ESCALA Power7

Installing the E5-700

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Installing the E5-700

The ESCALA Power7 publications concern the following models:

 - Bull Escala E5-700 (Power 750 / 8233-E8B)
 - Bull Escala M6-700 (Power 770 / 9117-MMB)
 - Bull Escala M6-705 (Power 770 / 9117-MMC)
 - Bull Escala M7-700 (Power 780 / 9179-MHB)
 - Bull Escala M7-705 (Power 780 / 9179-MHC)
 - Bull Escala E1-700 (Power 710 / 8231-E2B)
 - Bull Escala E1-705 (Power 710 / 8231-E1C)
 - Bull Escala E2-700 / E2-700T (Power 720 / 8202-E4B)
 - Bull Escala E2-705 / E2-705T (Power 720 / 8202-E4C)
 - Bull Escala E3-700 (Power 730 / 8231-E2B)
 - Bull Escala E3-705 (Power 730 / 8231-E2C)
 - Bull Escala E4-700 / E4-700T (Power 740 / 8205-E6B)
 - Bull Escala E4-705 (Power 740 / 8205-E6C)

References to Power 755 / 8236-E8C models are irrelevant.

Hardware

Suggestions and criticisms concerning the form, content, and presentation of this book are invited. A form is provided at the end of this book for this purpose.

To order additional copies of this book or other Bull Technical Publications, you are invited to use the Ordering Form also provided at the end of this book.

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Contents

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.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, a safety information booklet is included in the publications package shipped with the product. The booklet contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information in the booklet. You should also refer to the booklet any time you do not clearly understand any safety information in the U.S. English publications.

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

IBM servers may be installed inside or outside of an IT equipment rack.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:
- Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:
1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:
1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

DANGER

Observe the following precautions when working on or around your IT rack system:

- Heavy equipment–personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.

- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

(R001)

CAUTION:

Removing components from the upper positions in the rack cabinet improves rack stability during relocation. Follow these general guidelines whenever you relocate a populated rack cabinet within a room or building:

- Reduce the weight of the rack cabinet by removing equipment starting at the top of the rack cabinet. When possible, restore the rack cabinet to the configuration of the rack cabinet as you received it. If this configuration is not known, you must observe the following precautions:
  - Remove all devices in the 32U position and above.
  - Ensure that the heaviest devices are installed in the bottom of the rack cabinet.
  - Ensure that there are no empty U-levels between devices installed in the rack cabinet below the 32U level.
- If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.
- Inspect the route that you plan to take to eliminate potential hazards.
- Verify that the route that you choose can support the weight of the loaded rack cabinet. Refer to the documentation that comes with your rack cabinet for the weight of a loaded rack cabinet.
- Verify that all door openings are at least 760 x 230 mm (30 x 80 in.).
- Ensure that all devices, shelves, drawers, doors, and cables are secure.
- Ensure that the four leveling pads are raised to their highest position.
- Ensure that there is no stabilizer bracket installed on the rack cabinet during movement.
- Do not use a ramp inclined at more than 10 degrees.
- When the rack cabinet is in the new location, complete the following steps:
  - Lower the four leveling pads.
  - Install stabilizer brackets on the rack cabinet.
  - If you removed any devices from the rack cabinet, repopulate the rack cabinet from the lowest position to the highest position.
- If a long-distance relocation is required, restore the rack cabinet to the configuration of the rack cabinet as you received it. Pack the rack cabinet in the original packaging material, or equivalent. Also lower the leveling pads to raise the casters off of the pallet and bolt the rack cabinet to the pallet.

(R002)

(L001)

(L002)

(L003)
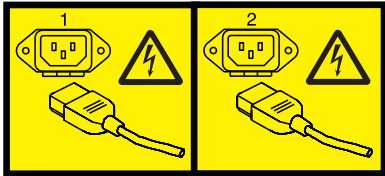
or

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)**

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)**

CAUTION:
The battery contains lithium. To avoid possible explosion, do not burn or charge the battery.

Do Not:
- ___ Throw or immerse into water
- ___ Heat to more than 100°C (212°F)
- ___ Repair or disassemble

Exchange only with the IBM-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM part number for the battery unit available when you call. **(C003)**

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.

Installing the IBM Power 750 Express (8233-E8B) and the IBM Power 755 (8236-E8C)

Follow the steps outlined in this topic collection for installing your IBM Power 750 Express (8233-E8B) and the IBM Power 755 (8236-E8C).

Before you install your server, read the following items:

The latest version of this document is maintained online. For the online version, see Installing the IBM Power 750 Express (8233-E8B) and the IBM Power 755 (8236-E8C): Overview (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7eci/arechinstalling75x.htm).

Check the IBM Prerequisite Web site for code levels needed to support specific features. For more information, see https://www-912.ibm.com/e_dir/eServerPrereq.nsf.

- To plan your server installation, see Planning for the system (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7had/p7hadplankickoff_75x.htm).
- If you are using a 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 (7.7.1 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/p7hai/area3fixeshmc.htm).
- Install the server.
  - If you are installing a server that has not been preinstalled in a rack, see Table 1 on page 2.
  - If you are installing a server that has come preinstalled in a rack, see Table 2 on page 3.
- To install a 8233-E8B and 8236-E8C system that has not been preinstalled in a rack, perform the following high-level tasks:

Table 1. Tasks to install a server that has not been preinstalled in a rack

Task	Where to find associated information
Perform inventory. Ensure that you have the rails and the cable management arm (if you are installing the server into a rack). Ensure you have both a Philips-head and flat-head screwdriver.	Locate the inventory list for your server, and verify that you received all of the parts that you ordered. Your order information is located in the ship group next to your system box. Each order contains, at a minimum, the following: • Left and right rack-mounting rails • Cable-management arm • Mounting screws • Nut clips • Power supply cables 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.	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/p7hbf/installrack.htm).
Determine where you are going to install the rails and mark the location.	To determine and mark the location, see Determining the location and Marking the location.
Install the rail assembly into the rack and install the unit onto the rails.	To install the rail assembly into a rack, see Attaching the mounting hardware to the rack and installing the system onto the rails.
Install the cable management arm.	To install the cable management arm, see Installing the cable-management arm.
Connect your expansion unit, disk drives, and PCI adapters, if applicable. **Note:** Do not power on your system until you return to this installation guide.	For more information, see Enclosures and expansion units (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7ham/expansionunit.htm), Disk drives (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hal/p7halkickoff.htm), and PCI adapters (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hak/p7hak_pciadapters_front_75x.htm). When you are finished, continue with the next task.
Cable the system and set up a console, interface, or terminal.	To cable the system, see Cable the system and set up a console, interface, or terminal.
Connect power cables and apply power.	

