtual I/O Server management partition. The system resource requirements for the management partition can depend on many factors. These factors can include the server model, the number of logical partitions you create on the managed system, and the number of virtual devices used by those logical partitions.

  When you install the Virtual I/O Server, it automatically creates a logical partition for itself on the server. (This logical partition is called the *management partition*.) The Virtual I/O Server automatically assigns a fraction of the memory and processors on the server to the management partition. You can change the default amount of memory and processor resources that are assigned to the management partition.

  For instructions, see Planning for the Virtual I/O Server.

- Develop a plan for the storage needs of each logical partition that you are to create on your managed system. Calculate how much storage space each logical partition requires for its operating system, applications, and data. For more information about the storage requirements for each operating system, consult the operating system documentation.

Entering the activation code for PowerVM Editions with the Integrated Virtualization Manager

You can enter the activation code for PowerVM Editions by using the Integrated Virtualization Manager.

Before you begin

The code level for the Integrated Virtualization Manager must be at version 2.1.2, or later, to perform the following procedure. To update the Integrated Virtualization Manager, see Viewing and updating the code level of the Integrated Virtualization Manager management partition.

Whether you need to enter an activation code depends on your edition of the PowerVM Editions feature and the hardware on which you plan to enable it. The following table summarizes the requirements.

Table 2. Activation code requirements

PowerVM Editions	Activation code requirements
PowerVM Express Edition	No activation code is required.
PowerVM Standard Edition	The PowerVM Editions activation code is required.
PowerVM Enterprise Edition	The PowerVM Editions activation code is required. **Note:** If you already have the Standard Edition enabled, you must enter a separate, additional activation code for the Enterprise Edition.

For detailed information about the PowerVM Editions feature, see PowerVM Editions overview.

Before you start, verify that you have access to the Integrated Virtualization Manager. For instructions, see Installing the Virtual I/O Server and enabling the Integrated Virtualization Manager on servers.

About this task

To enter the activation code in the Integrated Virtualization Manager, complete the following tasks:

Procedure

1. From the **IVM Management** menu, click **Enter PowerVM Editions Key**. The Enter PowerVM Editions Key window is displayed.
2. In the Enter Key window, enter your activation code for PowerVM Editions and click **Apply**.

Results

You can now create more than two client logical partitions that use virtual I/O server or shared processors.

Changing memory and processor resources on the management partition

You can use the Integrated Virtualization Manager to change the memory and processor resources on the management partition.

Before you begin

Before you start, complete the following tasks:

1. Install the Integrated Virtualization Manager. For instructions, see "Installing the Integrated Virtualization Manager" on page 7.
2. Ensure that your user role is not View Only.

About this task

To change the memory and processor resources on the management partition, complete the following steps:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the management partition (**partition ID 1**).
3. From the **Tasks** menu, click **Properties**. The Partition Properties panel is displayed.
4. Select the **Memory** tab to display the memory settings.
5. Change the minimum, assigned, and maximum pending amounts of memory to the amount of memory that you want the management partition to use. If you are using a workload-management application, you can set the minimum and maximum amounts for the management partition. The assigned amount is the amount of memory that the management partition has initially assigned to it. If you do not anticipate dynamically increasing the memory beyond a certain point, setting the appropriate maximum value can save on reserved firmware memory.

    Note: The management partition must use dedicated memory.
6. Select the **Processing** tab to display the processing settings. Keep the default settings unless you are using a workload-management application.
7. Click **OK** to apply the changes. It might take a few minutes for the managed system to apply the changes. If you changed a minimum or maximum value, restart the system for the changes to take effect.

Setting the maximum number of virtual resources

You can use the Integrated Virtualization Manager (IVM) to set the maximum number of virtual resources that are available on the managed system for use by the Virtual I/O Server. This value determines the maximum number of logical partitions that you can create on the managed system.

Before you begin

Before you start, ensure that your user role is not view only.

About this task

You can set the maximum number of virtual resources that are available on the managed system for use by the Virtual I/O Server, which determines the maximum number of logical partitions that you can create on the managed system. The managed system reserves a small amount of system memory to accommodate the maximum number of logical partitions that you specify.

The value for **Configured maximum virtual resources** is initially set by the firmware level of your managed system. This field displays the maximum number of virtual resources that the firmware currently supports and the corresponding maximum number of logical partitions that you can currently create based on this value. This number is an estimate based on the assumption that each client logical partition will need a large number of virtual resources, for example, 1 virtual Serial adapter, 2 virtual

SCSI adapters, and 2 virtual Fibre Channel adapters. However, if your client logical partitions use the minimum number of virtual resources (for example, 1 virtual Serial adapter and 1 virtual SCSI adapter), you can create more partitions than this number indicates.

The default maximum number of virtual resources for the system is determined by the firmware version of the managed system and the installed version of the Virtual I/O Server. This number is the same as the `max_virtual_slots` command attribute for the Virtual I/O Server partition. You can change this value by changing the value of the **Maximum virtual resources after restart** field. This value takes effect after you restart the entire managed system. You might need to change this value if you are upgrading to the newest firmware version or the newest version of the Virtual I/O Server (2.1). If this is the case, you might need to increase this value to ensure that you have enough virtual slots available for the Virtual I/O Server for assigning new device types, such as physical tape devices or virtual Fibre Channel adapters. For example, you might need to increase this value if you need to configure more virtual Ethernet adapters for the Virtual I/O Server beyond the base 4 that are provided for you. If you want to configure the logical partitions to use shared memory on a system that supports the PowerVM Active Memory™ Sharing technology, you also might need to increase this value.

To set the maximum number of virtual resources, complete the following steps in the IVM Web user interface:

Procedure
1. From the **Partition Management** menu, click **View/Modify System Properties**. The View/Modify System Properties page is displayed.
2. In the **Configured maximum virtual resources** field, verify whether this is the maximum number of virtual resources that you want to allow on this managed system. If it is not, do the following:
   a. Specify the maximum number of virtual resources that you want the server to have available in the **Maximum virtual resources after restart** field, and click **OK**.
   b. Open a virtual terminal session to the management partition. For instructions, see Opening a virtual terminal session for a logical partition.
   c. Restart the system. For instructions, see Shutting down logical partitions. It can take a few minutes for the managed system to restart. Be sure to complete all of the setup steps before restarting the system. Otherwise, you might need to restart the system more than once.

Mirroring the Integrated Virtualization Manager management partition

To prevent potential downtime and data loss, add a second disk to the rootvg storage pool and mirror the two disks.

Before you begin

When you install the Virtual I/O Server, Virtual I/O Server automatically creates a storage pool called rootvg and assigns one physical volume to rootvg. The Virtual I/O Server software (including the Integrated Virtualization Manager) and any data that the Virtual I/O Server software uses initially is stored on the management partition (partition ID 1) on that physical volume. If that disk would fail, you would be unable to manage your client partitions and would suffer downtime and the loss of data. To prevent this kind of interruption to your business, you need to add a second disk to the rootvg storage pool and mirror the two disks.

Before you start, ensure you meet the following requirements:
1. The Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.
2. You are the prime administrator (padmin).

About this task

To mirror the management partition, complete the following steps:

Procedure

1. Add a new physical volume to the rootvg storage pool. For instructions, see "Modifying storage pools using the Integrated Virtualization Manager" on page 42.
2. To mirror the new volume to ensure that the it has all of the software and data that the original volume has, complete the following steps:
   a. Open a virtual terminal window to the management partition. For instructions, see "Opening a virtual terminal session for a logical partition" on page 38.
   b. Sign on to Virtual I/O Server using the padmin user ID and password.
   c. At the command prompt, run the **mirrorios** command as follows:

      mirrorios *Physicalvolume*

      where *Physicalvolume* is the name of the volume that you just added to rootvg.

      Restriction: The **mirrorios** command mirrors only the rootvg storage pool. It does not mirror other volume groups or any virtual disks that are created on rootvg after it is initially mirrored.

Configuring storage on the managed system by using the Integrated Virtualization Manager

You can configure storage on the managed system to meet the storage needs of the logical partitions that you create by using the Integrated Virtualization Manager.

About this task

You can assign storage to logical partitions in the following ways:

- You can assign physical volumes directly to the logical partition. (A *physical volume* is an individual logical unit that is identified by a logical unit number (LUN). A physical volume can be a hard disk or a logical device on a storage area network (SAN).)
- You can add physical volumes or files to a storage pool, create virtual disks from the storage capacity of the storage pool, and assign the virtual disks to logical partitions. Virtual disks allow you to specify more precisely the amount of storage that you assign to logical partitions. You can assign storage to logical partitions without regard to the actual capacities of the physical volumes or files that make up the storage pool.
- You can add a pair of worldwide port names (WWPN) to a client logical partition. You then can assign a physical fibre channel port to the WWPN pair so that the partition can communicate with storage devices in a storage area network (SAN). If the system meets the following requirements, you can configure this type of storage resource:
  – The system supports the use of virtual fibre channel adapters.
  – The system has a physical fibre channel adapter installed that supports N_Port ID Virtualization (NPIV) ports and the physical ports have the required fabric support for NPIV.

Consider creating a storage pool in addition to the default rootvg storage pool for regular data storage, and then assign the new storage pool as the default. You can then add more physical volumes to a storage pool, create virtual disks from a storage pool, and assign these virtual disks to other logical partitions.

If you plan to assign physical volumes directly to logical partitions, you do not need to do anything with the physical volumes. You can assign the physical volumes to the logical partitions when you create the logical partitions.

To configure storage on the managed system, complete the following steps:

Procedure

1. Create a second storage pool for regular data storage. For instructions, see "Creating storage pools."
2. Add additional physical volumes to the default storage pool. For instructions, see "Modifying storage pools using the Integrated Virtualization Manager" on page 42.
3. Create virtual disks from the default storage pool. For instructions, see "Creating virtual disks" on page 17.
4. Configure logical partitions to use virtual Fibre Channel, if supported. For instructions, see "Configuring virtual fibre channel on the Integrated Virtualization Manager" on page 17.

Creating storage pools

You can use the Integrated Virtualization Manager to create a logical volume-based or file-based storage pool on your managed system.

About this task

To create a logical volume-based storage pool, you must assign at least one physical volume to the storage pool. When you assign physical volumes to a storage pool, the managed system erases the information about the physical volumes, divides the physical volumes into physical partitions, and adds the capacity of the physical partitions to the storage pool. Do not add a physical volume to the storage pool if the physical volume contains data that you want to preserve.

To create file-based storage pools, the Integrated Virtualization Manager must be at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

To create a storage pool, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Partitions page is displayed.
2. Select the **Storage Pools** tab.
3. From the **Tasks** menu, click ***Create Storage Pool**. The Create Storage Pool page is displayed.
4. Enter a name for the storage pool and select the storage pool type.
5. Enter or select the information required to create the logical volume-based or file-based storage pool and click **OK** to return to the View/Modify Partitions page.

   Note: The new storage pool appears in the table. If you select one or more physical volumes that might belong to a different volume group, the Integrated Virtualization Manager displays a warning message to indicate that adding them to the new storage pool can result in data loss. To create the new storage pool with the selected physical volumes, select the force option, and then click **OK** to create the new storage pool.

Related tasks:

"Modifying storage pools using the Integrated Virtualization Manager" on page 42
You can use the Integrated Virtualization Manager to extend a storage pool, to reduce or to remove a storage pool, and to assign a storage pool as the default storage pool for the managed system.

"Creating virtual disks"
You can use the Integrated Virtualization Manager to create a virtual disk on your managed system. Virtual disks are also known as *logical volumes*.

Creating virtual disks

You can use the Integrated Virtualization Manager to create a virtual disk on your managed system. Virtual disks are also known as *logical volumes*.

About this task

To create a virtual disk, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage page is displayed.
2. On the **Virtual Disks** tab, click ***Create Virtual Disk**. The Create Virtual Disk page is displayed.
3. Enter a virtual disk name, select a storage pool, and enter a size for the new virtual disk and click **OK**. Integrated Virtualization Manager creates the new virtual disk with your specifications, and the View/Modify Virtual Storage page is displayed.
4. Repeat this procedure for each virtual disk that you want to create.
5. To view or modify the properties of any virtual disks that you created, see "Modifying virtual disks" on page 42.

What to do next

These steps are equivalent to using the **mkbdsp** command in the command-line interface.

