Power Systems

Road map for installing the IBM Power 550 Express (8204-E8A and 9409-M50)

GI11-2909-02

Power Systems

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Note

Before using this information and the product it supports, read the information in "Notices," on page 29, "Safety notices" on page v, the *IBM Systems Safety Notices* manual, G229-9054, and the *IBM Environmental Notices and User Guide*, Z125–5823.

This edition applies to IBM Power Systems servers that contain the POWER6 processor and to all associated models.

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Contents

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Safety notices

Safety notices may be printed throughout this guide:

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

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German safety information

Das Produkt ist nicht für den Einsatz an Bildschirmarbeitsplätzen im Sinne § 2 der Bildschirmarbeitsverordnung geeignet.

Laser safety information

IBM® servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

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

CAUTION:
This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:

- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

(C026)

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

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

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CAUTION:
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the IBM servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:

- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metallically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

Chapter 1. Installing the IBM Power 550 Express: Overview

Follow the steps outlined in this road map for installing your IBM Power 550 Express® (model 8204-E8A or 9409-M50).

Before you install your server, read the following items before you continue installing your server.

- To plan your server installation, see Planning for the system (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphad/iphadplankickoff.htm).
- If you are using an Hardware Management Console (HMC) as your management console, complete the following steps:
  1. If you are using a previously existing HMC, ensure that your HMC is at the correct release (7.3.2 or later).
  2. To update your HMC release, see Obtaining and applying machine code updates for the HMC with an Internet connection (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphai/area3fixeshmc.htm).

To install the Power 550 (8204-E8A or 9409-M50), you must perform the following high-level tasks:

Table 1. Tasks to install the server

Task	Where to find associated information
Perform inventory. Ensure that you have the following items: • The box labeled **2** • The rails and the cable management arm (if you are installing the server into a rack).	Locate the kitting report (inventory list) for your server, and verify that you received all of the parts that you ordered. Your order information should be located in the ship group next to your system box. You can also obtain order information from your marketing representative or IBM Business Partner. If you have incorrect, missing, or damaged parts, consult any of the following resources: • Your IBM reseller. • IBM Rochester manufacturing automated information line at 1-800-300-8751 (United States only). • Directory of worldwide contacts at http://www.ibm.com/planetwide. (Select your location to view the service and support contact information.)
Verify that you have a rack, if you need one.	If you are installing a rack-mounted server, you must first have a rack installed. If you do not have a rack installed, see Installing the rack (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphbf/installrack.htm).
Install the server into the rack.	To install the rail assembly and the server into a rack, see Installing the server into a rack.
Install the cable management arm.	To install the cable management arm, see Installing the cable-management arm.
Cable the system and set up a console, interface, or terminal.	To cable the system, see Installing the cable-management arm.
Connect power cables and apply power.	

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Chapter 2. Installing the server into a rack

With the rack installed, you must install your server into the rack and set up the cable-management arm.

Determining the location

This procedure assumes that you have installed the rack, and now you must install the managed system into the rack.

1. Read the Rack safety notices.
2. Plan where to place the units. Place the larger and heavier units in the lower part of the rack.

   This system unit is four Electronic Industries Alliance (EIA) units high. An EIA unit is 44.45 mm (1.75 in.) in height. The rack contains three mounting holes for each EIA unit of height. This system unit therefore is 177.8 mm (7 in.) high and covers 12 mounting holes in the rack.
3. If necessary, remove the filler panels to allow access to the inside of the rack enclosure where you plan to place the unit.

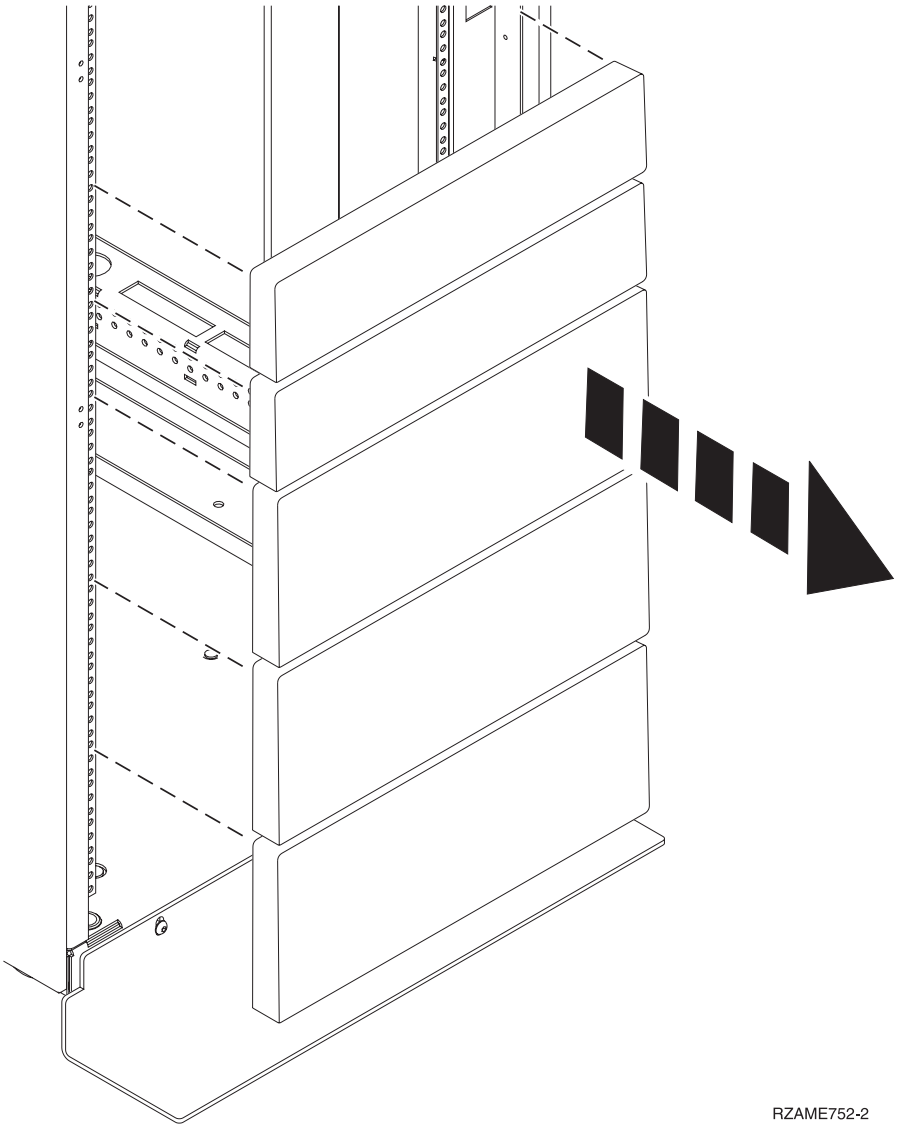

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Figure 1. Removing the filler panels

4. If necessary, remove the front and back rack doors.
5. Mark the location where the rails will be installed. For instructions, see "Marking the location."

Marking the location

You might need to mark the installation location. Use this procedure to perform this task.