• To install a 8233-E8B and 8236-E8C system that has been preinstalled in a rack, perform the following high-level tasks:

Table 2. Tasks to install a server that has been preinstalled in a rack

Task	Where to find associated information
Perform inventory. Ensure you have both a Philips-head and flat-head screwdriver.	Locate the inventory list for your server, and verify that you received all of the parts that you ordered. Your order information is 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.)
Connect your expansion unit, disk drives, and PCI adapters, if applicable. **Note:** Do not power on your system until you return to this installation guide.	For more information, see Enclosures and expansion units (http://publib.boulder.ibm.com/infocenter/ systems/scope/hw/topic/p7ham/expansionunit.htm), Disk drives (http://publib.boulder.ibm.com/infocenter/ systems/scope/hw/topic/p7hal/p7halkickoff.htm), and PCI adapters (http://publib.boulder.ibm.com/ infocenter/systems/scope/hw/topic/p7hak/ p7hak_pciadapters_front_75x.htm). When you are finished, continue with the next task.
Cable the system and set up a console, interface, or terminal.	To cable the system, see Cable the system and set up a console, interface, or terminal.
Connect power cables and apply power.	

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.

Note: If present, use the rack-mount template to perform these tasks.

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 1.75 in. (44.45 mm) in height. The rack contains three mounting holes for each EIA unit of height. This system unit therefore is 7 in. (177.8 mm) 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.
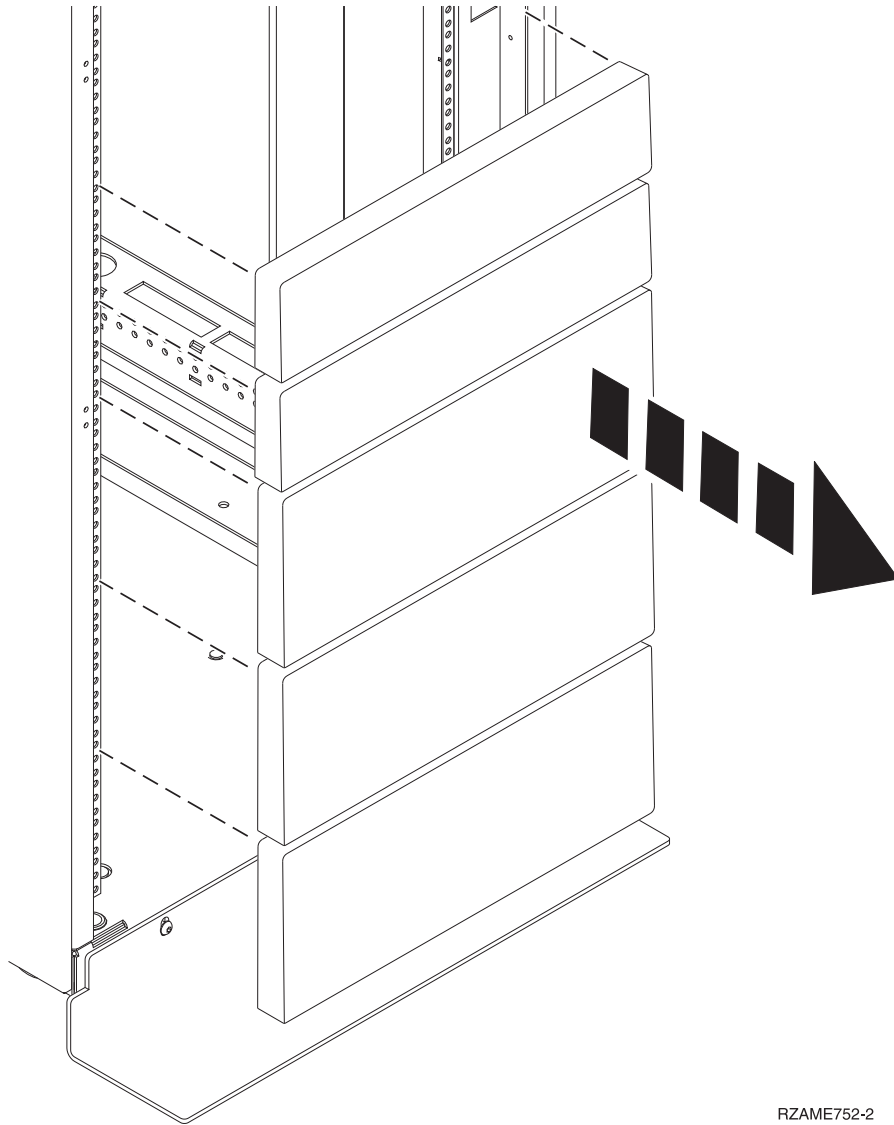
RZAME752-2

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 and installing the nut clips."

Marking the location and installing the nut clips

You might need to mark the installation location. If present, use the rack-mount template to perform these tasks.

To mark the installation location and install the nut clips into a rack, 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. The system is four Electronic Industries Alliance (EIA) units high. An EIA unit is 1.75 in. (44.45 mm) in height. The rack contains three mounting holes for each EIA unit of height. This system therefore is 7 in (177.8 mm) high and covers 12 mounting holes in the rack.

2. Face the front of the rack and work from the right side. Mark the middle hole of the bottom EIA unit of the four EIA units that you are using for this system unit.

   Note: Use tape or a marker to mark the locations on the rack. You must identify the marked hole from both the front and back of the rack.
3. Mark the location next to the middle hole of the bottom EIA unit on the left side of the rack.
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.
5. Mark middle hole of the the bottom EIA unit.
6. Mark the bottom hole of the next (higher) EIA unit.
7. Mark the corresponding holes on the left side of the rack.
8. Install and position the nut clips. Install the nut clips in either side of the front of the rack, in the middle hole of the fourth (top) EIA unit.
9. Continue to the next section.

Attaching the mounting hardware to the rack and installing the system onto the rails

You might need to attach the mounting hardware to the rack. Use the procedure in this section to perform this task. The information provided is intended to promote safety and reliable operation. This section also includes illustrations of the related hardware components and shows how these components relate to each other.

Attention: 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 task in the following order.