If there is not enough disk space for the virtual disk, increase the size of the default storage pool. For instructions, see "Modifying storage pools using the Integrated Virtualization Manager" on page 42

Related tasks:

"Modifying storage pools using the Integrated Virtualization Manager" on page 42
You can use the Integrated Virtualization Manager to extend a storage pool, to reduce or to remove a storage pool, and to assign a storage pool as the default storage pool for the managed system.

"Modifying virtual disks" on page 42
You can use the Integrated Virtualization Manager to view the properties of the virtual disks on your managed system, as well as to start virtual disk management tasks.

Related reference:

➡ mklv Command

Configuring virtual fibre channel on the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to dynamically configure virtual fibre channel on your managed system and to assign physical fibre channel ports to logical partitions.

Before you begin

Assigning a port to a pair of worldwide port names (WWPNs) for a logical partition enables the partition to communicate with storage devices in a storage area network (SAN). The ability to configure this type

of storage resource is available only if the system supports the use of virtual fibre channel adapters and has a physical fibre channel adapter installed and connected that supports N_Port ID Virtualization (NPIV) ports.

A Linux logical partition supports the dynamic addition of virtual fibre channel adapters only if the DynamicRM tool package is installed on the Linux logical partition. To download the DynamicRM tool package, see the Service and productivity tools for Linux on POWER® systems Web site.

To add or remove a worldwide port name (WWPN) pair for a logical partition, the partition must be either in the Not activated state or the Running state. If the partition is in the Running state, the partition must also be capable of dynamic LPAR (DLPAR). To assign a WWPN pair for a partition to a physical port, the partition can be in any state.

To avoid configuring the physical fibre channel adapter to be a single point of failure for the connection between the client logical partition and its physical storage on the SAN, do not assign more than one pair of WWPNs for a client logical partition to the physical ports on the same physical fibre channel adapter. Instead, assign each pair of WWPNs for a logical partition to physical ports on different physical fibre channel adapters.

About this task

To configure a logical partition to use a physical fibre channel port to access a SAN, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partition Properties** under **Partition Management**. The View/Modify Partition Properties page is displayed.
2. Select the logical partition for which you want to create a physical port connection.
3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.
4. Select the **Storage** tab and expand **Virtual Fibre Channel**.
5. Add one or more worldwide port name (WWPN) pairs to the logical partition. This step assigns the WWPN pair to the logical partition and allows you to connect the logical partition to a physical port through the associated WWPN pair. The Integrated Virtualization Manager generates the actual worldwide port names when you complete this task.
6. Select a physical port for the WWPN pair to create a connection to the port for the logical partition. If you want to remove a connection for a physical port from the logical partition, select None for the physical port. You also can remove the WWPN pair from the logical partition by selecting the appropriate WWPN pair and clicking **Remove**.

   Note: If you remove an existing WWPN pair from a logical partition, the worldwide port names associated with the logical partition and the storage area network (SAN) are deleted permanently. The Integrated Virtualization Manager does not reuse them when it generates port names in the future. If you run out of port names, you must obtain a code key to enable an additional prefix and range of port names for use on your system. See the online help for additional information.
7. Click **OK**. If necessary, the Integrated Virtualization Manager generates the required pair of worldwide port names for any new partition connections based on the range of names available for use with the prefix in the vital product data on the managed system. This six digit prefix comes with the purchase of the managed system to enable the generation of a large, but finite, set of worldwide port names for your use. The number of port names initially available on the managed system is 65536. To determine the actual number of port names available on the managed system, use this command: `lshwres -r virtualio --rsubtype fc --level sys -F num_wwpns_remaining`

Results

Integrated Virtualization Manager creates or removes the necessary server and client virtual fibre channel adapters for the selected physical port and the mappings for the server adapter to the selected physical port.

Related tasks:

"Modifying the virtual Fibre Channel on the Integrated Virtualization Manager" on page 44
You can use the Integrated Virtualization Manager to modify the virtual Fibre Channel configuration and the logical partition connections to physical Fibre Channel ports on your managed system.

"Viewing virtual fibre channel connections for a partition on the Integrated Virtualization Manager" on page 45
You can use the Integrated Virtualization Manager to view the information about the partitions that have virtual fibre channel connections on your managed system. When a logical partition is configured to use a virtual fibre channel connection, the partition can communicate with storage devices in a storage area network (SAN).

Related information:

Virtual fibre channel on IVM-managed systems

Configuring Ethernet on the managed system by using the Integrated Virtualization Manager

You can create virtual Ethernet bridges, configure a Host Ethernet Adapter (or Integrated Virtual Ethernet), and assign physical Ethernet adapters to client logical partitions by using the Integrated Virtualization Manager (IVM).

About this task

Note: The IVM creates four default virtual Ethernet adapters on the port virtual LANs 1, 2, 3, and 4. Therefore, you cannot use the IEEE 802.1Q virtual LAN tags on the virtual LANs 1, 2, 3, or 4 with the IVM.

You can configure the following types of Ethernet on your managed system:

- You can create virtual Ethernet bridges on your managed system. Virtual Ethernet bridges, also known as Shared Ethernet Adapters, connect the virtual Ethernet networks on your managed system to physical Local Area Networks (LANs). For greater security, do not set up the physical Ethernet adapter that you use to connect to the management partition as a virtual Ethernet bridge. This permits you to isolate the management partition from all external networks. (The management partition manages the virtual Ethernet networks on your managed system but does not participate in any virtual Ethernet networks.)

  If you configure a single physical Ethernet adapter or link aggregation to connect to the management partition and to act as a virtual Ethernet bridge, consider using OpenSSL and Portable OpenSSH on the management partition. You can use OpenSSL and Portable OpenSSH to connect securely to the Virtual I/O Server from a remote location.

  You do not need to select a physical Ethernet adapter or link aggregation for a virtual Ethernet network. If no physical adapter or link aggregation is set for a virtual Ethernet network, then the logical partitions on the virtual Ethernet network can communicate with one another, but they cannot communicate directly with a physical network.

- You can configure a Host Ethernet Adapter port. A Host Ethernet Adapter is a unique Ethernet adapter that is built into the system. It provides the ability to partition a physical Ethernet port. A Host Ethernet Adapter can contain one or more physical ports and each physical port can be assigned to zero or more logical partitions.

- You can assign a physical Ethernet adapter to a client logical partition.

To configure virtual Ethernet on the managed system, complete the following steps:

Procedure

1. Configure virtual Ethernet bridges. For instructions, see "Configuring virtual Ethernet bridges on the managed system using the Integrated Virtualization Manager."
2. Configure a Host Ethernet Adapter. For instructions, see "Assigning a Host Ethernet Adapter port to a logical partition"
3. Assign a physical Ethernet adapter to a client logical partition. For instructions, see "Dynamically managing physical adapters" on page 21.

Configuring virtual Ethernet bridges on the managed system using the Integrated Virtualization Manager

Use the Integrated Virtualization Manager to configure virtual Ethernet bridges on the managed system.

About this task

A physical Ethernet adapter or link aggregation that connects a virtual Ethernet network with a physical local area network (LAN) is called a *virtual Ethernet bridge*. Another name for a virtual Ethernet bridge is a *shared Ethernet adapter* because the logical partitions on the virtual Ethernet network share the physical Ethernet connection. Virtual Ethernet bridges connect the virtual Ethernet networks on your managed system to physical LANs.

For greater security, do not set up the physical Ethernet adapter or link aggregation that you use to connect to the management partition as a virtual Ethernet bridge. This situation allows you to isolate the management partition from all external networks. (The management partition manages the virtual Ethernet networks on your managed system, but it does not participate in any virtual Ethernet networks.)

If you configure a single physical Ethernet adapter or link aggregation to connect to the management partition and to act as a virtual Ethernet bridge, consider installing OpenSSL and Portable OpenSSH on the management partition. You can use OpenSSL and Portable OpenSSH to connect securely to the Virtual I/O Server from a remote location.

You do not need to select a physical Ethernet adapter or link aggregation for a virtual Ethernet network. If no physical adapter or link aggregation is set for a virtual Ethernet network, then the logical partitions on the virtual Ethernet network can communicate with one another, but they cannot communicate directly with a physical network.

Your role must not be View Only or Service Representative (SR) to perform this procedure.

To configure virtual Ethernet bridges, do the following:

Procedure

1. From the **Virtual Ethernet Management** menu, click **View/Modify Virtual Ethernet**. The View/Modify Virtual Ethernet panel is displayed.
2. Click the **Virtual Ethernet Bridge** tab.
3. Set each **Physical Adapter** field to the physical adapter that you want to use as the virtual Ethernet bridge for each virtual Ethernet network. (The HMC1 and HMC2 ports do not display in the **Physical Adapter** field and cannot be used as virtual Ethernet bridges.)
4. Click **Apply** to apply the changes.

Assigning a Host Ethernet Adapter port to a logical partition

Use the Integrated Virtualization Manager to assign a Host Ethernet Adapter (or Integrated Virtual Ethernet) port to a logical partition so that the logical partition can directly access the external network.

Before you begin

Before you start, ensure that the Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

About this task

A Host Ethernet Adapter is a physical Ethernet adapter that is integrated directly into the GX+ bus on a managed system. Host Ethernet Adapters offer high throughput, low latency, and virtualization support for Ethernet connections.

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

To assign a Host Ethernet Adapter port to a logical partition, complete the following steps:

Procedure
1. From the **I/O Adapter Management** menu, click **View/Modify Host Ethernet Adapters**.
2. Select a port with at least one available connection and click **Properties**.
3. Select the **Connected Partitions** tab.
4. Select the logical partition that you want to assign to the Host Ethernet Adapter port and click **OK**. If you want to remove a partition assignment, deselect the logical partition and click **OK**.

What to do next

You also can use the Performance area of the **General** tab to adjust the settings for the selected Host Ethernet Adapter port. You can view and modify the speed, maximum transmission unit, and other settings for the selected port.

Dynamically managing physical adapters

You can use the Integrated Virtualization Manager to change the physical adapters that a running logical partition uses.

Before you begin

You can change the physical adapter settings for a logical partition at any time if the partition is capable of dynamic I/O adapter changes.

When making dynamic I/O adapter changes, consider the following restrictions:
- You might lose data if you remove a physical adapter from a running logical partition.
- You cannot assign a physical adapter to another partition if it is being used by the operating system of the partition to which it is currently assigned. If you attempt to reassign the adapter, an error message is displayed. You must unconfigure the device by using the tools of the appropriate operating system before you can change the logical partition assignment for the adapter.

Before you start, ensure that the Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

About this task

To dynamically change the adapters that a running logical partition uses, complete these steps in the Integrated Virtualization Manager:

Procedure

1. If no client logical partitions exist, begin at the step 6.
2. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
3. Select the logical partition for which you want to change the physical adapter assignments.
4. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.
5. On the General tab, verify that **Yes** is the value for **I/O adapter DLPAR Capable**. You might need to click **Retrieve Capabilities** to verify this value. If **No** is the value for **Processing DLPAR Capable**, then you cannot dynamically change the physical adapters that the logical partition uses while the logical partition is active.
6. From the navigation areas, select **View/Modify Physical Adapters** under **I/O Adapter Management**.
7. Select the adapter for which you want to change the partition assignment and click **Modify Partition Assignment**.
8. Select the logical partition to which you want to assign the physical adapter and click **OK**. If you want to make this adapter available to any client logical partition, including those not yet created, select **None** for the **New partition** value.

Related tasks:

"Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52
You can view and update the current code level of the Integrated Virtualization Manager management partition.

Creating client logical partitions by using the Integrated Virtualization Manager

You can create client logical partitions on the managed system by using the Create Partitions wizard, or creating partitions based on existing partitions.

What to do next

When you finish creating client logical partitions, you can activate them and install their operating systems. For instructions, see the following information:

- "Activating logical partitions" on page 29
- Working with operating systems and software applications for POWER7 processor-based systems

Creating client logical partitions by using the Create Partitions wizard

You can use the Create Partitions wizard from the Integrated Virtualization Manager to create a new client logical partition on your managed system.

Before you begin

Use any role other than View Only to perform this task. However, do not use the Service Representative (SR) user role for this task because it cannot configure the storage in the Create Partition wizard.