To mark the installation location and to install the nut clips into a rack without using the rack-mounting template, complete the following steps:

1. Determine where in the rack to place the system. Install units in the lower part of the rack first. Place larger and heavier units in the lower part of the rack. Record the EIA location.
2. Face the front of the rack and work from the right side. Place a self-adhesive dot at the middle hole of the bottom EIA unit of the four EIA units that you are using for this system unit. See **(A)** in Marking holes on the front and back of the rack frame.

   Note: The self-adhesive dots are used to help you identify locations on the rack. If you do not have the dots, use some other form of marking tool to help you identify hole locations (for example, tape or a marker). You need to identify the marked hole from both the front and back of the rack.
3. Place another self-adhesive dot next to the middle hole of the bottom EIA unit on the left side of the rack **(A)** as shown in Marking holes on the front and back of the rack frame.
4. Go to the back of the rack. On the right side, find the EIA unit that corresponds to the bottom EIA unit marked on the front of the rack.

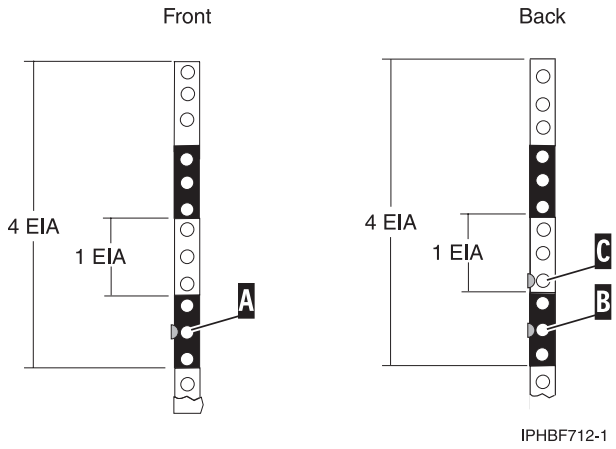

Figure 2. Marking holes on the front and back of the rack frame

5. Place a self-adhesive dot at the middle hole of the bottom EIA unit **(B)** as shown in Marking holes on the front and back of the rack frame.
6. Place a self-adhesive dot at the bottom hole of the next (higher) EIA unit **(C)** as shown in Marking holes on the front and back of the rack frame.
7. Mark the corresponding holes on the left side of the rack.
8. Continue to the next section.

Attaching the mounting hardware to the rack

Use the procedure in this section to attach mounting hardware to the rack.

Attention: Three people are required to perform this task. To avoid rail failure and potential danger to yourself and to the unit, ensure that you have the correct rails and fittings for your rack. If your rack has square support flange holes or screw-thread support flange holes, ensure that the rails and fittings match the support flange holes used on your rack. Do not install mismatched hardware using washers or spacers. If you do not have the correct rails and fittings for your rack, contact your IBM reseller. Also, to install the rails correctly, perform each step in the following order.

To install the rack-mounting hardware into the rack, complete the following steps:

1. With the right rail, twist the latch assembly release tab, and then slide the other tab back to the retracted position and lock the latch assembly. The back-alignment pins must be fully retracted.

Figure 3. Locked latch assembly with pins retracted

2. After the alignment pins are retracted, insert the right-side rail front-alignment pin, as shown in Front slide rail alignment pin, retaining screws, and latch bracket, into the rack front flange hole. This hole is identified by the self-adhesive placement dot that you previously installed. Have a second person hold the rail securely in the front hole.

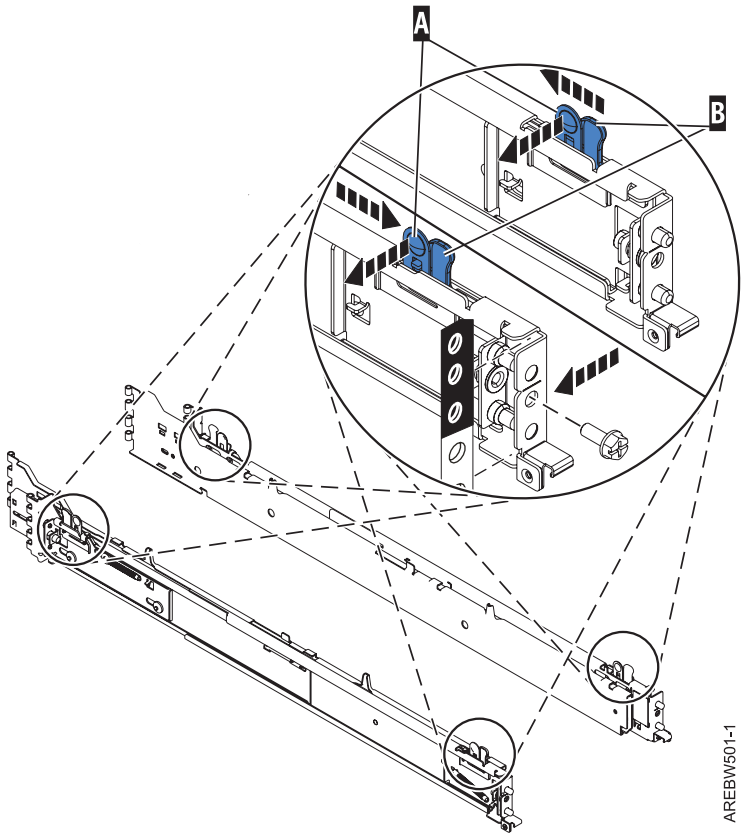

Figure 4. Front slide rail alignment pin, retaining screws, and latch bracket

3. Align the back-alignment pins of the rail with the holes at the back of the rack. The holes are identified by the self-adhesive placement dots on the back of the rack. Ensure that the rails are level.

Figure 5. Front slide rail hole alignment

4. Release the latch assembly so that the alignment pins extend through the front rack holes.

Figure 6. Release the latch assembly

Figure 7. Alignment pins extended through the rack holes

5. Move to the back of the frame. Align the rail with the correct holes in the rack frame.

Figure 8. Rear slide rail hole alignment

6. From the back of the rack, as shown in Installing the rail support brackets, install the rail support bracket on the alignment pins. Then insert a large rail-retaining screw into the hole located between the two back alignment pins. Partially tighten the screw. Do not tighten completely at this time.

   Note: The brackets are labeled LEFT and RIGHT. In the following illustration, these brackets are shown in blue for emphasis.