To install the rack-mounting hardware into the rack, complete the following steps:
1. On each rail, twist each latch assembly release tab, and then slide the second tab back to the retracted position to lock the latch assembly. Both the front and rear alignment pins of each rail must be fully retracted.
2. After the alignment pins are retracted, as shown in the following figure, insert each rail's front-alignment pin into the front flange hole of the rack. Align the bottom pin with the previously marked hole in the front of the rack.
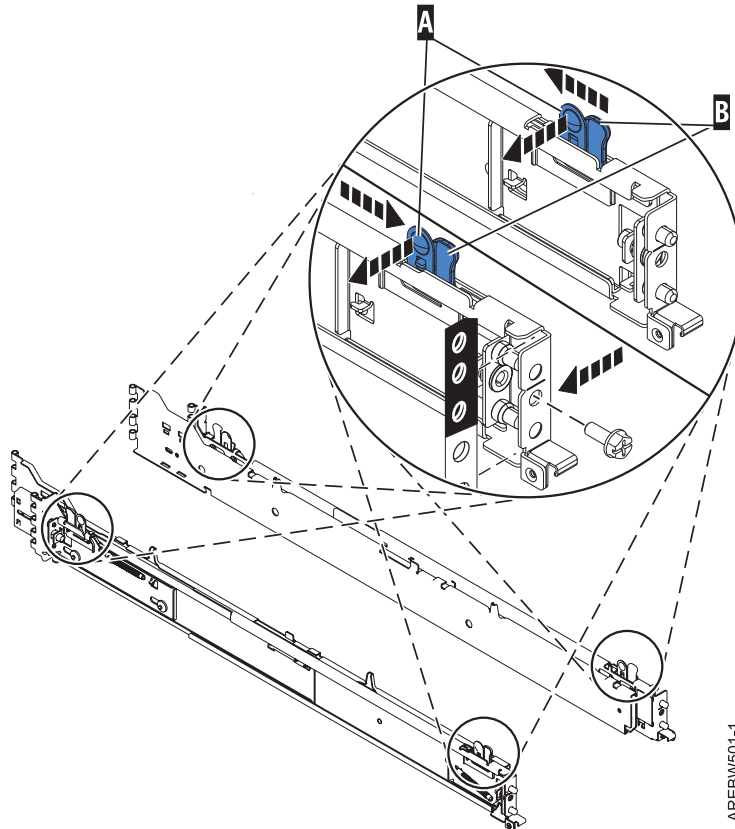
Figure 2. Front slide rail alignment pin, retaining screws, and latch bracket

3. For each rail, slide the release tab to extend the two front-alignment pins into the front of the rack. Ensure that the pins have passed through the correct holes in the rack frame.

4. Align the back-alignment pins of the rail with the holes at the back of the rack. The holes are identified by the marks on the back of the rack. Ensure that the rails are level.

5. 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.

6. From the back of the rack, as shown in Figure 3, 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. Do not overtighten the screws.

   Note: The brackets are labeled L (left) and R (right). In the following illustration, these brackets are highlighted for emphasis. The bracket labeled L attaches on the rail labeled R and the bracket labeled R attaches to the rail labeled L.
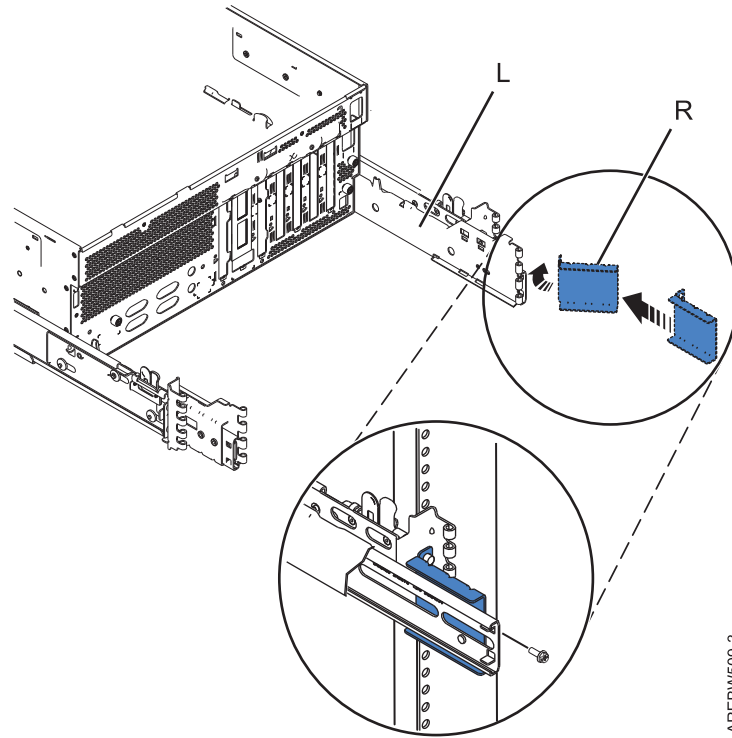
Figure 3. Installing the rail support brackets

7. On the system, remove the rear shipping cover.

8. Using three people, grasp the two handles located on each side of the system drawer, and place the system onto the inner rail. Align each tab **A** with slot **B** as indicated by the vertical dashed line shown in Figure 7. Slide the system back a centimeter to complete the placement.
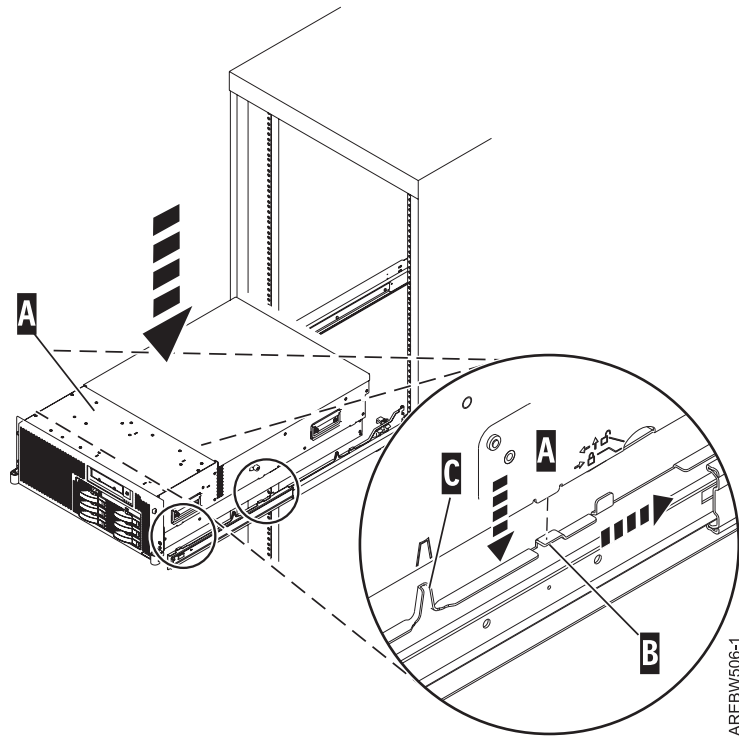
Figure 4. Place system onto the rails