About this task

To create a logical partition on your managed system, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Click ***Create Partition...** The Create Partition wizard is displayed.
   a. Follow the instructions for each step of the wizard, and click **Next** when you complete each step.
   b. When the Summary step is displayed, confirm that the information displayed in this step is correct, and click **Finish**.
3. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed and lists the new partition.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Creating a partition based on an existing partition

You can use the Integrated Virtualization Manager to create a new logical partition that is based on an existing logical partition on the managed system.

Before you begin

Use any role other than View Only to perform this task.

Use this task to create a new logical partition that has the same properties as the selected existing partition, except for partition ID, partition name, and storage configuration.

About this task

To create a logical partition based on an existing partition, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition that you want to use as the basis for the new logical partition.
3. From the **Tasks** menu, click **Create based on**. The Create Based On page is displayed.
4. Enter a name for the new partition and determine whether you want to create virtual disks for the new partition.
5. Click **OK**. The View/Modify Partitions page is displayed and lists the new partition.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Managing the system with the Integrated Virtualization Manager

You can manage all aspects of the system with the Integrated Virtualization Manager including managing processor, memory, networking, and storage resources among the logical partitions on the system.

Viewing and modifying system properties

You can use the Integrated Virtualization Manager to view and to modify the properties that apply to your managed system in general.

Before you begin

Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot modify them.

About this task

To view and modify your system properties, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify System Properties** under **Partition Management**. The View/Modify System Properties page is displayed.
2. Depending on which properties you want to view and to modify, select one of the following tabs:
   - **General** to view and to modify the information that identifies the managed system and system status. You also can view and modify the maximum number of virtual resources for the Virtual I/O Server, which determines the maximum number of logical partitions that the managed system can support.
   - **Memory** to view and to modify the memory usage information for the managed system. If the managed system supports the PowerVM Active Memory Sharing technology for using shared memory, you also can view and change the shared memory pool settings for the managed system.
   - **Processing** to view processor usage information for the managed system.

   Related concepts:
   "User roles" on page 53
   Learn about the user roles for the Integrated Virtualization Manager.

Managing the shared memory pool by using the Integrated Virtualization Manager

If the managed system supports the PowerVM Active Memory Sharing technology for using shared memory, you can use the Integrated Virtualization Manager to manage shared memory. You can increase or decrease the amount of physical memory assigned to the shared memory pool. You can also manage the paging space devices for the shared memory pool.

Before you begin

Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot change them.

About this task

To manage the shared memory pool, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Shared Memory Pool** under **Partition Management**. The **Memory** tab of the View/Modify System Properties page is displayed.
2. Depending on which properties you want to view and change, select one of the following tabs:
   - **General** to view and change the information that identifies the managed system and system status. You also can view and change the maximum number of virtual resources for the Virtual I/O Server, which determines the maximum number of logical partitions that the managed system can support.

- **Memory** to view and change the memory usage information for the managed system. If the managed system supports the PowerVM Active Memory Sharing technology for using shared memory, you also can view and change the shared memory pool settings for the managed system.
- **Processing** to view processor usage information for the managed system.

Related tasks:

"Managing memory properties for shared memory partitions" on page 35

You can use the Integrated Virtualization Manager to manage memory attributes for logical partitions that use shared memory.

Related information:

➡ Shared memory

Defining the shared memory pool by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to define a shared memory pool, if the managed system supports the PowerVM Active Memory Sharing technology for using shared memory.

Before you begin

A shared memory pool is a defined collection of physical memory blocks that are managed as a single memory pool by the hypervisor.

When you define a shared memory pool, you specify the Assigned memory and the Paging storage pool attributes for the memory pool. The assigned memory value determines the size of the memory pool. The paging storage pool attribute determines which storage pool provides paging space devices for shared memory partitions that use the shared memory pool.

Before you start, complete the following tasks:

1. Enter the activation code for the PowerVM Enterprise Edition. For instructions, see Entering the activation code for PowerVM Editions using the Integrated Virtualization Manager.

   The ability to share memory among multiple logical partitions is known as the PowerVM Active Memory Sharing technology. The PowerVM Active Memory Sharing technology is available with the PowerVM Enterprise Edition for which you must obtain and enter a PowerVM Editions activation code.

2. Ensure that your configuration meets the configuration requirements for shared memory. To review the requirements, see Configuration requirements for shared memory.

3. Complete the required preparation tasks. For instructions, see Preparing to configure shared memory.

4. Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot change them.

About this task

To define the shared memory pool, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Shared Memory Pool** under **Partition Management**. The **Memory** tab of the View/Modify System Properties page is displayed.

2. Click **Define Shared Memory Pool**.

3. Specify the amount of physical memory that you want to assign to the shared memory pool.

4. Select a storage pool that is logical volume-based to act as the paging storage pool for the shared memory pool. The storage pool that you select as the paging storage pool provides paging space devices for logical partitions that use shared memory.

5. Click **OK**. The creation of the shared memory pool is marked as pending.

6. Click **Apply** to complete the creation.

Related tasks:

"Changing the shared memory pool size by using the Integrated Virtualization Manager"
You can use the Integrated Virtualization Manager to increase or decrease the amount of physical memory that is assigned to the shared memory pool. You can perform this task if the managed system supports the PowerVM Active Memory Sharing technology for using shared memory.

"Deleting the shared memory pool by using the Integrated Virtualization Manager" on page 28
You can use the Integrated Virtualization Manager to delete the shared memory pool, if you no longer want any of the logical partitions to use shared memory.

Related information:

⇨ Shared memory

Changing the shared memory pool size by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to increase or decrease the amount of physical memory that is assigned to the shared memory pool. You can perform this task if the managed system supports the PowerVM Active Memory Sharing technology for using shared memory.

Before you begin

Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot change them.

You can increase the size of the shared memory pool only if enough physical memory is available in the system to do so. If you want to assign more memory to the pool than is available, you must decrease the amount of assigned memory for one or more partitions that use dedicated memory or you must add more physical memory to the server.

About this task

To change the size of the shared memory pool, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Shared Memory Pool** under **Partition Management**.
2. In the **Pending** field for **Assigned memory**, specify the amount of memory that you want to assign to the shared memory pool.
3. In the **Pending** field for **Maximum memory**, specify the maximum amount of physical system memory that the shared memory pool can have for distribution to shared memory partitions. The pending maximum amount of memory for the shared memory pool must be equal to, or greater than, the pending assigned amount of memory. Although you can specify a maximum value that is greater than the total amount of memory installed in the system, the assigned memory cannot be changed to a value higher than what is available on the system.

Related tasks:

"Deleting the shared memory pool by using the Integrated Virtualization Manager" on page 28
You can use the Integrated Virtualization Manager to delete the shared memory pool, if you no longer want any of the logical partitions to use shared memory.

Related information:

➡ Shared memory

Adding or removing paging space devices by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to add paging space devices to or remove paging space devices from the shared memory pool. You can perform these tasks only if the managed system supports the PowerVM Active Memory Sharing technology for using shared memory.

Before you begin

A paging space device is a logical volume or physical volume that, when assigned to a logical partition that uses shared memory, the management partition can use to provide paging space for the partition. The Integrated Virtualization Manager (IVM) automatically creates and manages paging space devices from the paging storage pool that you defined for the shared memory pool. This is the case as long as the paging storage pool that you defined is of a sufficient size to meet the needs of the shared memory partitions that you create. Consequently, you generally do not need to manage paging space devices on the system, unless you want to specify physical volumes for shared memory partitions to use for paging spaces.

For example, when you use the Create Partition Wizard to create a logical partition that uses shared memory, the wizard creates and assigns a paging space device of an appropriate size for the new partition from the paging storage pool. This is also the case, for example, when you change the memory mode of a partition to use shared memory. The process is different, however, if you define your own paging space devices for the shared memory pool. When you define a specific paging space device, the wizard assigns this paging space device to the next logical partition that you create that uses shared memory, as long as the paging space device is of a sufficient size to meet the needs of the new partition.

Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot change them.

Before you *add a paging space device* to the shared memory pool, you must meet the following prerequisite conditions:

* A shared memory pool must be defined for the system.
* The logical volume or physical volume that you want to use as a paging space device must not be in use for another purpose. When you add either a logical volume or a physical volume as a paging space device, it is dedicated to providing this function and is no longer available for any other purpose.
* For the Integrated Virtualization Manager to assign the paging space device to a shared memory partition successfully, the logical volume or physical volume that you select to use as a paging space device must meet the following requirements:
  – For AIX or Linux shared memory partitions, the size of the paging space device must be greater than, or equal to, the size specified for the maximum memory attribute for the partition that uses the paging space device.

Before you *remove a paging space device* from the shared memory pool, you must meet the following prerequisite conditions:

* Ensure that the paging space device that you want to remove is not assigned to a logical partition. You cannot remove a paging space device if it is assigned to a logical partition.

- Ensure that the paging space device that you want to remove is not active.

About this task

To add a paging space device to or remove a paging space device from the shared memory pool, complete the following steps in the Integrated Virtualization Manager:

Procedure
1. From the navigation area, select **View/Modify Shared Memory Pool** under **Partition Management**.
2. Expand **Paging Space Devices - Advanced**.
3. To add a paging space device, complete these steps:
   a. Click **Add**. A table appears that lists the available logical volumes and physical volumes on the managed system.
   b. Select the logical or physical volume that you want to act as a paging space device, and click **OK**. The device that you selected is shown in the Paging Spaces table.
4. To remove a paging space device, complete these steps:
   a. Select the paging space device that you want to remove, and click **Remove**.
   b. Click **OK** to confirm the removal.

   Note: If the paging space device is assigned to a logical partition, you cannot remove it.

Related tasks:
"Managing memory properties for shared memory partitions" on page 35
You can use the Integrated Virtualization Manager to manage memory attributes for logical partitions that use shared memory.

Related information:

⮕ Shared memory

⮕ Paging space devices on systems that are managed by the Integrated Virtualization Manager

Deleting the shared memory pool by using the Integrated Virtualization Manager
You can use the Integrated Virtualization Manager to delete the shared memory pool, if you no longer want any of the logical partitions to use shared memory.

Before you begin

A shared memory pool is a defined collection of physical memory blocks that are managed as a single memory pool by the hypervisor.

You cannot delete the memory pool if there are logical partitions on the managed system that use shared memory. When you delete the shared memory pool, you cannot specify that new partitions use shared memory. When you confirm the deletion of the memory pool, the deletion is marked as pending, until you click **Apply**.

Use any role other than View Only to perform this task. The View Only role can view the properties, but it cannot change them.

About this task

To delete the shared memory pool, complete the following steps in the Integrated Virtualization Manager:

Procedure
1. From the navigation area, select **View/Modify Shared Memory Pool** under **Partition Management**. The **Memory** tab of the View/Modify System Properties page is displayed.

2. Click **Delete Shared Memory Pool**.

3. Click **OK** to confirm the deletion. The deletion of the memory pool is marked as pending.

4. Click **Apply** to complete the deletion.

Related tasks:

"Defining the shared memory pool by using the Integrated Virtualization Manager" on page 25
You can use the Integrated Virtualization Manager to define a shared memory pool, if the managed system supports the PowerVM Active Memory Sharing technology for using shared memory.

Related information:

➡ Shared memory

Managing partitions by using the Integrated Virtualization Manager

You can use the logical partition management tasks of the Integrated Virtualization Manager to create and manage the logical partitions on your managed system.

Activating logical partitions

You can use the Integrated Virtualization Manager to activate logical partitions on the managed system.

Before you begin

Use any role other than View Only to perform this task.

About this task

You can activate logical partitions manually after you power on the managed system, or you can reactivate a logical partition after you have shut down the logical partition manually.

To activate a logical partition, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select the logical partition that you want to activate. You can select more than one logical partition for this task.

3. Click **Activate**. The Activate Partitions page is displayed. Verify the partition ID, partition name, and the current state of the logical partition.

4. Click **OK** to activate the partition. The View/Modify Partitions page is displayed and the logical partition state has a value of running.

   Note: Each logical partition activates with the boot mode and keylock position that are specified for the logical partition on the Partition Properties page.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Adding a client logical partition to the partition workload group

You can use a workload management tool to manage resources that your logical partitions use. To do so, you must use the Integrated Virtualization Manager to add the client logical partition to the partition workload group.