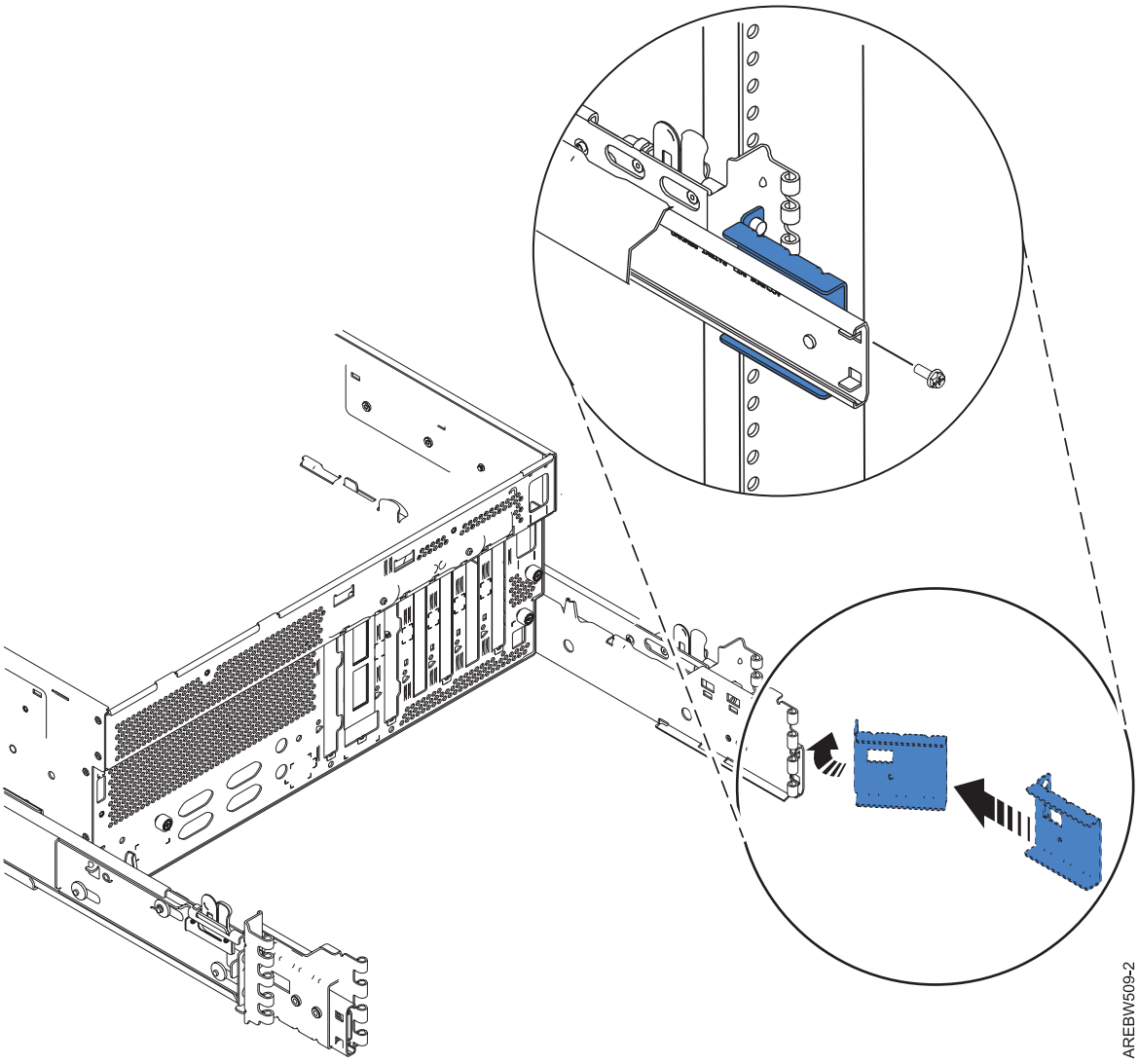

Figure 9. Installing the rail support brackets

7. Repeat steps 1 through 5 for the left side rail.
8. Locate the two latch brackets. To install the rack latches, use the following procedure:
   a. Rotate the top of the bracket out as shown in Rotate out the top of the bracket.

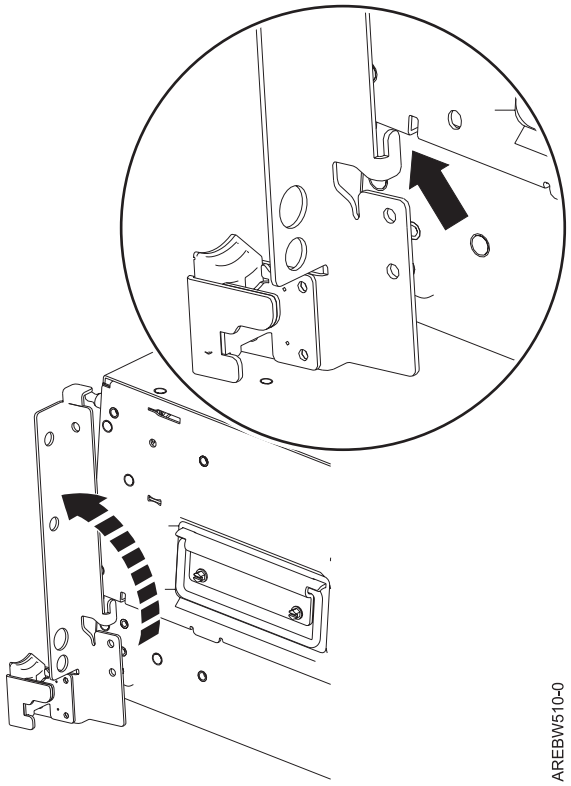

Figure 10. Rotate out the top of the bracket

b. Align the bracket with the slot on the side of the server as shown in Align the bracket with the slot on the side of the server.

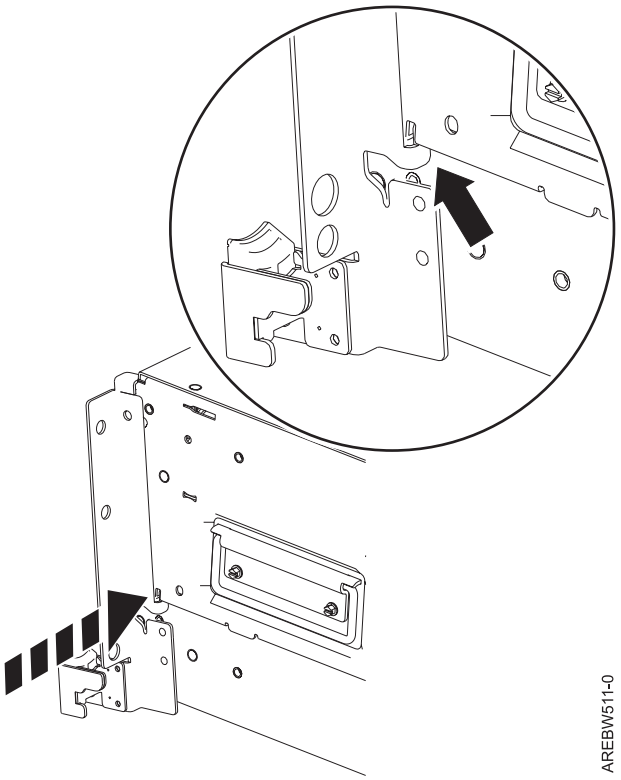

Figure 11. Align the bracket with the slot on the side of the server

c. Move the bracket up to engage the tab as shown in Move the bracket up to engage the tab.

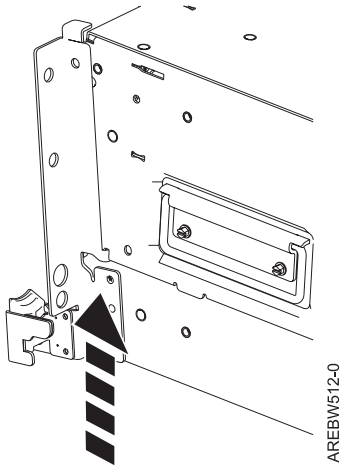

Figure 12. Move the bracket up to engage the tab

d. Rotate the top of the bracket back so that the top tab is on top of the chassis. Then install the screws as shown in Rotate the top of the bracket back and install the screws.