9. Simultaneously press the safety latches and push the system unit into the rack until it locks as shown in Figure 8.
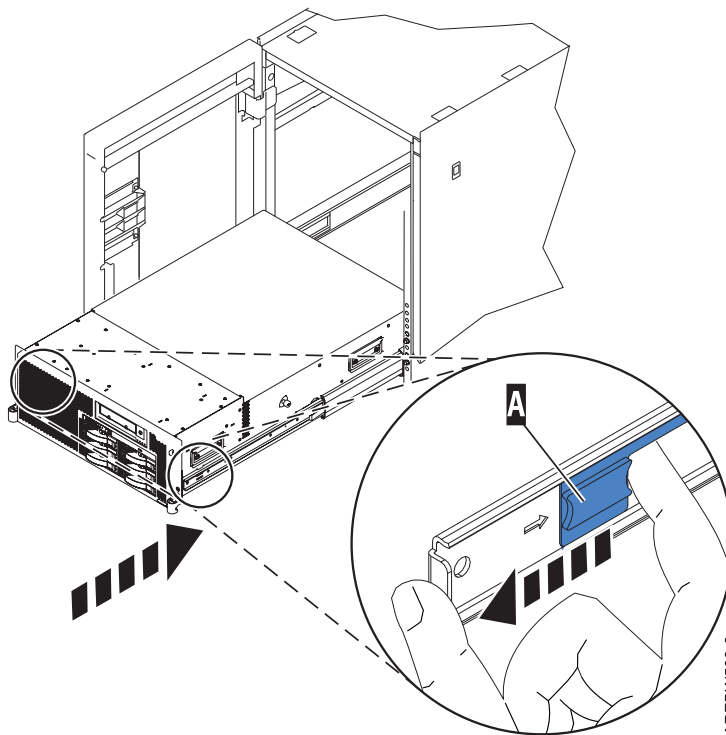
Figure 5. Inner rail extended

10. Secure the system to the rack through the rack latches. Install the top screw, then install the front bezel. Next, install the bottom screw through the front bezel. Use the retaining screws to attach the system to the rack as shown in Figure 9.
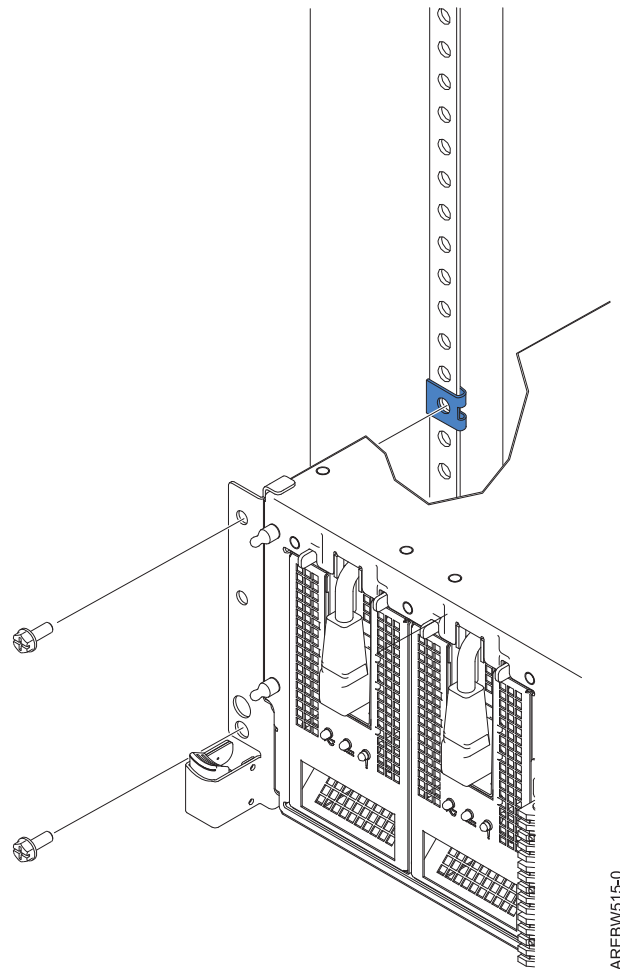
Figure 6. Secure system to rack through rack latches

Installing the cable-management arm

Use this procedure to install the cable-management arm.

Note: Install the cable-management arm on the side opposite of the server's power supplies. For more information about identifying your server's power supplies, see Locations (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7ecs/p7ecsp7ebsloccodes.htm).

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

1. Place the correct arm bracket (Left or Right) with the cable-management arm.
2. Use the pin **(F)** to pin the cable-management arm **(E)** to the rack frame **(D)** as shown in Figure 10.
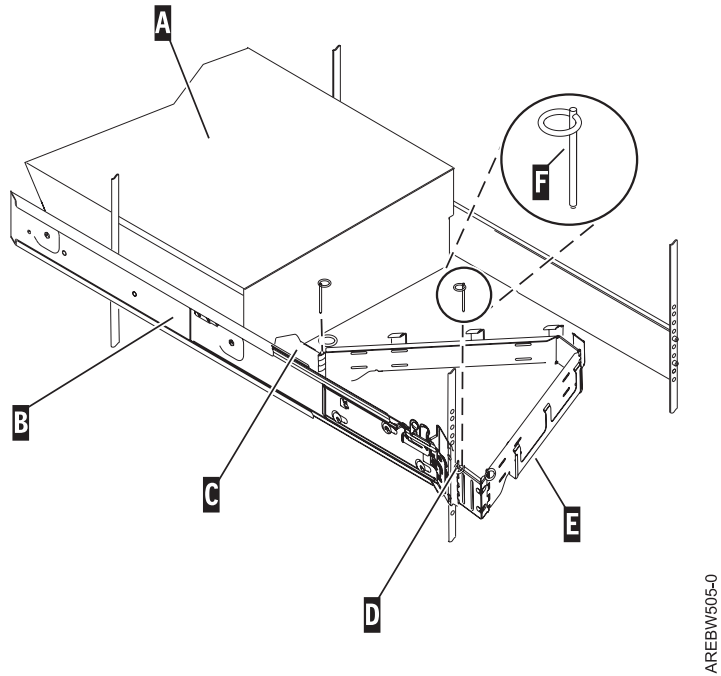
Figure 7. Attaching the cable-management arm

> **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.

3. 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 Figure 10.

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.

Note: If you ordered your system or expansion unit preinstalled into a rack, you must remove the orange shipping brackets that are on either side the rear of the system or expansion unit before you cable it. To remove the shipping brackets, remove the screws in the orange bracket on each side. Then detach the brackets.