Before you begin

A *partition workload group* identifies a set of logical partitions that are located on the same physical system. Workload management tools use partition workload groups to identify which logical partitions they can manage. For example, Enterprise Workload Manager™ (EWLM) can dynamically and automatically redistribute processing capacity within a partition workload group to satisfy workload performance goals. EWLM adjusts processing capacity based on calculations that compare the actual performance of work processed by the partition workload group to the business goals defined for the work.

Workload management tools use dynamic logical partitioning (DLPAR) to make resource adjustments based on performance goals. For example, the partition management function of EWLM adjusts processor resources based on workload performance goals. Thus, EWLM can adjust the processing capacity for AIX and Linux logical partitions.

Limitations:
- Do not add the management partition to the partition workload group. To manage logical partition resources, workload management tools often require that you install some type of management or agent software on the logical partitions. To avoid creating an unsupported environment, do not install additional software on the management partition.
- For AIX and Linux partitions, the DLPAR support of the operating system is not the same as the DLPAR capabilities that are in the partition properties for a logical partition. The DLPAR support of the operating system reflects what each operating system supports with regard to DLPAR functions. AIX and Linux support DLPAR of processors, memory, and I/O. The DLPAR capabilities that are shown in the partition properties for a logical partition reflect a combination of the following factors:
  - A Resource Monitoring and Control (RMC) connection between the management partition and the client logical partition
  - The DLPAR support of the operating system

  For example, an AIX client logical partition does not have an RMC connection to the management partition, but AIX supports DLPAR of processors, memory, and I/O. In this situation, the DLPAR capabilities shown in the partition properties for the AIX logical partition indicate that the AIX logical partition is not capable of processor, memory, or I/O DLPAR. However, because AIX supports DLPAR of processors, memory, and I/O, a workload management tool can dynamically manage its resources. Workload management tools are not dependent on RMC connections to dynamically manage logical partition resources.
- If a logical partition is part of the partition workload group, you cannot dynamically manage its resources from the Integrated Virtualization Manager because the workload management tool is in control of dynamic resource management. Not all workload management tools dynamically manage processor, memory, and I/O resources. When you implement a workload management tool that manages only one resource type, you limit your ability to dynamically manage the other resource types. For example, an AIX client logical partition does not have an RMC connection to the management partition, but AIX supports DLPAR of processors, memory, and I/O. In this situation, the DLPAR capabilities shown in the partition properties for the AIX logical partition indicate that the AIX logical partition is not capable of processor, memory, or I/O DLPAR. However, because AIX supports DLPAR of processors, memory, and I/O, a workload management tool can dynamically manage its resources. Workload management tools are not dependent on RMC connections to dynamically manage logical partition resources. For example, EWLM dynamically manages processor resources, but not memory or I/O. AIX supports processor, memory, and I/O DLPAR. EWLM controls dynamic resource management of processor resources, memory, and I/O for the AIX logical partition, but EWLM does not dynamically manage memory or I/O. Because EWLM has control of dynamic resource management, you cannot dynamically manage memory or I/O for the AIX logical partition from the Integrated Virtualization Manager.

About this task

To add a logical partition to the partition workload group, complete the following steps in the Integrated Virtualization Manager:

Procedure
1. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page displays.
2. Select the logical partition that you want to include in the partition workload group.
3. From the Tasks menu, select **Properties**. The **Partition Properties** page is displayed.
4. Select the **General** tab, then select **Partition workload group participant**, and click **OK**.

Deleting logical partitions

You can use the Integrated Virtualization Manager to delete logical partitions from the managed system.

Before you begin

Use any role other than View Only to perform this task.

About this task

When you delete a logical partition, all memory, processor, and storage resources that belonged to the logical partition become available for assignment to other logical partitions.

To delete a logical partition, complete the following steps in the Integrated Virtualization Manager:

Procedure
1. From the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition that you want to delete. You can select multiple logical partitions to delete.
3. From the **Tasks** menu, click **Delete**. The Delete Partitions page is displayed, which shows the partition IDs, partition names, and operating state for the logical partitions selected for deletion. There is also an option to delete associated virtual disks for the partition.
4. Select whether to delete all virtual disks assigned to the listed logical partitions and verify that you are deleting the correct logical partitions.
5. Click **OK** to delete the specified logical partitions. The View/Modify Partitions page is displayed and the deleted logical partitions are no longer listed.

Related concepts:
"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Dynamically managing memory

You can use the Integrated Virtualization Manager to change the amount of memory that a running logical partition uses.

About this task

You can change the amount of memory that a running logical partition uses, if the partition is capable of dynamic memory changes.

To dynamically change the amount of memory that a running logical partition uses, complete these steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select the logical partition for which you want to change the memory settings.

3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.

4. On the General tab, verify that **Yes** is the value for **Memory DLPAR Capable**. You might need to click **Retrieve Capabilities** to verify this value. If **No** is the value for **Memory DLPAR Capable**, then you cannot dynamically change the memory settings for the logical partition while the logical partition is active.

5. Select the **Memory** tab.

6. Specify new values in the Pending column for the memory settings that you want to change. If the client logical partition uses shared memory, you can dynamically change the Pending values, including the memory weight. However, you cannot change the memory mode of a running logical partition.

   Note: For logical partitions that use either dedicated memory or shared memory, you can change the minimum and maximum memory values only while the logical partition is not running.

7. Click **OK**. The management partition synchronizes the current assigned value with the pending assigned value. Synchronization can take several seconds to complete. You can perform other tasks on the system while the management partition is synchronizing the current and pending values.

Related tasks:

"Modifying partition properties" on page 34
You can use the Integrated Virtualization Manager to view and modify the properties of the logical partitions on your managed system.

Dynamically managing physical adapters

You can use the Integrated Virtualization Manager to change the physical adapters that a running logical partition uses.

Before you begin

You can change the physical adapter settings for a logical partition at any time if the partition is capable of dynamic I/O adapter changes.

When making dynamic I/O adapter changes, consider the following restrictions:

- You might lose data if you remove a physical adapter from a running logical partition.
- You cannot assign a physical adapter to another partition if it is being used by the operating system of the partition to which it is currently assigned. If you attempt to reassign the adapter, an error message is displayed. You must unconfigure the device by using the tools of the appropriate operating system before you can change the logical partition assignment for the adapter.

Before you start, ensure that the Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

About this task

To dynamically change the adapters that a running logical partition uses, complete these steps in the Integrated Virtualization Manager:

Procedure

1. If no client logical partitions exist, begin at the step 6 on page 22.

2. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

3. Select the logical partition for which you want to change the physical adapter assignments.

4. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.

5. On the General tab, verify that **Yes** is the value for **I/O adapter DLPAR Capable**. You might need to click **Retrieve Capabilities** to verify this value. If **No** is the value for **Processing DLPAR Capable**, then you cannot dynamically change the physical adapters that the logical partition uses while the logical partition is active.

6. From the navigation areas, select **View/Modify Physical Adapters** under **I/O Adapter Management**.

7. Select the adapter for which you want to change the partition assignment and click **Modify Partition Assignment**.

8. Select the logical partition to which you want to assign the physical adapter and click **OK**. If you want to make this adapter available to any client logical partition, including those not yet created, select **None** for the **New partition** value.

Related tasks:

"Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52
You can view and update the current code level of the Integrated Virtualization Manager management partition.

Dynamically managing processing power

You can use the Integrated Virtualization Manager to change the processing power assigned to a running logical partition.

About this task

You can change the processing power assigned to a running logical partition if the partition is capable of dynamic processing power changes.

To dynamically change the processing power assigned to a running logical partition, complete these steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select the logical partition for which you want to change the processor settings.

3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.

4. Verify if **Yes** is the value for **Processing DLPAR Capable**. You must click **Retrieve Capabilities** to verify this value. If **No** is the value for **Processing DLPAR Capable**, then you cannot dynamically change the processing power assigned to the logical partition while the logical partition is active.

5. Click the **Processing** tab.

6. Specify new values in the Pending columns for Processing Units, Virtual Processors, and Uncapped weight.

7. Click **OK**. The management partition synchronizes the current assigned value with the pending assigned value. Synchronization can take several seconds to complete. You can perform other tasks on the system while the management partition is synchronizing the current and pending values.

Related tasks:
"Modifying partition properties"
You can use the Integrated Virtualization Manager to view and modify the properties of the logical partitions on your managed system.

Modifying partition properties

You can use the Integrated Virtualization Manager to view and modify the properties of the logical partitions on your managed system.

Before you begin

Use any role other than view only to perform this task. Users with the Service Representative (SR) user role cannot view or modify storage values.

About this task

If the logical partition is powered off, you can use this procedure to change most properties for a logical partition. Your changes take effect when you reactivate the logical partition. If the logical partition is capable of dynamic LPAR (DLPAR), you can change a number of properties while the logical partition is active.

To view and modify the properties of a logical partition, complete the following steps Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition for which you want to view or modify the properties.
3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.
4. Depending on which properties you want to view and modify, select one of the following tabs:
   - **General** to view the logical partition identifiers and the operating state of the selected logical partition. For AIX and Linux partitions, you can view or change certain identifiers and startup information, including boot mode and keylock position. You can also view and change dynamic LPAR (DLPAR) information, such as the partition host name or IP address, partition communication state, and the DLPAR capabilities of the partition.
   - **Memory** to view or modify the memory management information for the selected logical partition. If the managed system supports the PowerVM Active Memory Sharing technology for shared memory, you also can view and change the memory mode of the logical partition. If the logical partition uses shared memory, you can also set the memory weight for the partition.
   - **Processing** to view or modify the processor management settings for the selected logical partition. For example, you can view the processor compatibility mode and set your preference for idle processor sharing for dedicated partitions.
   - **Ethernet** to view or modify the logical partition settings for Host Ethernet Adapters (or Integrated Virtual Ethernet), virtual Ethernet adapters, and physical Ethernet adapters. The Ethernet settings that you can modify vary based on the operating system for the selected partition.
   - **Storage** to view or modify the logical partition storage settings. You can view and modify settings for virtual disks and physical volumes. If the managed system supports the use of virtual fibre channel and has physical fibre channel adapters installed and connected that support N_Port ID Virtualization (NPIV) ports, you also can view and modify these settings. To add or remove a worldwide port name (WWPN) pair for a logical partition, the partition must be either in the Not activated or the Running state. If the partition is in the Running state, the partition also must be capable of DLPAR. To assign a WWPN for a partition to a physical port, the partition can be in any state.

- **Optical / Tape Devices** to view or modify the logical partition settings for physical optical devices and virtual optical devices. You can also view or modify physical tape devices that are installed and connected on the managed system.
- **Physical adapters** to view or modify the physical adapters assigned to the selected logical partition.

  The **Storage** and **Optical / Tape Devices** tabs are displayed for all logical partitions except the management partition.
5. Click **OK** to save your changes. The View/Modify Partitions page is displayed. If the logical partition for which you changed the properties is inactive, the changes take effect when you next activate the partition. If the logical partition for which you changed the properties is active and is not capable of DLPAR, you must shut down and reactivate the logical partition before the changes take effect.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Managing memory properties for shared memory partitions

You can use the Integrated Virtualization Manager to manage memory attributes for logical partitions that use shared memory.

Before you begin

For logical partitions that use shared memory, you can use the Integrated Virtualization Manager to manage some additional memory properties that apply to these partitions.

You can change the memory weight for the shared memory partition. The memory weight is a relative value that is one of the factors that the hypervisor uses in determining the allocation of physical system memory from the shared memory pool to a shared memory partition. A higher value relative to the values set for other shared memory partitions increases the probability of the hypervisor allocating more physical system memory from the memory pool to the shared memory partition with the higher value.

A Linux shared memory partition supports changing the memory weight only if the DynamicRM tool package is installed on the Linux shared memory partition. To download the DynamicRM tool package, see the Service and productivity tools for Linux on POWER systems Web site.

You also can change the memory mode for the partition from shared memory mode to dedicated memory mode or from dedicated mode to shared mode. To be able to change the memory mode from shared to dedicated for a logical partition, you must have enough physical system memory available to fulfill the current Assigned memory value and the partition must be shut down.

To be able to change the memory mode from dedicated to shared for a client logical partition, the partition must use shared processors and cannot have any I/O devices or Integrated Virtual Ethernet (IVE) adapters (also known as Host Ethernet Adapters) assigned to it. The partition must be virtual. The logical partition also must be shut down.