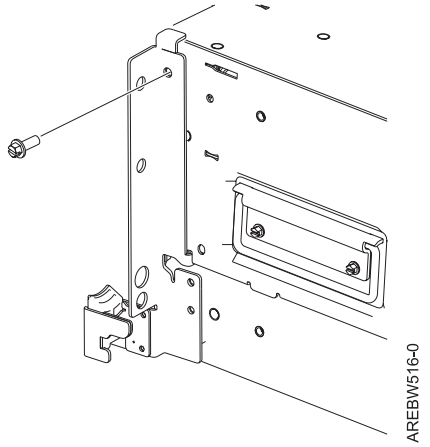

Figure 13. Rotate the top of the bracket back and install the screws

9. Extend the inner rails by pulling out the rails. They must be extended from the frame like the rails shown in Place system onto the rails.
10. Using three people, grasp the two handles located on each side of the system drawer, and place the system onto the inner rail. Align tab **A** with slot **B** as indicated by the vertical dashed line shown in Place system onto the rails.

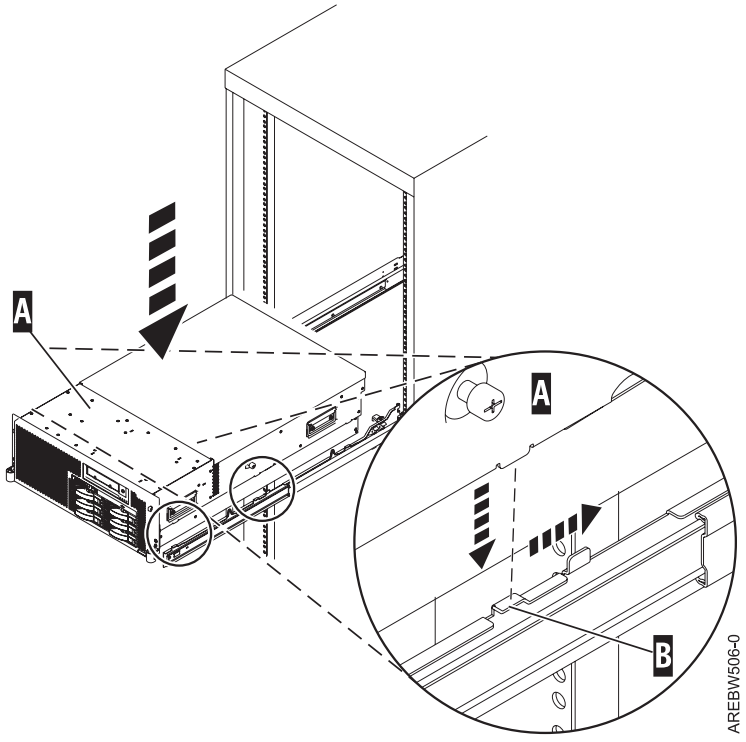

Figure 14. Place system onto the rails

11. Simultaneously press the safety latches and push the system unit into the rack until it locks as shown in Inner rail extended.

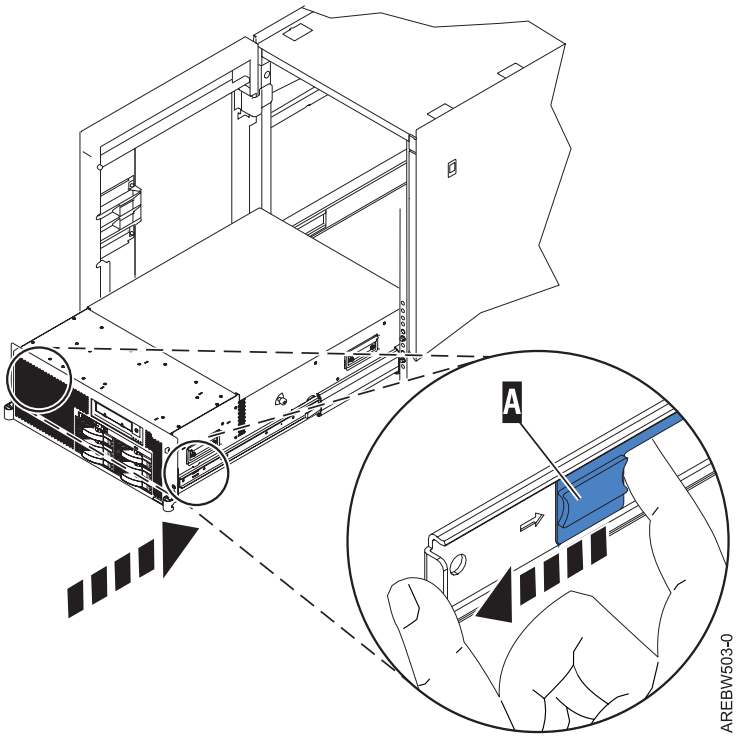

Figure 15. Inner rail extended

12. Install and position the nut clips (shown in blue) before inserting the screws. Use the retaining screws to attach the system to the rack as shown in Secure system to rack through rack latches.

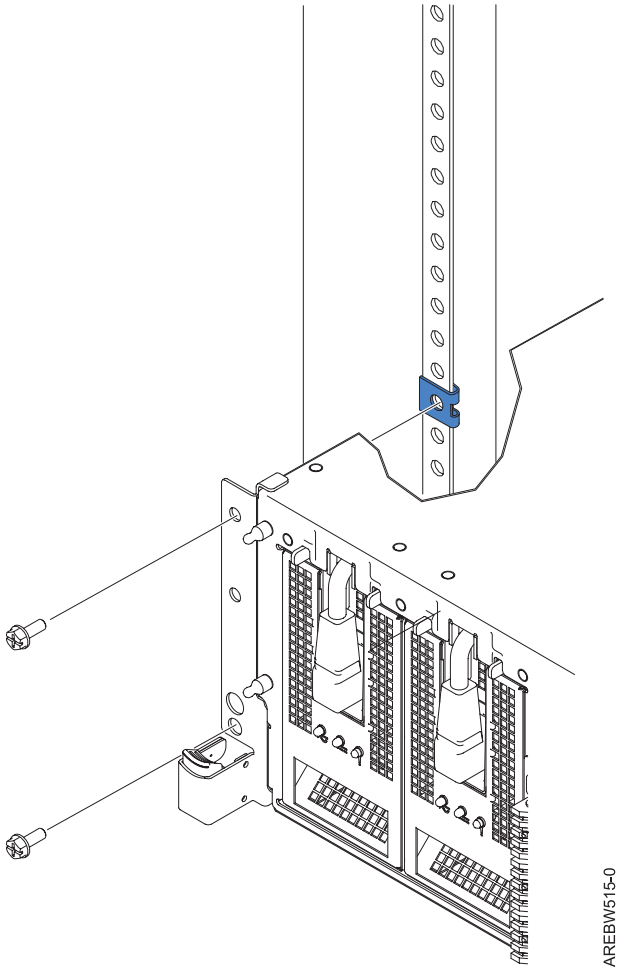

Figure 16. Secure system to rack through rack latches

13. After both rails have been installed, ensure that none of the rail retaining screws are more than finger tight. The rails must be level from front to back and from left to right.

Installing the cable-management arm

Use this procedure to install the cable-management arm.