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

Table 3. Available console types

Console type	Operating system	Logical partitions (virtual servers)	Cable required	Cabling and setup instructions
Systems Director Management Console	AIX, IBM i, Linux, or VIOS	Yes	Ethernet (or crossover cable)	"Cabling the server to the SDMC" on page 15
ASCII terminal	AIX, Linux, or VIOS	Yes for VIOS, no for AIX and Linux	Serial cable equipped with a null modem	"Cabling the server with an ASCII terminal"
Hardware Management Console	AIX, IBM i, Linux, or VIOS	Yes	Ethernet (or crossover cable)	"Cabling the server to the Hardware Management Console" on page 14
Operations Console	IBM i	Yes Use your Operations Console to manage existing IBM i partitions.	Ethernet cable for LAN connection	"Cabling the server and accessing Operations Console" on page 16
Integrated Virtualization Manager for VIOS	AIX, Linux, and IBM i	Yes	Ethernet cable for network connection	"Cabling the server with an ASCII terminal"

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®, Linux, or VIOS operating systems. 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 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 1 (P1-T1, which is the default) or 2 (P1-T2) on the back of the server.
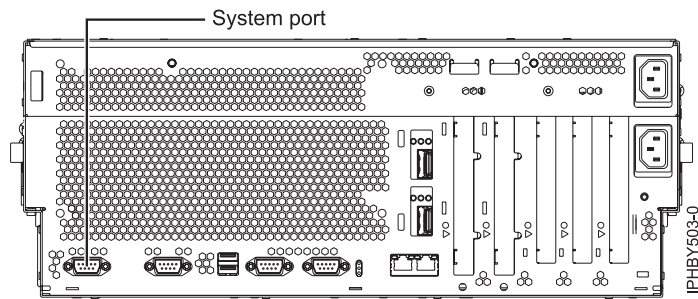
2. See Figure 1 for details.

System port

Figure 8. Connection for 8233–E8B and 8236-E8C

3. Connect the power cord from the server to a power source.
4. Wait for the green light on the control panel to start flashing.
5. 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 4. 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).

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

   You have completed the setup for an ASCII terminal, and have started the ASMI.
9. Continue with "Completing server setup if you do not have an HMC" on page 28.

Cabling the server to the Hardware Management Console

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 in a rack. If you have not already done so, install and configure your HMC. For instructions about installing and configuring the HMC, see Installation and configuration scenarios (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hai/basichmcinstallationandconfigurationtaskflow.htm).

To manage POWER7® processor-based servers, the HMC must be at Version 7.7.1 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. If you want to directly attach your HMC to the managed system, connect **Ethernet Connector 1** on the HMC to the **LINK HMC1** port on the managed system.
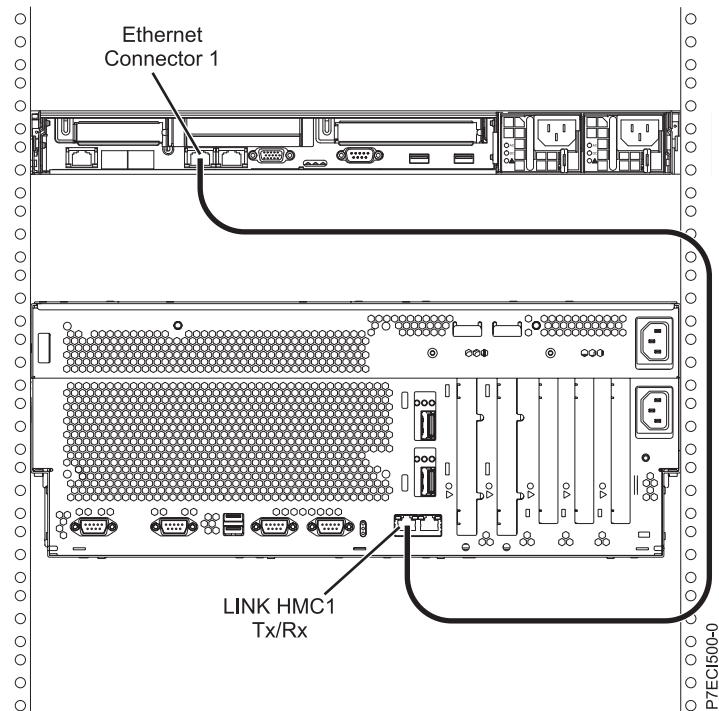
To learn more about connecting an HMC to a private network so that it can manage more than one managed system, see HMC network connections (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hai/netconhmc.htm).

Note:
- You can also have multiple systems attached to a switch that is then connected to the HMC. For more information, see HMC network connections.
- If you are using a switch, ensure that the speed in the switch is set to **auto/auto**. If the server is directly attached to the HMC, ensure the HMC's Ethernet adapter speed is set to **auto/auto**. For more information about setting media speeds, see Setting the media speed.

2. If you are connecting a second HMC to your managed server, connect to the Ethernet port that is labeled **LINK HMC2** on the managed server.
3. Complete your server setup. For instructions, see "Completing server setup if you have an HMC" on page 27.

Cabling the server to the SDMC

The Systems Director Management Console (SDMC) controls hosts, including the management of virtual servers and the use of capacity on demand. Using service applications, the SDMC communicates with hosts to detect, consolidate, and forward information to IBM service for analysis.

Before you begin, if you have not already done so, install and configure your SDMC. For instructions about installing and configuring the SDMC, see Installing and configuring the SDMC(http:// publib.boulder.ibm.com/infocenter/director/v6r2x/topic/dpsm/dpsm_installing/ dpsm_installing_installing_dpsm_kickoff.html).

1. If you want to directly attach your SDMC hardware appliance to the managed system, connect **Ethernet Connector 1** on the SDMC to the **LINK HMC1** port on the managed system.
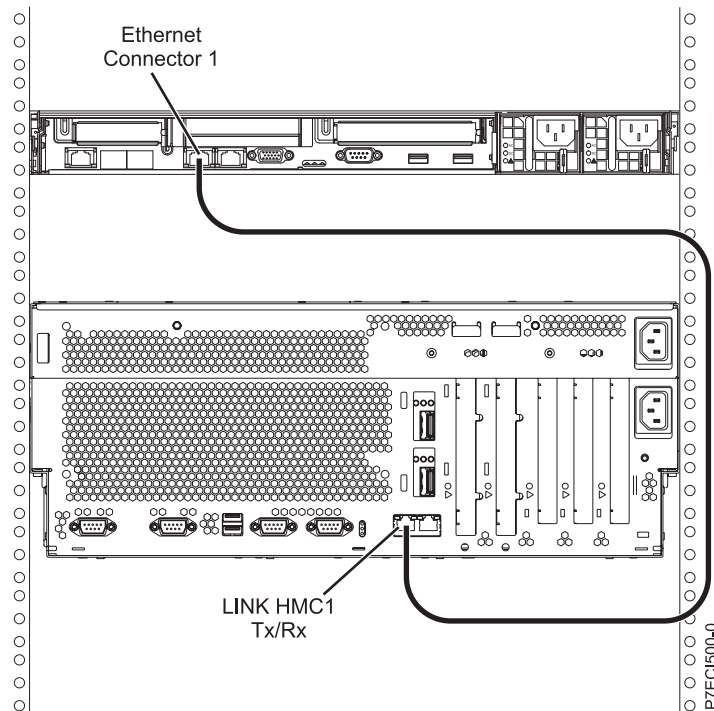
   To learn more about connecting an SDMC to a private network so that it can manage more than one managed system, see Configuring the network (http://publib.boulder.ibm.com/infocenter/director/ v6r2x/topic/dpsm/dpsm_managing_console/configuringnetwork.html).