Note: You cannot use the Integrated Virtualization Manager to change the I/O entitled memory, which is the amount of memory from the shared memory pool that the partition is entitled to use for I/O mapping purposes. The Integrated Virtualization Manager manages this property for a partition that is based on the virtual I/O configuration of the partition unless you use the IVM command line interface (CLI) to define this property.

About this task

To change the memory weight or the memory mode for a shared memory partition, complete these steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select the logical partition for which you want to change the memory settings.

3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.

4. Select the **Memory** tab.

5. Select the appropriate memory mode for the partition.

6. Specify a new value for the memory weight attribute in the Pending column for the attribute. The pending memory weight value must be greater than, or equal to, 0 but less than, or equal to, 255. Set this value relative to other shared memory partitions to rank the importance of having more physical memory from the shared memory pool available for this partition.

7. Click **OK**. The management partition synchronizes the current assigned value with the pending assigned value. Synchronization can take several seconds to complete. You can perform other tasks on the system while the management partition is synchronizing the current and pending values.

Related tasks:

"Managing the shared memory pool by using the Integrated Virtualization Manager" on page 24
If the managed system supports the PowerVM Active Memory Sharing technology for using shared memory, you can use the Integrated Virtualization Manager to manage shared memory. You can increase or decrease the amount of physical memory assigned to the shared memory pool. You can also manage the paging space devices for the shared memory pool.

Related information:

➡ Shared memory

Migrating a client logical partition to another managed system

You can use the Integrated Virtualization Manager to migrate an inactive or a running client logical partition to another system managed by another Integrated Virtualization Manager.

Before you begin

You can migrate AIX and Linux logical partitions between systems servers, between IBM BladeCenter blade servers with Power Architecture technology, or between systems servers and IBM BladeCenter blade servers with Power Architecture technology.

For information about specific POWER7 models that support partition migration, see Preparing the source and destination servers for partition mobility.

You cannot migrate the management partition.

Before you start to migrate a client logical partition, complete the following tasks:

1. Ensure that the PowerVM Enterprise Edition is enabled on both the source managed system and the destination managed system. For instructions, see Entering the activation code for PowerVM Editions with the Integrated Virtualization Manager.

2. Ensure that you have properly prepared the source managed system, the destination managed system, and the migrating partition for the migration. For instructions, see Preparing for Partition Mobility.

3. Ensure that the source managed system and the destination managed system meet the following requirements:

   - Ensure that the destination managed system and the source managed system have compatible firmware, processors, and logical memory block (LMB) size (the smallest chunk of memory that can be assigned to a partition).

   - Ensure that all required external I/O devices are connected to the migrating partition through the Integrated Virtualization Manager or Virtual I/O Server. The destination managed system and the

source managed system must have common access (SAN and LAN) to the same disks and networks. The destination managed system must have sufficient resources available to host the migrating partition.

- Ensure that the source managed system and destination managed system are at the appropriate hardware levels and are compatible for partition migration.
- Ensure that the source managed system and destination managed system each have at least one Integrated Virtualization Manager or Virtual I/O Server logical partition that provides virtual SCSI and virtual Ethernet to the migrating partition.
- Ensure that the source managed system and destination managed system provide compatible virtual SCSI configurations.
- Ensure that the source managed system and destination managed system provide compatible virtual Ethernet configurations.
- Ensure that the source managed system and destination managed system provide compatible virtual fibre channel configurations.
- If you are migrating a partition that uses shared memory, the destination managed system must meet these additional requirements to migrate a shared memory partition:
  - A memory pool must exist on the destination managed system.
  - The memory pool on the destination managed system must have sufficient space for the I/O entitled memory value that is currently specified for the migrating partition.
  - The memory pool on the destination managed system must have a paging space device of an appropriate size for the migrating partition, or the IVM on the destination system must be able to create an appropriate paging space device. For AIX and Linux migrating partitions, the paging space device must be at least as large as the maximum memory size of the migrating partition.

Note: This is not a complete list of requirements. For more detailed information about partition migration requirements for IVM, see Configuration validation for Partition Mobility..

4. Retrieve the IP address or host name of the IVM that manages the system to which you plan to migrate the partition.

About this task

To migrate a client logical partition to another managed system, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the client logical partition that you want to migrate.
3. From the **Tasks** menu, click **Migrate**. The Migrate Partition page is displayed.
4. Specify the required information and click **Validate**.
5. If you receive validation errors, fix the errors and return to this page.
6. When you verify that there are no validation errors, click **Migrate**.

What to do next

To view the progress of the migration, see "Viewing or modifying the status of a migrating partition" on page 40.

Related tasks:

➦ Preparing the source and destination servers for Partition Mobility

➦ Preparing for Partition Mobility

➦ Configuration validation for Partition Mobility

Opening a virtual terminal session for a logical partition

You can use the virtual terminal on the Integrated Virtualization Manager to connect to a logical partition.

Before you begin

Before you start, ensure that the Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

About this task

To open a virtual terminal session, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition to which you want to connect.
3. From the **Tasks** menu, select **Open terminal window**. A virtual terminal window displays.

   Note: Because the applet has a digital signature, your browser might display a security warning and ask you to verify that you want to run the applet.
4. Enter the password for your login ID from the current Integrated Virtualization Manager session. A terminal session starts for the logical partition

Shutting down logical partitions

You can use the Integrated Virtualization Manager to shut down the logical partitions or to shut down the entire managed system.

Before you begin

Use any role other than View Only to perform this task.

About this task

The Integrated Virtualization Manager provides the following types of shutdown options for logical partitions:
- Operating System (recommended)
- Delayed
- Immediate

The recommended shutdown method is to use the client operating systems shutdown command. Use the immediate shutdown method only as a last resort because using this method causes an abnormal shutdown which might result in data loss.

If you choose the Delayed shutdown method, then be aware of the following considerations:

- Shutting down the logical partitions is equivalent to pressing and holding the white control-panel power button on a server that is not partitioned.
- Use this procedure only if you cannot successfully shut down the logical partitions through operating system commands. When you use this procedure to shut down the selected logical partitions, the logical partitions wait a predetermined amount of time to shut down. This allows the logical partitions 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 ends abnormally, and the next restart might take a long time.

If you plan to shut down the entire managed system, shut down each client logical partition, then shut down the Virtual I/O Server management partition.

To shut down a logical partition, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition that you want to shut down.
3. From the Tasks menu, click **Shutdown**. The Shutdown Partitions page is displayed.
4. Select the shutdown type.
5. Optional: Select **Restart after shutdown completes** if you want the logical partition to start immediately after it shuts down.
6. Click **OK** to shut down the partition. The View/Modify Partitions page is displayed, and the logical partition state has a value of shutdown.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Using the operator panel service functions

You can use the operator panel service functions in the Integrated Virtualization Manager to perform a number of service and maintenance tasks. These tasks include shutting down, restarting, or initiating a system memory dump on logical partitions. These functions are also known as *control panel functions*.

Before you begin

Use any role other than View Only to perform this task.

About this task

You can use the operator panel service functions to shut down or restart a logical partition without shutting down the operating system of that logical partition first.

Attention: Use this procedure only if you cannot successfully shut down or restart the logical partition through operating system commands. These operator panel service functions cause the logical partition to shut down abnormally and can cause data loss. The programs running in those processes are not allowed to perform any cleanup. These functions can cause undesirable results if data has been partially updated.

To use the operator panel service functions, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition on which you want to perform service functions.

3. From the **Tasks** menu, select **Operator panel service functions**. The Operator Panel Service Functions page is displayed.

4. Select the operator panel service function that you want to use for the selected logical partition, and click **OK**. The View/Modify Partitions page is displayed, and the logical partition shows a value of either shut down or restarted for the partition state.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Viewing or modifying the status of a migrating partition

You can use the Integrated Virtualization Manager to view the status, to stop, or to recover the migration of a logical partition, whether the partition is migrating to this managed system or to another managed system.

Before you begin

Before you start, complete the following tasks:

1. Ensure that the Integrated Virtualization Manager is at version 1.5 or later. To view the version of the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

2. Ensure that the PowerVM Enterprise Edition is enabled. For instructions, see "Entering the activation code for PowerVM Editions with the Integrated Virtualization Manager" on page 12.

About this task

To view the status of a migrating partition, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select one or more client logical partitions that are in the process of migrating between managed systems.

3. From the **Tasks** menu, select **Status**. The Migrate Status page is displayed.

4. Review the migration status of the selected logical partitions, or perform one of the following migration tasks:

   a. To stop the migration, click **Stop Migration**. When you stop the migration, the Integrated Virtualization Manager (from which the migration was initiated) attempts to reverse all changes and return the migrating logical partition to the state it was in before the migration began.

   b. To recover a migration, click **Recover Migration**. You might need to recover a migration if there is a communication loss between the platform managers; however, this situation is rare.

5. Click **OK** to return to the **View/Modify Partitions** page.

Viewing partition reference codes

You can use the Integrated Virtualization Manager to display reference codes for the logical partitions on your managed system. Reference codes provide general system diagnostic, troubleshooting, and debugging information.

About this task

To view partition reference codes, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.

2. Select the logical partition for which you want to view reference codes.

3. From the **Tasks** menu, select **Reference Codes**. The Partition Reference Codes page is displayed.

4. To view a history of reference codes, enter the number of reference codes that you want to view in the **View history** field, and click **Go**. The page provides a list with the number of the most recent reference codes that you specified, with the date and time at which each reference code was received.

5. To view the details of a specific reference code, select the option next to the desired reference code. Details about the reference code that you selected are displayed in the **Details** area.

6. Click **OK** to close the page.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Related reference:

System reference codes

Reference code finder

Managing storage devices by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to manage storage for logical partitions on the managed system.

When you install the Virtual I/O Server, a single storage pool is created automatically for the managed system. This storage pool, which is called rootvg, is the *default storage pool*. You might want to consider using the Integrated Virtualization Manager (IVM) to create a storage pool in addition to the rootvg storage pool and to assign the new storage pool as the default storage pool. Doing so is especially useful if you plan to create and use a shared memory pool on the managed system. You can then add more physical volumes to the default storage pool, create virtual disks from the default storage pool, and assign these virtual disks to other logical partitions.

You can also use IVM to manage physical optical devices and virtual optical media, as well as physical tape devices for the logical partitions on your managed system.

Creating virtual optical devices by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to add a new virtual optical device and mount media to the new device.

Before you begin

Note: You can also create a virtual optical device when you use the Create Partition wizard to create a new logical partition.

Before you start, ensure that the Integrated Virtualization Manager is at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

About this task

To create a virtual optical device, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partitions** under **Partition Management**. The View/Modify Partitions page is displayed.
2. Select the logical partition for which you create a virtual optical device.
3. From the Tasks menu, select **Properties**. The Partition Properties page is displayed.
4. Click the **Optical/Tape Devices** tab
5. Click **Virtual Optical Devices** to open the section and click **Create Device**. A new virtual optical device is created and appears in the table.
6. From the Current Media column of the virtual optical device that you created, click **Modify** to mount media to the new device. The Modify Current Media page displays.
7. Select the media that you want to mount, and click **OK** to mount the media to the device and return to the Partition Properties page.

Modifying virtual disks

You can use the Integrated Virtualization Manager to view the properties of the virtual disks on your managed system, as well as to start virtual disk management tasks.

About this task

Virtual disks are also known as *logical volumes*.

To view and to modify virtual disks, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage page is displayed.
2. Select the **Virtual Disks** tab to display a list of virtual disks on the managed system.
3. Select the virtual disk from the table that you want to modify.

   Note: If a virtual disk is defined as a paging space device as part of a shared memory pool configuration for the managed system, it is dedicated to providing this function and is no longer available for any other purpose. Consequently, such a virtual disk is not listed here.

4. From the **Tasks** menu bar of the Physical Volumes table, select one of the following storage management tasks to perform:
   - **Properties** to view the properties of the selected virtual disks
   - **Extend** to add storage capacity to the selected virtual disks
   - **Delete** to delete the selected virtual disk and make the storage resources that belonged to that virtual disk available to other virtual disks.
   - **Modify partition assignment** to change the logical partition to which the selected virtual disk is assigned or to set the selected virtual disk so it is not assigned to any logical partitions

Related tasks:

"Creating virtual disks" on page 17
You can use the Integrated Virtualization Manager to create a virtual disk on your managed system. Virtual disks are also known as *logical volumes*.