To install the cable-management arm, complete the following steps:

1. Determine on which side of the rack you want to install the cable-management arm.
2. Place the correct arm bracket (left or right) with the cable-management arm.
3. Use the pin **(F)** to pin the cable-management arm **(E)** to the rack frame **(D)** as shown in Attaching the cable-management arm.

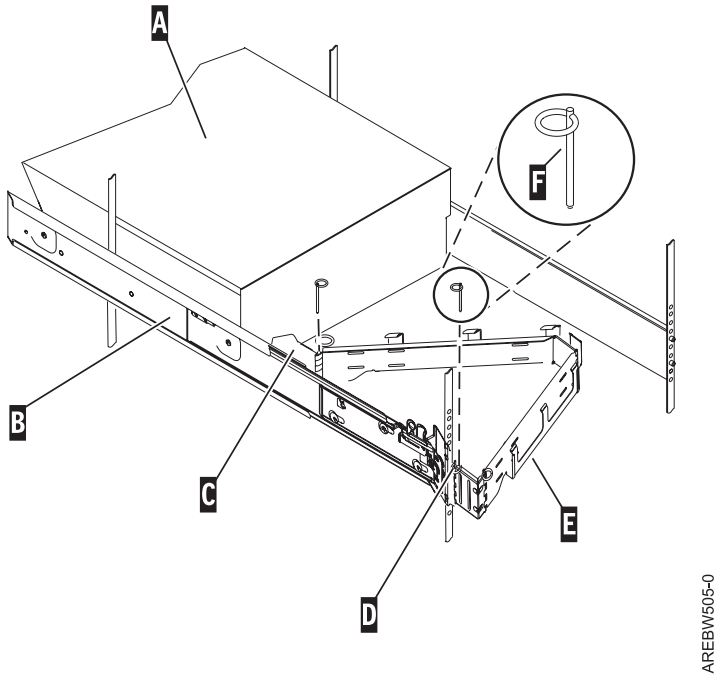

Figure 17. Attaching the cable-management arm

Tip: If access to the back of the rack is obscured by many existing cables, it might be easier to remove the small connecting hinge from the cable-management arm and attach it first. Then, you can attach the remaining section of the cable-management arm to the connecting hinge.

4. Use the second pin **(F)** to pin the other end of the cable-management arm to the flange **(C)** that is attached to the sliding portion of the left system rail assembly **(B)**. See Attaching the cable-management arm.

Chapter 3. Cabling the server and setting up the console

Your console, monitor, or interface choices are guided by whether you create logical partitions, which operating system you install in your primary partition, and whether you install a Virtual I/O Server in one of your logical partitions.

Choose one of the following consoles, interfaces, or terminals for installation.

Table 2. Available console types

Console type	Operating system	Logical partitions	Cable required	See the following topics
ASCII terminal	AIX® or Linux®	No	Serial cable equipped with a null modem	"Cabling the server with an ASCII terminal"
Hardware Management Console (HMC)	AIX, IBM i, andLinux	Yes	Ethernet (or crossover cable)	"Cabling the server to the HMC" on page 16
Operations Console	IBM i	Yes Use your Operations Console to manage existing IBM ipartitions.	• Ethernet cable for LAN connection • Operations Console cable for direct attachment	"Cabling the server and accessing Operations Console" on page 18
Integrated Virtualization Manager	AIX, Linux, and IBM i	Yes	Serial cable	"Cabling the server and accessing the Integrated Virtualization Manager" on page 19

Cabling the server with an ASCII terminal

If you are not creating logical partitions, you can use an ASCII terminal to manage a server that is running the AIX or Linux operating system. From the ASCII terminal, you can access the Advanced System Management Interface (ASMI) to perform additional installation tasks.

Before you begin, make sure your server is already installed as a stand-alone server or installed in a rack.

The ASCII terminal is connected to the server through a serial link. The ASCII interface to the ASMI provides a subset of the Web interface functions. The ASCII terminal is available only when the system is in the standby state. It is not available during the initial program load (IPL) or run time.

To cable an ASCII terminal to the server, complete the following steps:

1. Using a serial cable that is equipped with a null modem, connect the ASCII terminal to system connector S1 on the back of the server or to system port S1 on the control panel by using an RJ-45 connector.

   Note: Both system port connections are not available simultaneously; when one is connected, the other is deactivated.
2. Refer to the following diagram for details.

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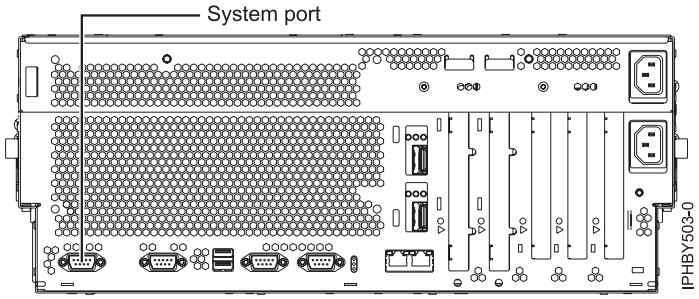


Figure 18. Connection for model 550

3. If you are using a deskside system, run the line cord through the line cord retainer. The retainer, which can be either a ring or a clamp, is located at the bottom rear of the system.
4. Connect the power cord from the server to a power source.
5. Wait for the green light on the control panel to start flashing.
6. Ensure that your ASCII terminal is set to the following general attributes.

   These attributes are the default settings for the diagnostic programs. Be sure that your terminal is set according to these attributes before proceeding to the next step.

Table 3. Default settings for the diagnostic programs

General setup attributes	3151 /11/31/41 settings	3151 /51/61 settings	3161 /64 settings	Description
Line speed	19,200	19,200	19,200	Uses the 19,200 (bits per second) line speed to communicate with the system unit.
Word length (bits)	8	8	8	Selects 8 bits as a data word length (byte).
Parity	No	No	No	Does not add a parity bit and is used together with the word length attribute to form the 8–bit data word (byte).
Stop bit	1	1	1	Places a bit after a data word (byte).

7. Press a key on the ASCII terminal to allow the service processor to confirm the presence of the ASCII terminal.
8. When the login display appears for the ASMI, enter `admin` for the user ID and password.
9. Change the default password when you are prompted.

   You have completed the setup for an ASCII terminal, and have started the ASMI.
10. Continue with "Completing server setup if you do not have an HMC" on page 26.

Cabling the server to the HMC

The Hardware Management Console (HMC) controls managed systems, including the management of logical partitions and the use of capacity on demand. Using service applications, the HMC communicates with managed systems to detect, consolidate, and forward information to IBM service for analysis.

Before you begin, make sure your server is already installed as a stand-alone server or installed in a rack.

To manage POWER6 servers, the HMC must be at Version 7 or later. To view the HMC version and release, complete the following steps:

1. In the navigation area, click **Updates**.

2. In the work area, view and record the information that appears in the HMC Code Level section, including the HMC version, release, maintenance level, build level, and base versions.