2. Complete your server setup. For instructions, see "Completing server setup if you have an SDMC" on page 25.

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.

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.

To prepare to cable the server and access the Operations Console, complete the following steps:

1. Ensure that your server is powered off.
2. Obtain a static IP address that will be assigned to the server's LAN console adapter for use by the console, including information about the IP, subnet mask, and default gateway.
3. Select a unique host name and register the host name and the IP address in your site's Domain Name System (DNS).

Note: This IP address is for use by Operations Console and different from the IP address that is used to connect a normal Telnet session. The IP address must not be in use by another server. Ping the IP address to verify that no other device is using the IP address.

To learn more about setting up Operations Console, complete the following steps:

1. Install IBM i Access for Windows and the latest service pack.

   Note: The list of Microsoft Windows operating systems supported for Operations Console LAN is documented at the following Web address: IBM i Access (03.ibm.com/systems/i/software/access/windows/supportedos.html).

   a. Sign on to the PC by using the local administrator account.

   b. Ensure that you have installed a full version of IBM i Access with the latest service pack. The Web site to download the latest service pack for IBM i Access can be found at IBM i Access (http://www-03.ibm.com/systems/i/software/access/windows/casp.html).

2. Cable the PC to server. Plug a Cat 5e or Cat 6 (recommended) Ethernet cable from the PC directly into the T1 (HEA) port on the rear of the server, if your server has a T1/HEA port available. To determine the server port you should use, read the following table:

Table 5. Server Operations Console LAN ports

Server	Operations Console - LAN port	Notes
IBM Power 710 Express (8231-E1C)	C2, C3, C4, C5, C6 or C7	You must cable to the top port of a 5767/5768 in a "base-slot."
IBM Power 730 Express (8231-E2C)		
IBM Power 720 Express (8202-E4C)		
IBM Power 740 Express (8205-E6C)		
IBM Power 750 (8233-E8B)	HEA, C1, C2, C3, C5, C4	

   Note: Make the initial connection with the PC directly cabled to the server. The PC and server can be recabled to the network after the initial connection is made. A cross-over cable is not needed.

3. Configure the PC networking. To configure the PC networking, complete the following steps:

   a. Disable any additional adapters. Disable any additional adapters listed, leaving only the local area connection.

   b. Record current TCP/IP settings:

      1) Access the adapter properties. Select **Internet Protocol**, then click **Properties**.

      2) Record the current settings, including IP address, subnet mask, and gateway, if applicable.

      3) Tape this information on the console PC as a reminder to reset it before reconnecting to the network.

   c. Change the TCP/IP settings.

      Note: Some versions of IBM i require that the gateway address respond to pings before the console LAN adapter activates. Configure the PC with the default gateway IP address by doing the following:

      1) Set the IP address to the opcon LAN adapter gateway.

      2) Set the subnet mask to the opcon LAN adapter subnet.

      3) Set the default gateway to the opcon LAN adapter primary router, or gateway address. This address is the same address as the IP address.

4. Disable the PC firewall.

   Note: All PC firewalls must be disabled for the initial connection.
   To disable the PC firewall, complete the following steps:

a. In the Windows control panel, click **Firewall settings** and disable the firewall.
b. In the Windows control panel, click **Security center**. Check for a firewall and, if present, disable it.
c. Scan all tasks running on the PC for any other software firewalls and disable the firewall.

5. Configure Operations Console on your PC:

a. Start Operations Console. To start the Operations Console, select **Start** > **All Programs** > **IBM iSeries** > **Access** > **Operations Console**.

b. Launch the Configuration Wizard. If this is the first time Operations Console is started, the connection wizard starts automatically. If it does not start automatically, click **Connection** > **New Connection** to manually start the wizard. Read the notifications, and click **Next**.

c. Select the local console on a network. Click **Next**.

d. Specify a service host name and IP address by doing the following types:

   1) Give your session a name. The name should be one of the following:
      - A valid host name that was registered in the site DNS for the console IP address
      - A unique name you create that is not currently registered in the DNS for any other IP address.

      For IBM i V5R4 and earlier only: The service tool console IP address can be specified as the name.

   2) If you are using IBM i V5R4, set the target partition to **1**. If you are using IBM i V6R1 and later, press the Tab key. The **Service TCP/IP Address** field is enabled.

   3) IBM i V6R1 and later: Specify the service TCP/IP address. Enter the LAN console adapter IP address.

   4) Click **Next**.

e. Specify the LAN console interface information.

   1) In the **Service TCP/IP Address** field, type the IP address that you recorded.
   2) In the **Service Subnet Mask** field, type the subnet mask that you recorded.
   3) In the **Service gateway address** field, type the default gateway that you recorded.
   4) The system serial number must match the tag on the server. It should be 7 characters long, without a dash.
   5) Set the **Target partition** to 1.
   6) Click **Next**.

f. Specify the device ID. If you are prompted to specify a service tools device ID, enter QCONSOLE. Click **Next**.

g. If you are using a version that is earlier than V6R1, create an access password.

   Note: Be sure to record this case-sensitive password because it must be entered each time the console connection is opened.

h. Click **Next** > **Finish**. Your session is now ready to connect. Double-click the session name to start the connection.

6. Power on the server by completing the following steps:

a. Set the manual IPL by completing the following steps:

   1) Locate the server's control panel. Look for the blue tab on the front of the server. Push it to the side, and pull the control panel out slowly.
   2) Press the Up arrow key until you see 02, and press Enter.
   3) Press Enter again, and you will see a Less Than symbol (<) move to the **N**.
   4) Press the Up Arrow key. The **N** changes to an **M**.
   5) Press Enter.
   6) Press Enter twice. **02** is displayed on the control panel.

b. Afteryou have the server set to a manual IPL, push the white power button to power on the server.

7. Connect the console by completing the following steps:

   a. Monitor the console status. After the status changes to `Pending Authorization`, the Service Tools Sign-On window opens.