Modifying storage pools using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to extend a storage pool, to reduce or to remove a storage pool, and to assign a storage pool as the default storage pool for the managed system.

About this task

To view and to modify storage pools, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage page is displayed.
2. Select the **Storage Pools** tab to display a list of storage pools defined for the managed system.
3. Select the storage pool from the table that you want to modify.
4. From the **Tasks** menu bar of the Storage Pools table, select one of the following storage management tasks to perform:
   - **Properties** to view the properties of the selected storage pool.
   - **Extend** to add storage capacity to the selected storage pool. To extend logical volume-based storage pools, add physical volumes to the storage pool. To extend file-based storage pools, add space from the parent storage pool to the file-based storage pool.
   - **Reduce** to reduce the size of the selected storage pool. To reduce logical volume-based storage pools, remove physical volumes from the storage pool. To reduce the file-based storage pool, delete the storage pool.
   - **Assign as default storage pool** to designate the selected storage pool as the default storage pool for the managed system.

Related tasks:

"Creating storage pools" on page 16
You can use the Integrated Virtualization Manager to create a logical volume-based or file-based storage pool on your managed system.

Modifying physical volumes

You can use the Integrated Virtualization Manager to view the properties of the physical volumes on your managed system, as well as to start physical volume management tasks.

About this task

A physical volume is an individual logical unit that is identified by a *logical unit number* (LUN). A physical volume can be a hard disk or a logical device on a *storage area network* (SAN). You can either assign a physical volume directly to a logical partition, or you can add a physical volume to a storage pool and create virtual disks to assign to logical partitions from the storage pool.

To view and to modify physical volumes, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage page is displayed.
2. Select the **Physical Volumes** tab to display a list of physical volumes on the managed system.
3. Select the physical volume from the table that you want to modify.

   Note: If a physical volume is defined as a paging space device as part of a shared memory pool configuration for the managed system, it is dedicated to providing this function and is no longer available for any other purpose. Consequently, such a physical volume is not listed here.

4. From the **Tasks** menu bar of the Physical Volumes table, select one of the following storage management tasks to perform:
   - **Properties** to view or change the properties of the selected physical volume.

- **Modify partition assignment** to change the logical partition to which the selected physical volume is assigned or to set the physical volume so it is not assigned to any logical partition.
- **Add to storage pool** to add the selected physical volume to a storage pool.
- **Remove from storage pool** to remove the selected physical volume from the selected storage pool.

Related tasks:

"Modifying storage pools using the Integrated Virtualization Manager" on page 42
You can use the Integrated Virtualization Manager to extend a storage pool, to reduce or to remove a storage pool, and to assign a storage pool as the default storage pool for the managed system.

Modifying the virtual Fibre Channel on the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to modify the virtual Fibre Channel configuration and the logical partition connections to physical Fibre Channel ports on your managed system.

Before you begin

Modifying this type of storage resource is available only when the system supports the use of virtual Fibre Channel adapters and has a physical Fibre Channel adapter installed and connected that supports N_Port ID Virtualization (NPIV) ports. You can add and remove the worldwide port name (WWPN) pairs for a logical partition. You also can assign a physical port to a WWPN pair to enable the logical partition to communicate with storage devices in a storage area network (SAN).

A Linux logical partition supports the dynamic addition of virtual Fibre Channel adapters only if the DynamicRM tool package is installed on the Linux logical partition. To download the DynamicRM tool package, see the Service and productivity tools for Linux on POWER systems Web site.

To add or remove a worldwide port name (WWPN) pair for a logical partition, the partition must be either in the Not activated state or the Running state. If the partition is in the Running state, the partition must also be capable of dynamic LPAR (DLPAR). To assign a WWPN pair for a partition to a physical port, the partition can be in any state.

To avoid configuring the physical Fibre Channel adapter to be a single point of failure for the connection between the client logical partition and its physical storage on the SAN, do not assign more than one pair of WWPNs for a client logical partition to the physical ports on the same physical Fibre Channel adapter. Instead, assign each pair of WWPNs for a logical partition to physical ports on different physical Fibre Channel adapters.

About this task

To modify the physical port connections that a logical partition uses to access a SAN, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Partition Properties** under **Partition Management**. The View/Modify Partition Properties page is displayed.
2. Select the logical partition for which you want to manage the virtual Fibre Channel configuration.
3. From the **Tasks** menu, click **Properties**. The Partition Properties page is displayed.
4. Select the **Storage** tab and expand **Virtual Fibre Channel**.
5. Click **Add** to assign a worldwide port name (WWPN) pair to the logical partition.

   This step assigns the WWPN pair to the logical partition so that you can connect the logical partition to a physical port through the associated WWPN pair. The Integrated Virtualization Manager generates the actual worldwide port names when you complete this task.
6. Select a physical port for the WWPN pair to create a connection to the port for the logical partition.

If you want to remove a connection for a physical port from the logical partition, select **None** for the physical port. You also can remove the WWPN pair from the logical partition by selecting the appropriate WWPN pair and clicking **Remove**.

Note: If you remove an existing WWPN pair from a logical partition, the worldwide port names associated with the logical partition and the storage area network (SAN) are deleted permanently. The Integrated Virtualization Manager does not reuse them when it generates port names in the future. If you run out of port names, you must obtain a code key to enable an additional prefix and range of port names for use on your system. See the online help for additional information.

7. Click **OK**.

If necessary, the Integrated Virtualization Manager generates the required pair of worldwide port names for any new partition connections based on the range of names available for use with the prefix in the vital product data on the managed system. This 6-digit prefix comes with the purchase of the managed system to enable the generation of a large, but finite, set of worldwide port names for your use. The number of port names initially available on the managed system is 65536. To determine the actual number of port names available on the managed system, use this command: `lshwres -r virtualio --rsubtype fc --level sys -F num_wwpns_remaining`

Results

Integrated Virtualization Manager creates or removes the necessary server and client virtual Fibre Channel adapters for the selected physical port, and creates or removes the mappings for the server adapter to the selected physical port.

Related tasks:

"Configuring virtual fibre channel on the Integrated Virtualization Manager" on page 17
You can use the Integrated Virtualization Manager to dynamically configure virtual fibre channel on your managed system and to assign physical fibre channel ports to logical partitions.

"Viewing virtual fibre channel connections for a partition on the Integrated Virtualization Manager"
You can use the Integrated Virtualization Manager to view the information about the partitions that have virtual fibre channel connections on your managed system. When a logical partition is configured to use a virtual fibre channel connection, the partition can communicate with storage devices in a storage area network (SAN).

Related information:

➡ Virtual fibre channel on IVM-managed systems

Viewing virtual fibre channel connections for a partition on the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to view the information about the partitions that have virtual fibre channel connections on your managed system. When a logical partition is configured to use a virtual fibre channel connection, the partition can communicate with storage devices in a storage area network (SAN).

Before you begin

The managed system must be configured to use a virtual fibre channel before you can use this task to view logical partition connection information for the physical ports.

About this task

The View Virtual Fibre Channel task provides the ability to view partition connection information for the virtual fibre channel configuration on the managed system. See the Modifying the virtual fibre channel on the Integrated Virtualization Manager to learn how to modify the physical port connections that logical. partitions use to access a SAN.

To view partition connection information for your virtual fibre channel configuration, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View Virtual Fibre Channel** under **I/O Adapter Management**. The View Virtual Fibre Channel page is displayed.
2. Use the physical port table to view the main properties of the physical fibre channel ports that support N_Port ID Virtualization (NPIV) on fibre channel adapters that are installed and connected within your managed system.

   The table provides the name of the physical port, the physical location code for the port, the number of partition connections, the available connections for the port, and whether the port has the required fabric support for NPIV.
3. To view which logical partitions have a connection to a specific physical port, select the port and click **View Partition Connections**. The Virtual Fibre Channel Partition Connections page is displayed.
4. Use the **Connections** table to view which logical partitions are configured with a connection to the physical port.

What to do next

To add or remove a connection to a specific physical port for a logical partition, or to change the port to which a logical partition connects, use the **View/Modify Partitions** task. You can use the tasks under **Virtual Fibre Channel** on the **Storage** tab of the **Properties** page to modify the connections for the logical partition.

Related tasks:

"Configuring virtual fibre channel on the Integrated Virtualization Manager" on page 17
You can use the Integrated Virtualization Manager to dynamically configure virtual fibre channel on your managed system and to assign physical fibre channel ports to logical partitions.

"Modifying the virtual Fibre Channel on the Integrated Virtualization Manager" on page 44
You can use the Integrated Virtualization Manager to modify the virtual Fibre Channel configuration and the logical partition connections to physical Fibre Channel ports on your managed system.

Modifying optical devices by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to view and to modify physical optical devices and virtual optical media.

About this task

You can add optical devices to, or remove optical devices from, any logical partition, whether or not the logical partition is active. If you remove an optical device from an active logical partition, the Integrated Virtualization Manager prompts you to confirm the removal before removing the optical device.

To modify virtual optical media, the Integrated Virtualization Manager must be at version 1.5 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

To view and modify optical devices, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage page is displayed.
2. Select the **Optical/Tape** tab.

3. Select the type of optical devices that you want manage by clicking either **Physical Optical Devices** or **Virtual Optical Media**.

4. To change the logical partition assignment for a physical optical device, complete the following steps:

   a. From the Physical Optical Devices table, select the optical device that you want to modify.

   b. From the tasks menu, click **Modify partition assignment**. The Modify Optical Device Partition Assignment page is displayed.

   c. Either change the logical partition to which the optical device is assigned, or set the optical device so it is not assigned to any logical partition, and then click **OK**. The list of optical devices reflects the changes you made.

5. To modify virtual optical media, click one of the following tasks in the Virtual Optical Media section:

   - **Extend Library** to extend the size of the media library.
   - **Delete Library** to delete the media library and the files within the library.
   - ***Add Media** to add an optical media file to the media library and make it available for assignment to a partition.
   - **Modify partition assignment** to change the partition assignment for a media file by changing the virtual optical device to which a media file is assigned. You can assign read-only media to more than one device.
   - **Download** to open or download the selected media file.
   - **Delete** to delete the selected media files from the media library.

Modifying physical tape devices by using the Integrated Virtualization Manager

You can use the Integrated Virtualization Manager to view and to modify the partition assignments for physical tape devices on the managed system.

About this task

You can add physical tape devices to, or remove physical tape devices from, any logical partition, whether or not the logical partition is active. If you remove a physical tape device from an active logical partition, the Integrated Virtualization Manager prompts you to confirm the removal before removing the device.

To modify physical tape devices, the Integrated Virtualization Manager must be at version 2.1 or later. To update the Integrated Virtualization Manager, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.

To view and modify the partition assignments for physical tape devices, complete the following steps in the Integrated Virtualization Manager:

Procedure

1. In the navigation area, select **View/Modify Virtual Storage** under **Virtual Storage Management**. The View/Modify Virtual Storage panel is displayed.

2. Select the **Optical / Tape** tab.

3. Select **Physical Tape Devices** to view a list of physical tape devices available on the managed system. A notation of 'No devices' appears next to this title if no physical devices exist on the managed system.

4. To change the logical partition assignment for a physical tape device, complete the following steps:

   a. From the Physical Tape Devices table, select the tape device that you want to modify.

   b. From the tasks menu, click **Modify partition assignment**. The Modify Physical Tape Device Partition Assignment page is displayed.

   c. Either change the logical partition to which the tape device is assigned, or set the tape device so it is not assigned to any logical partition, and then click **OK**. The list of tape devices reflects the changes you made.

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Managing Ethernet using the Integrated Virtualization Manager

Use the Integrated Virtualization Manager for network-management tasks to manage the network connectivity of the managed system.

Changing the TCP/IP settings on the Virtual I/O Server

Use the Integrated Virtualization Manager to change the TCP/IP settings on the Virtual I/O Server.

Before you begin

Use any role other than the View Only role to perform this task. Users with the View Only role can view the TCP/IP settings, but cannot change them.

Before you can view or modify the TCP/IP settings, you must have an active network interface.

Integrated Virtualization Manager version 1.5.2 supports the use of IPv6 addresses.

CAUTION:
Modifying your TCP/IP settings remotely might result in the loss of access to the current session. Ensure that you have physical console access to the Integrated Virtualization Manager partition prior to making changes to the TCP/IP settings.