To cable the server to the HMC, complete the following steps:

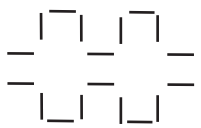
1. Ensure that you position the HMC in the correct location.
2. Attach the monitor cable to the monitor connector, and tighten the screws.
3. Attach the power cord to the monitor.
4. Ensure that the voltage selection switch on the HMC is set to the voltage that is used in your country or region. The voltage selection switch is red and is located near the power connector. Move the switch so that the voltage that is used at your location is displayed.
5. Plug the power cord into the HMC.
6. Connect the keyboard and mouse to the HMC.
7. Connect the optional modem:

   Note: During the installation and configuration of the HMC, the modem might automatically dial out as the HMC follows routine call-out procedures. This is usual behavior.

   If you are connecting an optional external modem, do the following:

   Note: You can use other connectivity methods to send error information to IBM.

   a. If you have not already done so, connect the modem data cable to the external HMC modem.
   b. Connect the modem data cable to the system port on the HMC that is labeled with the following symbol:



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   c. Use the telephone cable to connect the line port of the external modem to the analog telephone jack on your wall.

   If you are connecting to an optional integrated modem, use the data cable to connect the integrated HMC modem to the appropriate data source. For example, use the telephone cable to connect the HMC modem line port to the analog jack on your wall.

   Note: You can use other connectivity methods to send error information to IBM.
8. If your managed system is already installed, verify that the Ethernet cable connection is active by observing the green status lights at both the HMC and managed system Ethernet ports as your installation progresses.
9. Connect the Ethernet (or crossover) cable from the HMC to the managed server.
10. If you are connecting a second HMC to your managed server, connect to the Ethernet port that is labeled **HMC2** on the managed server.
11. If you use an external modem, plug the modem power supply cord into the HMC modem.
12. Plug the power cords for the monitor, HMC, and HMC external modem into electrical outlets. If you are connecting this HMC to a new managed system, do not connect the managed system to a power source at this time.
13. If you are using a deskside server, run the power line cord through the line cord retainer. The retainer, which can be either a ring or a clamp, is located at the bottom rear of the system.
14. Next, you need to complete your server setup. For instructions, see Chapter 4, “Completing server setup,” on page 25.

Related information

Choosing a connectivity method for the call-home server

HMC network connections

Cabling the server and accessing Operations Console

You can use Operations Console to manage a server that is running the IBM i operating system whether you have logical partitions or not. However, you must first use an alternative tool to create the logical partitions.

Before you begin, make sure your server is already installed as a stand-alone server or installed in a rack.

Operations Console is a component of System i® Access for Windows®. You can install the complete product or select only the two console components, which are the Operations Console support and the 5250 emulator support.

Important: The server must be powered off. Do not power on the server until you are instructed to do so.

Follow these steps to cable the Operations Console PC to your server, and to install System i Access for Windows:

1. If you are using a deskside server, run the power line cord through the line cord retainer. The retainer, which can be either a ring or a clamp, is located at the bottom rear of the system.
2. Connect the power cord from the server to a power source.
3. Wait for the green light on the control panel to start flashing.
4. If you are using a LAN connection, attach an Ethernet cable from the PC to the LAN, and another Ethernet cable from the LAN to the top Ethernet port on the server (labeled T1).
5. If you are using a direct attach connection using the Operations Console serial cable, perform the following steps:
   a. Shut down and unplug the PC that will serve as the system console.
   b. Connect the Operations Console serial cable (97H7557 or 39J5835) to the serial port (also called COM port or joystick port) on the back of the PC to the matching serial port on the back of your server.

      Note: If you are using the 2742 adapter, the Operations Console cable must be attached to the lower connector.
6. Plug-in and turn on your console at this time if you have not already done so.
7. Insert the *System i Setup and Operations* CD-ROM in the CD-ROM drive of the PC you will be using for Operations Console.

   Note: The *System i Setup and Operations* CD-ROM is included with the server.
8. Select the **System i Access for Windows** option to start the installation.
9. When the IBM System i Access for Windows window is displayed, click **Next**.
10. Select either **Custom** or **Full** installation and select at least the following components:
    - **Required Programs**
    - **5250 Display and Printer Emulator** (if IBM Personal Communications V5.8 (V5.7 CSD 1 minimum) is not installed)

      You do not need a license to use 5250 Display Emulation just for Operations Console, even though the window indicates that one is required.

      Important: If your Operations Console configuration is going to support only the remote control panel, you do not need to install an emulator.

- **Operations Console**

  Note: The Operations Console component is not available using the **Typical** or **PC5250 User** options.

11. Click **Next** and follow the prompts. You will be asked to reboot your system at this time. Before applying the latest service pack, you must reboot the system.
12. Apply the latest service pack for System i Access for Windows, and ensure that you have the latest level of System i Access for Windows on your PC. For details, see the following Web sites:
    - System i Access Web site at http://www-03.ibm.com/systems/i/software/access/windows/casp.html
    - IBM FTP site at ftp://ftp.software.ibm.com/ and navigate to the directory path: as400/products/clientaccess/win32/v5r4m0/servicepack.

Next, you need to install an operating system and enable service and support functions for your server. For instructions, see "Completing server setup if you do not have an HMC" on page 26. After you finish this task, you will be directed to finish configuring the Operations Console.

Cabling the server and accessing the Integrated Virtualization Manager

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, make sure your server is already installed as a stand-alone server or installed in a rack.

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

1. If you are using a deskside server, run the power line cord through the line cord retainer. The retainer, which can be either a ring or a clamp, is located at the bottom rear of the system.
2. Connect the power cord from the server to a power source.
3. Wait for the green light on the control panel to start flashing.
4. Connect a serial cable from a PC or ASCII terminal to a system port on the server.
5. Verify the following:
   - Verify that you have access to the Advanced System Management Interface (ASMI) using the Web interface. For details, see "Accessing the ASMI using a Web browser" on page 20.
   - Verify that you have administrator or authorized service provider authority in ASMI.
   - 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/Linux partition mode** by boot field.
     d. If you are installing the Integrated Virtualization Manager on an IBM System i model, select **AIX/Linux** in the **Default partition environment** field.
     e. Click **Save settings and power on**.
   - Open a terminal session on the PC, using an application such as HyperTerminal, and wait for the SMS menu to appear. Be sure the line speed is set to 19,200 bits per second to communicate with the system unit.
   - 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/Linux partition mode** boot field.
d. Click **Save settings**.

6. Insert the *Virtual I/O Server* CD or DVD into the optical drive.
7. 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.
8. 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.
9. After you install the Integrated Virtualization Manager, finish the installation by accepting the license agreement, checking for updates, configuring the TCP/IP connection.

Next, you need to install an operating system and enable service and support functions for your server. For instructions, see Chapter 4, “Completing server setup,” on page 25.

Supporting information for setting up consoles

Use this information if you need to access the Advanced System Management Interface using a web browser, set IP addresses on your notebook, or troubleshoot a connection.

Accessing the ASMI using a Web browser

If your system is not managed by a Hardware Management Console (HMC), you can connect a PC or notebook to the server to access the Advanced System Management Interface (ASMI). You need to configure the Web browser address on the PC or notebook to match the manufacturing default address on the server..

To set up the Web browser for direct or remote access to the ASMI, complete the following steps:

1. If the server is not powered on, perform the following steps:
   a. Connect your power cord or cords to the server.
   b. Plug the power cord or cords into the power source.
   c. Wait for the control panel to display 01. A series of progress codes are shown before 01 appears.