      Note: The Service Tools Sign-On window might open behind the Operations Console window. Resize or move the Operations Console window to locate the Service Tools Sign-On window.

   b. Sign on to the Service Tools application. To sign on to the Service Tools application, enter 11111111 for the user ID and password.

   c. IPL and configure the system.

   d. If your session does not connect, wait for the power-on process to stop on an attention or IPL failure system reference code (SRC), such as A6005008 or B2xxxx. If the power on stops at A6005008, leave the server in this state and call your IBM service provider for assistance.

8.

   Note: You should configure and start an IBM i TCP interface on a second port (T2, T3, T4) prior to moving the console. This action ensures there is an alternate method to access the server. Use the information in step 3b to reset the PC to its original TCP/IP settings.

   Note: The PC IP configuration must be reset prior to cabling the PC back to the network, because the PC is configured with the gateway IP address.

   The PC and server console port (T1) can now be recabled to the network.

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

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 in a rack.

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

1. Connect a serial cable from a PC or ASCII terminal to a system port on the server.

2. Do the following steps:

   • 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.

   • 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 that 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**.
3. Insert the *Virtual I/O Server* CD or DVD into the optical drive.
4. 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.
5. 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.
6. 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 "Completing server setup" on page 25.

Cabling the server with split backplane, FC 3669 (optional)

If you ordered feature code 3669 that enables the server to split internal drives, the shipping material must include an external cable FC 3679 (AI-cable) and a PCI Express (PCIe) or Peripheral Component Interconnect-X (PCI-X) SAS adapter such as FC 5901, FC 5904, or FC 5912.

Before applying power to the system, connect the external AI-cable to the adapter as shown below.

MiniSAS (keyed to 2)   AI-cable

IPHAD721-0
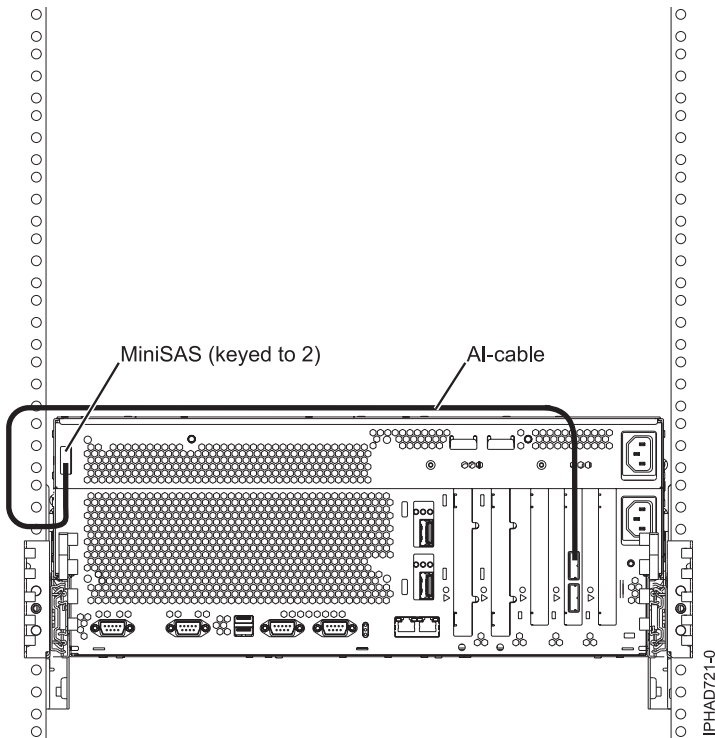
Notes:

- The second connector on the adapter can be used to attach a disk expansion or media expansion drawer.

Figure 9. SAS adapter to internal SAS disk slots through the system external SAS port

Place the adapter in the appropriate location based on its attributes. PCIe slots are identified as C1, C2, C3 (the first three slots from left to right rear view), PCI-X slots are identified as C4 and C5 (the last two slots from left to right rear view).

The internal DVD and tape are always controlled by the integrated SAS controller After the system is configured, the integrated SAS controller controls the left 4 disks (D3-D6) and the PCI SAS adapter controls the right 4 disks (D7-D10).

For more information, see: Internal disk drive sharing on an 8233-E8B or 8236-E8C Internal disk drive sharing on an 8233-E8B or 8236-E8C (http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/index.jsp?topic=/p7hal/splitdasd520and550.htm)

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 24.

4. Use Table 6 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 6. Network configuration information for the service processor in a POWER7 processor-based system

POWER7 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	169.254.2.140
	HMC2	255.255.255.0	169.254.3.147	169.254.3.140
Service processor B (if installed)	HMC1	255.255.255.0	169.254.2.146	169.254.2.140
	HMC2	255.255.255.0	169.254.3.146	169.254.3.140

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 23.

6. To access the ASMI using a Web browser, perform the following steps:
   a. Use Table 6 on page 22 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 be shown in the Web browser after the Ethernet cable is plugged into the service processor in step 3 on page 22. 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, see 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 Linux operating system and the Microsoft Windows XP, 2000, and Vista operating systems.

You will need the information you recorded in step 4 on page 22 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, do 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. Use this information 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 steps:
   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 in the Accessing the ASMI using a Web Browser task.
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, do the following steps.

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

   Attention: Record or print the current settings and the eth1 or eth2 interfaces before making changes. This action allows you to restore these settings if you disconnect the PC or notebook after setting up the ASMI Web interface.
4. Type `ifconfig eth`*x xxx.xxx.xxx.xxx* `netmask` *xxx.xxx.xxx.xxx*, where the *xxx.xxx.xxx.xxx* values are the values you recorded in the Accessing the ASMI using a Web Browser task. Replace eth*x* with the interface shown in step 3.
5. Press Enter.

Windows Vista

To set the IP address within Windows Vista, do 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 window is shown, click **Continue**.
7. Highlight **Internet Protocol Version 4** and click **Properties**.
8. Select **Use the following IP address**.
9. 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.
10. 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 13.
- Determine the current IP address. For more information about determining the current Service processor IP address, see Function 30: Service processor IP address and port location.
- 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.

Completing server setup

The tasks for completing the server setup depend on whether you have a Hardware Management Console (HMC) or Systems Director Management Console (SDMC). Learn more about the tasks you must perform to complete your managed system installation.

If you have an HMC or SDMC, use it to perform the following tasks:

1. Update the time of day on the managed system using the Advanced System Management Interface (ASMI).
2. Check the firmware level on the managed system.
3. If required, update the managed system firmware levels.
4. Power on the managed system.
5. Create partitions (virtual servers) or deploy an imported system plan.
6. Install an operating system, if it is not already installed.

If you do not have an HMC, perform the following tasks:

1. Check the firmware level on the managed system and update the time of day using ASMI.
2. Power on the managed system.
3. Install and update an operating system (if it is not already installed).
4. Update system firmware, if required.