About this task

To view or modify the TCP/IP settings, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify TCP/IP Settings**. The View/Modify TCP/IP Settings panel is displayed.
2. Depending on which setting you want to view or modify, select one of the following tabs:
   - **General** to view or modify the host name and the partition communication IP address.

     Note: Currently, Integrated Virtualization Manager supports only IPv4 addresses for the partition communication setting.
   - **Network Interfaces** to view or modify the network interface properties, such as the IP address, subnet mask, and the state of the network interface.
   - **Name Services** to view or modify the domain name, name server search order, and domain server search order.
   - **Routing** to view or modify the default gateway.

     Note: You can configure both an IPv4 default gateway and an IPv6 default gateway for Integrated Virtualization Manager version 1.5.2.
3. Click **Apply** to activate the new settings.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Related tasks:

"Installing the Virtual I/O Server and enabling the Integrated Virtualization Manager on servers" on page 7
When you install the Virtual I/O Server in an environment where no Hardware Management Console (HMC) is present, the Virtual I/O Server automatically creates a management partition whose interface is the Integrated Virtualization Manager.

"Connecting to the Virtual I/O Server command-line interface" on page 11
Learn how to connect to the Virtual I/O Server command-line interface, which allows you to use commands for the Integrated Virtualization Manager.

Related reference:

lstcpip Command

Creating a virtual Ethernet adapter

You can create a virtual Ethernet adapter on the management partition and the client partitions by using the Integrated Virtualization Manager.

About this task

Virtual Ethernet provides Ethernet connectivity between partitions. To create a virtual Ethernet adapter, specify the ID number of the virtual Ethernet network to which you want to connect a corresponding virtual Ethernet adapter that is available for a logical partition. You can also add new adapters or virtual Ethernet network IDs for the partition.

Most tasks associated with IEEE 802.1Q virtual Ethernet are performed by using the command-line interface. For detailed command descriptions, see the Virtual I/O Server and Integrated Virtualization Manager commands.

To create a virtual Ethernet adapter, complete the following steps:

Procedure

1. From the **Partition Management** menu, click **View/Modify Partitions**.
2. Select the logical partition to which you want to assign the virtual Ethernet adapter and click **Properties**.
3. Select the **Ethernet** tab.
4. To create a virtual Ethernet adapter on the management partition, complete the following steps:
   a. In the Virtual Ethernet Adapters section, click **Create Adapter**.
   b. Enter the Virtual Ethernet ID and click **OK** to exit the Enter Virtual Ethernet ID window.
   c. Click **OK** to exit the Partition Properties window.
5. To create a virtual Ethernet adapter on a client partition, complete the following steps:
   a. In the Virtual Ethernet Adapters section, select a virtual Ethernet for the adapter and click **OK**.
   b. If no adapters are available, click **Create Adapter** to add a new adapter to the list and then repeat the previous step.

Related concepts:

Shared Ethernet adapters

Viewing virtual Ethernet settings using the Integrated Virtualization Manager
Use the Integrated Virtualization Manager to view the virtual Ethernet settings for the managed system.

Before you begin

Use any role other than View Only to perform the tasks in the **Virtual Ethernet** tab.

Procedure

To view the virtual Ethernet settings for the managed system, click **View/Modify Virtual Ethernet** from the **I/O Adapter Management**. The **Virtual Ethernet** tab shows information that can be viewed as follows:

- You can view the information by partition, which shows a list of all virtual Ethernets to which each logical partition belongs.
- You can view the information by virtual Ethernet, which shows a list of all logical partitions belonging to each virtual Ethernet.

Related concepts:

⮕ Shared Ethernet adapters

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Related tasks:

"Configuring virtual Ethernet bridges on the managed system using the Integrated Virtualization Manager" on page 20
Use the Integrated Virtualization Manager to configure virtual Ethernet bridges on the managed system.

Updating the Integrated Virtualization Manager

You can update the code level of the management partition and the Virtual I/O Server's firmware microcode using the Integrated Virtualization Manager.

About this task

To update the code level of the management partition or the Virtual I/O Server's firmware microcode, complete one of the following procedures:

Procedure

- Update the current code level of the Integrated Virtualization Manager management partition. For instructions, see "Viewing and updating the code level of the Integrated Virtualization Manager management partition" on page 52.
- Generate a microcode survey of the managed system and download and upgrade the microcode. For instructions, see *Updating the Virtual I/O Server's firmware and device microcode through the Integrated Virtualization Manager with an Internet connection* in the topic collection for your server.
- Update the Virtual I/O Server's firmware and device microcode. For instructions, see *Updating the Virtual I/O Server's firmware and device microcode through the Integrated Virtualization Manager without an Internet connection* in the topic collection for your server.

Migrating the Virtual I/O Server from DVD

Find instructions for migrating the Virtual I/O Server from a DVD device when using the Integrated Virtualization Manager (IVM) to manage your Virtual I/O Server and client logical partitions.

Before you begin

Before you start, ensure that the following statements are true:

- A DVD optical device is assigned to the Virtual I/O Server logical partition.
- The Virtual I/O Server migration installation media is required.

Note: The Virtual I/O Server migration installation media is separate from the Virtual I/O Server installation media.

- The Virtual I/O Server is currently at version 1.3, or later.
- The rootvg volume group has been assigned to the Virtual I/O Server.
- The partition profile data for the management partition and its clients is backed up before you back up the Virtual I/O Server. Use the `bkprofdata` command or see Backing up and restoring partition data to save the partition configuration data to a safe location.

  Important: The IVM configuration in Virtual I/O Server 2.1 is not backward compatible. To revert to an earlier version of the Virtual I/O Server, you need to restore the partition configuration data from the backup file.

- The mksysb image has been saved to a safe location. See Backing up the Virtual I/O Server to a remote file system by creating a mksysb image to run the `backupios` command and save the mksysb image.

About this task

To migrate the Virtual I/O Server from a DVD, follow these steps:

Procedure

1. **Blade server environment only**. Access the Virtual I/O Server logical partition by using the management module of the blade server:
   a. Verify that all logical partitions except the Virtual I/O Server logical partition are shut down.
   b. Insert the Virtual I/O Server migration DVD into the Virtual I/O Server logical partition.
   c. Use telnet to connect to the management module of the blade server on which the Virtual I/O Server logical partition is located.
   d. Enter the following command: `env -T system:blade[x]` where *x* is the specific number of the blade to be migrated.
   e. Enter the following command: `console`
   f. Sign on to the Virtual I/O Server using the appropriate user ID and password.
   g. Enter the following command: `shutdown -restart`
   h. When you see the system management services (SMS) logo appear, select *1* to enter the SMS menu.
   i. Go to step 3 below.

2. **Non-blade server environment only**. Access the Virtual I/O Server logical partition by using the Advanced System Management Interface (ASMI) with a Power Systems server that is not managed by an HMC:
   a. Verify that all logical partitions except the Virtual I/O Server logical partition are shut down.
   b. Insert the Virtual I/O Server migration DVD into the Virtual I/O Server logical partition.
   c. Log in to the ASCII terminal to communicate with the Virtual I/O Server. See Access the ASMI without an HMC if you need assistance.
   d. Sign on to the Virtual I/O Server using the appropriate user ID and password.
   e. Enter the following command: `shutdown -restart`
   f. When you see the SMS logo appear, select *1* to enter the SMS menu.

3. Select the boot device:
   a. Select **Select Boot Options** and press Enter.
   b. Select **Select Install/Boot Device** and press Enter.
   c. Select **CD/DVD** and press Enter.
   d. Select the device number that corresponds to the DVD and press Enter. You can also select **List all devices** and select the device number from a list and press Enter.

e. Select **Normal mode boot**.

f. Select **Yes** to exit SMS.

4. Install the Virtual I/O Server:

a. Select the wanted console and press Enter.

b. Select a language for the Base Operating System (BOS) menus and press Enter.

c. Select **Start Install Now with Default Settings** and press Enter. You can also verify the installation and system settings by typing 2 to select **Change/Show Installation Settings and Install**.

   Note: You are not required to change the installation settings to select the migration installation method. If a previous version of the operating system exists, the installation method defaults to migration.

d. Select **Continue with Install**. The system will reboot after the installation is complete.

What to do next

After the migration is complete, the Virtual I/O Server logical partition is restarted to its preserved configuration before the migration installation. It is recommended that you perform the following tasks:

- Verify that migration was successful by checking results of the **installp** command and running the **ioslevel** command. It should indicate the ioslevel is now $ ioslevel 1.2.1.0.

- Restart previously running daemons and agents.

  1. Log on to the Virtual I/O Server as padmin user.

  2. Complete the following command: $ motd -overwrite "<enter previous banner message>"

  3. Start any previously running daemons, such as FTP and Telnet.

  4. Start any previously running agents, such as ituam.

- Check for updates to the Virtual I/O Server. For instructions, see Virtual I/O Server support site.

  Remember: The Virtual I/O Server migration media is separate from the Virtual I/O Server installation media. Do not use the installation media for updates after you perform a migration. It does not contain updates and you will lose your current configuration. Apply updates only by using the instructions from the Virtual I/O Server support site.

Viewing and updating the code level of the Integrated Virtualization Manager management partition

You can view and update the current code level of the Integrated Virtualization Manager management partition.

About this task

To update the management partition, complete the following steps:

Procedure

1. From the **Service Management** menu, click **Updates**.

2. View the current code level of the Integrated Virtualization Manager.

3. Go to the Web site provided on the panel to find the latest available updates and directions for how to apply the updates.

Related tasks:

"Updating the Integrated Virtualization Manager" on page 50

You can update the code level of the management partition and the Virtual I/O Server's firmware microcode using the Integrated Virtualization Manager.

Creating and modifying user accounts

Use the user-management tasks to manage the Integrated Virtualization Manager user accounts on your managed system.

Use the `padmin` user account to view, change, or create user accounts.

The management partition on the managed system uses the same user accounts as on the Integrated Virtualization Manager. This means that changes that you make to user accounts by using the Integrated Virtualization Manager also apply to the user accounts on the management partition. For example, if you change the password for a user account in the Integrated Virtualization Manager, then you must use the new password when you use that user account to log in to the management partition.

To view a list of Integrated Virtualization Manager user accounts, and to start user maintenance tasks for those user accounts, click **View/Modify User Accounts**.

Related reference:

➡ mkuser Command

User roles

Learn about the user roles for the Integrated Virtualization Manager.

The user role determines which functions a user can access or use. You cannot change the user role that is assigned to a user account after the user account is created. You cannot create user accounts with the same authority as the `padmin` user account.

The following table lists the user roles available for the Integrated Virtualization Manager.

Table 3. Integrated Virtualization Manager user roles

User role	Description
padmin	This role is similar to the root user. Only one padmin user can be created for the Integrated Virtualization Manager. The padmin user account is required to view, change, or create user accounts, and this account can perform all tasks in the Integrated Virtualization Manager.
View/Modify	This role is the default type for all users that are not padmin. This role can perform most functions within Integrated Virtualization Manager. The command-line interface calls this role the *Administrator* role.
View Only	This role is a read-only role and can perform only list-type (ls) functions. Users with this role do not have the authority to change the system configuration and do not have `write` permission to their home directories. The command-line interface calls this role the View role.

Table 3. Integrated Virtualization Manager user roles (continued)

User role	Description
Service Representative (SR)	This role allows service representatives to run commands that are required to service the system without being logged in as root. The standard SR login user name is qserv. Some Integrated Virtualization Manager service functions are available only for SR accounts. The service commands for SR accounts include the following: • Run diagnostics, including service aids, such as hot plug tasks, certify, and format. • Run all commands that can be run by a group system. • Configure and unconfigure devices that are not busy. • Use the service aid to update system microcode. • Perform the shutdown and restart operations.

Related reference:

⤷ mkuser Command

Creating user accounts

This topic describes how to create Integrated Virtualization Manager user accounts and set basic properties, such as user ID, password, and role.

Before you begin

Use the padmin user account for this task.

About this task

To create a user account, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify User Accounts**. The Create User Accounts panel is displayed.
2. Click ***Create User**. The Create User Account window displays.
3. Enter the user ID and password, and then confirm the password.
4. Select the appropriate role for the user account, and then click **OK**. The user account is created.

What to do next

You can create additional user accounts, if necessary.

Only the basic user properties are set up when you create a user account. You can specify additional user properties, such as password restrictions and account expiration date, by changing user properties.