      Notes:
      - The system is powered on if the light on the control panel is green.
      - To view the control panel, press the blue switch to the left, then pull out the control panel all the way, and then pull it down.

   Important: Do not connect an Ethernet cable to either the HMC1 port or the HMC2 port until you are directed to do so later in this procedure.
2. Select a PC or notebook that has Netscape 9.0.0.4, Microsoft® Internet Explorer 7.0, Opera 9.24, or Mozilla Firefox 2.0.0.11 to connect to your server.

Note: If the PC or notebook on which you are viewing this document does not have two Ethernet connections, another PC or notebook needs to be connected to your server to access the ASMI.

If you do not plan to connect your server to your network, this PC or notebook is your ASMI console.

If you plan to connect your server to your network, this PC or notebook temporarily connects directly to the server for setup purposes only. After setup, you can use any PC or notebook on your network that is running Netscape 9.0.0.4, Microsoft Internet Explorer 7.0, Opera 9.24, or Mozilla Firefox 2.0.0.11 as your ASMI console.

Note: Complete the following steps to disable the TLS 1.0 option in Microsoft Internet Explorer to access the ASMI using Microsoft Internet Explorer 7.0 running on Windows XP:

a. From the **Tools** menu in Microsoft Internet Explorer, select **Internet Options**.
b. From the Internet Options window, click the **Advanced** tab.
c. Clear the **Use TLS 1.0** check box (in the Security category) and click **OK**.

3. Connect an Ethernet cable from the PC or notebook to the Ethernet port labeled HMC1 on the back of the managed system. If HMC1 is occupied, connect an Ethernet cable from the PC or notebook to the Ethernet port labeled HMC2 on the back of the managed system.

   Important: If you attach an Ethernet cable to the service processor before the system reaches power off standby, the IP address shown in the Service processor network configuration table might not be valid. For details, see "Correcting an IP address" on page 23.
4. Use Table 4 to help you determine and record the information needed in order to set the IP address on the service processor on the PC or notebook. The Ethernet interface on the PC or notebook needs to be configured within the same subnet mask as the service processor so that they can communicate with each other. For example, if you connected your PC or notebook to HMC1, the IP address for your PC or notebook could be 169.254.2.140 and the subnet mask would be 255.255.255.0. Set the gateway IP address to the same IP address as the PC or notebook

Table 4. Network configuration information for the service processor in a POWER6 processor-based system

POWER6® processor-based systems	Server connector	Subnet mask	IP address of the service processor	Example of an IP address for your PC or notebook
Service processor A	HMC1	255.255.255.0	169.254.2.147	169.254.140
	HMC2	255.255.255.0	169.254.3.147	169.254.140
Service processor B (if installed)	HMC1	255.255.255.0	169.254.2.146	169.254.140
	HMC2	255.255.255.0	169.254.3.146	169.254.140

5. Set the IP address on your PC or notebook using the values from the table. For details, see "Setting the IP address on your PC or notebook" on page 22.
6. To access the ASMI using a Web browser, perform the following steps:
   a. Use Table 4 to determine the IP address of the service processor Ethernet port that your PC or notebook is connected to.
   b. Type the IP address in the **Address** field on the Web browser of your PC or notebook and press Enter. For example, if you connected your PC or notebook to HMC1, type `https://169.254.2.147` in the Web browser on your PC or notebook.

   Note: It might take up to 2 minutes for the ASMI login display to appear in the Web browser after the Ethernet cable is plugged into the service processor in step 3. During this time, if you use control panel function 30 to view the IP addresses on the service processor, incomplete or inaccurate data is shown.
7. When the Login display appears, enter `admin` for the user ID and password.
8. Change the default password when prompted.

9. Choose from the following options:
   - If you do not plan to connect your PC or notebook to your network, this ends this procedure. You can now perform tasks such as changing the time of day or changing the altitude setting.
   - If you plan to connect your PC or notebook to your network, refer to Accessing the ASMI without an HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphby/connect_asmi.htm).

Setting the IP address on your PC or notebook

To access the ASMI through a Web browser, you first need to set the IP address on a PC or notebook. The following procedures describe setting the IP address on a PC or notebook running the Microsoft Windows XP, 2000, and Vista, and Linux operating systems.

You will need the information you recorded in step 4 on page 21 in Accessing the ASMI using a Web Browser to complete the following procedure.

Windows XP and Windows 2000

To set the IP address within Windows XP and Windows 2000, complete the following steps.

1. Click **Start** → **Control Panel**.
2. On the control panel, double-click **Network Connections**.
3. Right-click **Local Area Connection**.
4. Click **Properties**.
5. Select **Internet Protocol (TCP/IP)**, and then click **Properties**.

   Attention: Record the current settings before making any changes. This will allow you to restore these settings if you disconnect the PC or notebook after setting up the ASMI Web interface.

   Note: If Internet Protocol (TCP/IP) does not appear in the list, do the following:
   a. Click **Install**.
   b. Select **Protocol**, and then click **Add**.
   c. Select **Internet Protocol (TCP/IP)**.
   d. Click **OK** to return to the Local Area Connection Properties window.
6. Select **Use the Following IP Address**.
7. Complete the **IP address**, **Subnet mask**, and **Default gateway** fields by using the values you recorded during Accessing the ASMI using a Web Browser.
8. Click **OK** on the Local Area Connection Properties window. It is not necessary to restart your PC.

Linux

To set the IP address within the Linux operating system, complete the following steps.

1. Make sure you are logged on as a root user.
2. Start a terminal session.
3. Type `ifconfig` at the command prompt.

   Attention: Record or print the current settings before making any changes. This allows you to restore these settings if you disconnect the PC or notebook after setting up the ASMI Web interface.
4. Type `ifconfig eth0` *xxx.xxx.xxx.xxx* `netmask` *xxx.xxx.xxx.xxx*, where the *xxx.xxx.xxx.xxx* are the values you recorded during Accessing the ASMI using a Web Browser.
5. Press Enter.

Windows Vista

To set the IP address within Windows Vista, complete the following steps.

1. Click **Start** → **Control Panel**.
2. Ensure **Classic View** is selected.
3. Select **Network and Sharing Center**.
4. Select **View status** in the Public network area.
5. Click **Properties**.
6. If the security dialog appears, click **Continue**.
7. Highlight **Internet Protocol Version 4**.
8. Click **Properties**.
9. Select **Use the following IP address**.
10. Complete the **IP address**, **Subnet mask**, and **Default gateway** fields by using the values you recorded in the Accessing the ASMI using a Web browser procedure.
11. Click **OK** → **Close** → **Close**.

Correcting an IP address

If you attach an Ethernet cable to the service processor before the system reaches power off standby, the IP address shown in the service processor network configuration table might not be valid.

If a cable is attached and not connected to anything, nothing happens. The address could potentially change if an Ethernet cable that is attached to a network is connected to that port and the system is turned on. If you are unable to access the ASMI using a network connection, you must perform one of the following tasks:

- Attach an ASCII terminal to the service processor using a serial cable. For details, see "Cabling the server with an ASCII terminal" on page 15.
- Move the reset toggle switches on the service processor from their current position to the opposite position. To perform this task, you must remove and replace the service processor. For details, contact your next level of support.

Chapter 4. Completing server setup

The tasks for completing the server setup depend on whether or not you have a Hardware Management Console (HMC). Learn more about the tasks you must perform to complete your managed system installation.

Note: If you are using a deskside server, be sure you have run the power line cord through the line cord retainer. The retainer, which can be either a ring or a clamp, is located at the bottom rear of the system.

Completing server setup if you have an HMC

You must perform these tasks to complete server setup with a Hardware Management Console (HMC).

To manage POWER6 servers, the HMC must be at Version 7 or later.

To complete server setup with an HMC, do the following steps:

1. Plug in the power cords. Wait for the system to enter standby mode.
2. Change the managed system passwords.
3. Access the Advanced System Management Interface (ASMI) from the HMC by performing these steps:
   a. In the navigation pane on the HMC, select **System Management** → **Servers**.
   b. In the contents pane, select the server you want to work with.
   c. Select **Tasks** → **Operations** → **Launch Advanced Systems Management (ASM)**.
   d. Verify the information that appears and click **OK**. The ASMI is shown.
4. Update the time of day on the managed system using the ASMI.
   To change the time of day using the ASMI, do the following steps:
   a. On the ASMI Welcome pane, specify your admin user ID and password, and click **Log In**.
   b. In the navigation area, expand **System Configuration**.
   c. Select **Time of Day**. The right pane displays a form that shows the current date (month, day, and year) and time (hours, minutes, seconds).
   d. Change the date value, the time value, or both, and click **Save settings**.
5. Update the altitude setting.
   a. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
   b. In the navigation area, expand **Performance Setup**.
   c. In the Altitude Setup window, select **Yes** or **No** to answer the question as to whether your system is located below the altitude values shown.
   d. Click **Continue**. Changes are effective after the next IPL.
6. Check the firmware level on the managed system.
   To check the firmware level on the managed system, in the navigation area, select **Updates**. Firmware information is displayed in the contents area.
7. Compare your installed firmware level with available firmware levels. If required, update your firmware levels.
   a. Compare your installed firmware level with available firmware levels. For more information, see Fix Central (http://www.ibm.com/eserver/support/fixes).
   b. If required, update your managed system firmware levels. In the navigation area, select **Updates**.
   c. In the contents area, select your managed system.

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d. Select **Change Licensed Internal Code for the current release**.

8. Connect your expansion unit, disk drives, and PCI adapters, if applicable. For more information, see Enclosures and Expansion Units (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipham/expansionunit.htm), Disk Drives (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphal/arebykickoff.htm), and PCI Adapters (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphak/iphak_pciadapters_front.htm).
9. To power on your managed system by using the HMC, do the following steps:
   a. In the navigation area, expand **Systems Management > Servers**.
   b. In the contents area, select the managed system.
   c. Click **Operations > Power On**.
   d. Click the power-on option.
      - If you want to create logical partitions on this server, select **Normal** and then select **Stop at Partition Standby**.
      - If you want the HMC to power on the system and its logical partitions based on a predefined system profile, select **System profile**.
      - If you do not want to create logical partitions, select the power-on option that you want to use.
   e. Click **OK**.
10. Create logical partitions.

    For instructions about creating logical partitions, see Partitioning with the HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphat/iphbllparwithhmcp6.htm).
11. Install an operating system, if it is not already installed.

    For instructions to about installing the AIX operating system, see Installing AIX (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/iphayinstallaix.htm).

    For instructions about installing IBM i, see Installing IBM i (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/iphaxinstallos400.htm).

    For instructions about installing the Linux operating system, see Installing Linux (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/ipha8installlinux.htm).

Your server is now installed.

Completing server setup if you do not have an HMC

You must perform these tasks to complete server setup without a Hardware Management Console (HMC).

1. Plug in the power cords.
2. Access the Advanced System Management Interface (ASMI):
   - If you set up the ASCII terminal, the ASMI should be open.
   - If you set up Operations Console, you can access the ASMI using the Web browser.
   - If you are using IVM, you should already have access to the ASMI using the Web interface.

   Note: For details on accessing the ASMI, see Accessing the ASMI using a Web browser. (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/areci/areci_access_asmi_web.htm).
3. Check the firmware level on the managed system. On the ASMI Welcome pane, the existing level of server firmware is displayed in the upper-right corner below the copyright statement.
4. Update the time of day:
   a. In the navigation area, expand **System Configuration**.
   b. Click **Time of Day**. The right pane displays a form that shows the current date (month, day, and year) and time (hours, minutes, seconds).

c. Change the date value, the time value, or both, and click **Save settings**.

5. Update the altitude setting.
   a. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
   b. In the navigation area, expand **Performance Setup**.
   c. In the Altitude Setup window, select **Yes** or **No** to answer the question as to whether your system is located below the altitude values shown.
   d. Click **Continue**. Changes are effective after the next IPL.
6. Connect your expansion unit, disk drives, and PCI adapters, if applicable. For more information, see Enclosures and Expansion Units (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipham/expansionunit.htm), Disk Drives (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphal/arebykickoff.htm), and PCI Adapters (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphak/iphak_pciadapters_front.htm).
7. Start the system.
   - To start the system using ASMI, see Power on (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphby/poweronoff.htm).
   - To start a system that is not managed by an HMC or ASMI, do the following steps:
     a. Open the front door of the managed system.
     b. Press the power button on the control panel.
8. Install an operating system and update the operating system, if required.

   For instructions about installing the AIX operating system, see Installing AIX (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/iphayinstallaix.htm).

   For instructions about installing IBM i, go to Installing IBM i (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/iphaxinstallos400.htm).

   For instructions about installing the Linux operating system, see Installing Linux (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha8/ipha8installlinux.htm).
9. Update the system firmware, if required.
   - For instructions to get firmware fixes through AIX or Linux, go to Getting server firmware fixes through AIX or Linux without an HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/ipha5/fix_firm_no_hmc_aix.htm).
   - If you are using IBM i, use the IBM i PTF installation functions to install the server firmware fixes.
10. If you are using Operations Console to manage your IBM i operating system, refer to Completing the Operations Console configuration setup tasks (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/iphbx/arebn_completesetup.htm).

You have completed the tasks to set up your server and cable your console.

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The following Class A statements apply to the IBM servers that contain the POWER6 processor.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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The following is a summary of the VCCI Japanese statement in the box above:

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Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline (products less than or equal to 20 A per phase)

高調波ガイドライン適合品

Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline with Modifications (products greater than 20 A per phase)

高調波ガイドライン準用品

Electromagnetic Interference (EMI) Statement - People's Republic of China

声　明

此为A级产品，在生活环境中，
该产品可能会造成无线电干扰。
在这种情况下，可能需要用户对其
干扰采取切实可行的措施。

Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

Electromagnetic Interference (EMI) Statement - Taiwan

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能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。

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IBM Taiwan Contact Information:

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電話：0800-016-888

Electromagnetic Interference (EMI) Statement - Korea

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Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.

Germany Compliance Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

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"Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem “Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)“. Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Electromagnetic Interference (EMI) Statement - Russia

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радиопомехи, для снижения которых необходимы
дополнительные меры

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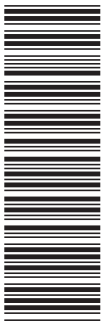

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