When you create a user account from this panel, the default user role is Administrator. Users with the Administrator user role have authority to perform all tasks except for user maintenance tasks and tasks involving the global command log and the failed login log.

You also cannot create user accounts with the same authority as the padmin user account. The padmin user account can use the Integrated Virtualization Manager to perform all tasks.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Related tasks:

"Changing user properties"
Use the Integrated Virtualization Manager to change the properties of user accounts, such as number of login retries and the account expiration date.

Changing user properties

Use the Integrated Virtualization Manager to change the properties of user accounts, such as number of login retries and the account expiration date.

Before you begin

Use the padmin user account for this task.

About this task

To change the properties of a user account, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify User Accounts**. A list of user accounts is displayed.
2. Select the user account for which you want to change the properties.
3. Click **Properties**. The User Properties window displays.
4. On the **User Settings** tab, make the changes you want, and then click **OK**. The list of user accounts is displayed again.

What to do next

Changes that you make to the settings on the **User Settings** tab take effect the next time that the user logs in to the Integrated Virtualization Manager.

The management partition on the managed system uses the same user accounts as on the Integrated Virtualization Manager. This means that changes that you make to user accounts using the Integrated Virtualization Manager also apply to management partition user accounts. For example, if you change the password for a user account in the Integrated Virtualization Manager, then you must use the new password when you use that user account to log in to the management partition.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Changing password settings

Learn how to change the password settings and restrictions for Integrated Virtualization Manager user accounts. These settings include the number of weeks until the password expires, minimum password length, and other restrictions.

Before you begin

Use the padmin user account for this task.

About this task

To change the password settings for a user account, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify User Accounts**. A list of user accounts is displayed.
2. Select the user account for which you want to change the password settings.
3. Click **Properties**. The User Properties window displays.
4. On the **Password Settings** tab, make the changes that you want, and then click **OK**. The list of user accounts is displayed again.

What to do next

Changes that you make to the settings on the **Password Settings** tab take effect the next time that the user logs into the Integrated Virtualization Manager.

The management partition on the managed system uses the same user accounts as on the Integrated Virtualization Manager. This means that changes that you make to user accounts using the Integrated Virtualization Manager also apply to management partition user accounts. For example, if you change the password for a user account in the Integrated Virtualization Manager, then you must use the new password when you use that user account to log into the management partition.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Removing user accounts

Learn how to remove Integrated Virtualization Manager user accounts.

Before you begin

Use the padmin user account for this task.

About this task

Attention: This procedure deletes all user information from the Integrated Virtualization Manager and the management partition. This procedure includes the home directories for those users on the management partition and all files within those directories. To preserve the files within the home directories, use the command-line interface on the management partition to copy the files to another location before removing the user accounts.

To remove a user account, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify User Accounts**. A list of user accounts is displayed.
2. Select the user account that you want to remove.
3. Click **Remove account**. The Remove User Accounts window displays, which lists the user accounts you selected to remove.
4. Click **OK** to remove the user account. The list of user accounts is displayed again, and the user account you removed is no longer displayed.

What to do next

You can select multiple user accounts to remove. .

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Changing user passwords

Learn how to change user passwords in the Integrated Virtualization Manager.

Before you begin

Use the padmin user account for this task.

About this task

To change a user password, do the following:

Procedure

1. From the **IVM Management** menu, click **View/Modify User Accounts**. A list of user accounts is displayed.
2. Select the user account for which you want to change the password.
3. Click **Change password**. The Change Password window displays.
4. Enter the new password.
5. Confirm the new password, and then click **OK**. The password is changed, and the list of user accounts is displayed again.

What to do next

The next time that the user logs in to Integrated Virtualization Manager, the password change takes effect, and the user is required to change it.

The management partition on the managed system uses the same user accounts as the Integrated Virtualization Manager. This means that the password change that you make here also applies to the management partition user account.

Users can change their own user passwords by clicking **Edit my profile** in the toolbar.

Related concepts:

"User roles" on page 53
Learn about the user roles for the Integrated Virtualization Manager.

Related tasks:

"Editing your user profile"
Use the Integrated Virtualization Manager to edit your user profile. Specifically, learn how to change your user password.

Editing your user profile

Use the Integrated Virtualization Manager to edit your user profile. Specifically, learn how to change your user password.

Before you begin

You must be logged in with the user account for which you want to change the password.

About this task

To change the password for your user account, do the following:

Procedure

1. From the toolbar, click **Edit my profile**. The **Edit My Profile** dialog box is displayed.
2. Type the current password, and then type the new password.
3. Confirm the new password, and then click **OK**. The password is changed, and the Integrated Virtualization Manager page is displayed.

What to do next

The password change takes effect the next time that you log into the Integrated Virtualization Manager.

The management partition on the managed system uses the same user accounts as on the Integrated Virtualization Manager. This means that the password change that you make here also applies to the management partition user account.

The padmin user account can change passwords for any user account.

Related tasks:
"Changing user passwords" on page 57
Learn how to change user passwords in the Integrated Virtualization Manager.

Troubleshooting the Integrated Virtualization Manager

Use service-management tasks to maintain and troubleshoot the Integrated Virtualization Manager.

Use the service management tasks to maintain your managed system so that it is running and up to date.

Backing up and restoring partition data

Use the Integrated Virtualization Manager to back up or restore the partition configuration information about your managed system. You can download an existing backup of the partition configuration, generate a new backup, upload a saved backup, or restore the existing backup.

About this task

To back up or restore partition data, complete the following steps:

Procedure

1. From the **Service Management** menu, click **Backup/Restore**. The Backup/Restore page is displayed, which includes the **Partition Configuration Backup/Restore** tab, the **Management Partition Backup/Restore** tab, and the **File and Virtual Media Backup/Restore** tab.
2. To download an existing backup of the partition configuration, generate a new backup, upload a saved backup, or restore the existing backup, click the **Partition Configuration Backup/Restore** tab.
3. To view instructions for backing up and restoring the data on your management partition using the `backupios` command, click the **Management Partition Backup/Restore** tab.

What to do next

You can use the Integrated Virtualization Manager version 1.5.1.1 to back up and restore virtual optical media files and files in your user `/home` directory. For more information, see "Backing up virtual media and user files to tape" on page 59 and "Restoring virtual media and user files from tape" on page 59.

Related tasks:

⮕ Backing up the Virtual I/O Server

⮕ Restoring the Virtual I/O Server

Backing up virtual media and user files to tape

Use the Integrated Virtualization Manager to back up files in your user /home directory and virtual media files from your managed system to tape.

Before you begin

You must have a tape device mounted on the managed system to complete this task.

About this task

To back up user files or virtual media files to tape, complete the following steps:

Procedure

1. From the **Service Management** menu, click **Backup/Restore**. The Backup/Restore page is displayed.
2. Click the **File and Virtual Media Backup/Restore** tab.
3. In the **Managed System File** table, select the files that you want to back up to tape. The /home/padmin directory is listed as a single entry.

   Click **[+] Show Files** to have the table list all the files within the directory for individual selection. Click **[-] Hide Files** to have the table list only the /home/padmin directory.

   By selecting the directory entry you can back up all the files in the directory by default.
4. Click **Generate Command**. Integrated Virtualization Manager updates the page by replacing the **Managed System File** table with an informational message that contains the command that you use to back up the selected files.
5. Copy the command that the Integrated Virtualization Manager generated and open a terminal session window.
6. Paste the command into the terminal window and run it to back up the selected files to a tape device.

What to do next

You also can use Integrated Virtualization Manager to restore files in your user /home directory and virtual media files from tape. For more information see "Restoring virtual media and user files from tape."

Restoring virtual media and user files from tape

Use the Integrated Virtualization Manager to restore files in your user /home directory and virtual media files from tape to your managed system.

Before you begin

You must have a tape device mounted on the managed system to complete this task.

About this task

To restore user files or virtual media files from tape, complete the following steps:

Procedure

1. From the **Service Management** menu, click **Backup/Restore**. The Backup/Restore page is displayed.
2. Click the **File and Virtual Media Backup/Restore** tab.
3. Click **List Tape Contents** to view a list of all files on the specified tape device. When the process finishes reading the tape, you can view the list of files in the **Tape Device File** table.
4. In the **Tape Device File** table, select the files that you want to restore to the managed system from tape.
5. Click **Generate Command**. Integrated Virtualization Manager updates the page by replacing the **Tape Device File** table with an informational message that contains the command that you need to run to restore the selected files.
6. Copy the command that the Integrated Virtualization Manager generated and open a terminal session window.
7. Paste the command into the terminal window and run it to restore the selected files to the managed system. The command only restores files to those directories to which your user ID has write-access authority. If you have selected to restore a file to a directory to which you do not have such authority, the command cannot restore that particular file.

What to do next

You also can use Integrated Virtualization Manager to back up files in your user /home directory and virtual media files on the managed system to tape. For more information see "Backing up virtual media and user files to tape" on page 59.

Viewing application logs

View the application log entries on your managed system. *Application logs* are files that contain events and errors generated by the Integrated Virtualization Manager.

About this task

To view the application logs, do the following:

Procedure

1. From the **Service Management** menu, click **Application Logs**. The Application Logs panel is displayed.
2. To modify the selection criteria, select the desired filters, and then click **Apply**. Click **Reset** to reset the filter information to the default values.

Viewing application log properties

Use the Integrated Virtualization Manager to view the properties of the application log entries on your managed system.

About this task

To view the properties of the application logs, do the following:

Procedure

1. From the **Service Management** menu, click **Application Logs**. The Application Logs panel is displayed.
2. Select the application log for which you want to view the properties.
3. From the **Tasks** menu, click **Properties**. The **Log Properties** dialog box is displayed.
4. Click **OK** or **Cancel** to close the dialog box. The Application Logs panel is displayed.

What to do next

For more information about the specific properties of the application logs, see the online help ( ).

Monitoring tasks

View and monitor the most recent 40 tasks that are running on the Integrated Virtualization Manager.

About this task

To view the properties of the tasks, do the following:

Procedure

1. From the **Service Management** menu, click **Monitor Tasks**. The Monitor Tasks panel is displayed.
2. Select the task for which you want to view the properties.
3. Click **Properties**. The Task Properties dialog box is displayed.
4. Click **Cancel** to close the dialog box. The Monitor Tasks panel is displayed.

Viewing hardware inventory

Use the Integrated Virtualization Manager to list the devices on your managed system, including device name, status, type of device, and physical location code.

About this task

To list the devices on your managed system, do the following:

Procedure

1. From the **Service Management** menu, click **Hardware Inventory**. The Hardware Inventory panel is displayed, which includes a list of hardware devices.
2. To sort the list by any of the categories, such as device name or status, click the appropriate header. This list includes any device with a device name, including both physical devices and virtual devices. Using this page is equivalent to using the `lsdev` command in the command-line interface.
3. Click **Configure Devices** to find added or moved devices on the management partition. Using this task is equivalent to using the `cfgdev` command, and the task refreshes the contents of the Hardware Inventory table.

Related reference:

 lsdev Command

 cfgdev Command

Connecting an HMC to a system managed by the Integrated Virtualization Manager

Learn how to connect an servers system that is managed by the Integrated Virtualization Manager (IVM) to become an servers system managed by a Hardware Management Console (HMC).

About this task

Connecting an HMC to a system that is managed by the Integrated Virtualization Manager (IVM) automatically disables the IVM. The HMC assumes management control of the system. Because the management of the system is changed, you must re-create your logical partition configuration either manually or from backups.

To change the management of a system from the IVM to an HMC, do the following:

Procedure

1. Create a backup of your partition configuration using the IVM, and download it to your local system. For instructions, see Backing up and restoring partition data. You can use the backup text file as a reference for recreating your partitions in step 4.
2. Connect the HMC to the system. For instructions, see Installing and configuring the HMC. The managed system is in Recovery state on the HMC.
3. Initialize the profile data using the HMC interface. For instructions, see Managing the HMC. This action clears the partition configuration.
4. Using the backup text file that you created in step 1, re-create your partitions by using the HMC. For instructions, see Managing the HMC.

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Programming interface information

This Integrated Virtualization Manager publication documents intended Programming Interfaces that allow the customer to write programs to obtain the services of AIX Version 7.1, AIX Version 6.1, and Virtual I/O Server Version 2.2.2.2.

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