To learn more about how to perform these tasks, read the following topics:

Completing server setup if you have an SDMC

You must perform these tasks to complete server (host) setup with a Systems Director Management Console (SDMC).

To complete server (host) setup with an SDMC, do the following steps:

1. Plug in the power cords and route the power cords through the cable retention brackets. Navigate to the **SDMC Resources** tab and wait for the host system to be discovered.
2. In the **Resources** table, click on the link that says **No Access**. Enter a password. The userid defaults to HMC, and the default password is abc123.
3. Change the managed system passwords. If the **Detailed State** column for the system displays password change required, right click on the system and select **Update Password**.
4. Update the time of day on the host system using the Advanced System Management Interface (ASMI).

   To set up and access the ASMI, do the following steps:

   a. From the **Resources** tab, right-click the system.
   b. Select **Operations > Launch Advanced System Management (ASM)**.

   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. Check the firmware level on the host system.

To update the host system firmware, complete the following steps:

a. Right-click the managed system, then select **Release Management** > **Check for Updates**. Alternately, you can also select the **Manage** tab, then click **Update Manager** > **Check for Updates**.

b. Select the type of update, then click **OK**. The Job Scheduler window opens. Select either **Run** or **Schedule**.

c. Click **Check for updates** to run or schedule a check for new updates. When the check for updates completes, the updates needed by the host will be displayed in the table.

d. If your management server does not have a connection to the Internet, you can download updates from this IBM Web site: www.ibm.com/eserver/support/fixes/fixcentral.

   1) On the Fix Central page:

      a) From the **Product Group** drop-down list, select SDMC.

      b) Identify the machine type/model number and current firmware level of your host. To identify the machine type, model number, and current firmware of your host, right-click the host and select **Show Installed Updates**.

      c) From the **Installed Version** drop-down list, select your current version.

      d) from the **Platform** drop-down list, select **All**.

   2) Click **Continue**. The Identify Fixes page is displayed. It will process a list of fixes to download. Once the list of fixes is gathered, the Select fixes and download method window opens.

   3) Select the fix Group that you would like to download. Also, make sure that the **"Include prerequisites and co-requisite fixes (you can de-select the ones you don't need later)"** option and the **"Download using Download Director"** option at the bottom of the page are selected. Click Continue. The Select Fixes page is displayed and transitions to the Agree to terms and conditions page.

   4) Select **I agree** if you agree to the terms and conditions. The Download files using Download SDMC page is displayed.

   5) Select **Download** Now to start the download of the update.

   6) Copy the update to the management server and unzip the update to a local directory that is close to the root directory.

   7) Use the update manager **Import updates** task to import the updates. On the Import Updates page in the Path field, specify the local directory path that contains the files that were unpacked and click OK.

   8) After the import is complete, return to the Update SDMC page.

e. Select all updates in the table, and then select the **Install** button to start the install wizard.

6. Power on your host system. To power on your host system by using the SDMC, right-click the host and then select **Power on**.

7. Optional: Prepare the host for creating virtual servers. If this is a new host, or if this host does not yet have virtual servers created, do the following to prepare this host for creating virtual servers:

a. Configure the system with a single full system virtual server.

b. Ensure that your hardware placement in the racks matches your system plan.

c. Activate the virtual server and verify that the physical adapters are connected and reporting to the server.

d. Ensure that your components are running properly, then delete the full system virtual server.

8. Create multiple virtual servers. For more information about creating virtual servers, see Creating virtual servers.

9. Install operating systems on the virtual servers you created, then update the operating systems as needed.

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

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

For instructions to install the Linux operating system, see Installing Linux on Power Systems servers (http://publib.boulder.ibm.com/infocenter/lnxinfo/v3r0m0/topic/liaae/lcon_Installing_Linux_on_System_p5.htm).

For instructions to install the VIOS operating system, see Installing VIOS (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hch/iphchinstallvios.htm).

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 POWER7 systems, the HMC must be at Version 7.7.1 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. To change the managed system passwords, do the following steps:
   a. In the navigation area, expand **Systems Management > Servers**.
   b. In the contents area, select the managed system.
   c. In the operations area, select **Update passwords**.
3. Update the time of day on the managed system using the Advanced System Management Interface (ASMI).

   To set up and access the ASMI, do the following steps:
   a. In the navigation area, expand **Systems Management > Servers**.
   b. In the contents area, select the managed system.
   c. In the task area, expand **Operations**.
   d. Select **Launch Advanced System Management (ASM)**.

   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**.
4. 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.
5. 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.
   d. Select **Change Licensed Internal Code for the current release**.
6. Power on your managed system using the correct Power-On Parameter. To power on your managed system by using the HMC, do the following steps:
   a. View your managed system's properties and verify that the logical partition Start policy is set to **User-Initiated**. To verify that the logical partition Start policy is set to **User-Initiated**, do the following:

1) In the navigation area, expand **Systems Management > Servers**.

2) In the contents area, select the managed system.

3) In the tasks area, click **Properties**.

4) Click the **Power-On Parameters** tab.

5) Ensure that the **Partition start policy** field is set to **User-Initiated**.

b. Power on the managed system. To power on the managed system, do the following:

1) In the navigation area, expand **Systems Management > Servers**.

2) In the contents area, select the managed system.

3) Select **Operations > Power On**.

4) Select a power on option and click **OK**.

7. Create partitions or deploy an imported system plan.

For instructions about creating partitions, see Partitioning with the HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hat/iphbllparwithhmcp6.htm).

For instructions about deploying system plans, see Deploying a system plan by using an HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hc6/iphc6deploysysplanp6.htm).

8. Install an operating system and update the operating system.

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

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

For instructions to install the Linux operating system, see Installing Linux on Power Systems servers (http://publib.boulder.ibm.com/infocenter/lnxinfo/v3r0m0/topic/liaae/lcon_Installing_Linux_on_System_p5.htm).

For instructions to install the VIOS operating system, see Installing VIOS (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hch/iphchinstallvios.htm).

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, if you have not already done so.

2. To check the firmware level on the managed system and to update the time of day, do the following steps:

a. Access the Advanced System Management Interface (ASMI). For more information, seeAccessing the ASMI without an HMC(http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hby/connect_asmi.htm).

b. On the ASMI Welcome pane, note the existing level of server firmware in the upper-right corner under the copyright statement.

c. Update the time of day. In the navigation area, expand **System Configuration**.

d. Select **Time of Day**. The right pane displays a form that shows the current date (month, day, and year) and time (hours, minutes, and seconds).

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

3. 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/p7ham/expansionunit.htm), Disk drives (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hal/arebykickoff.htm), and PCI adapters (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hak/p7hak_pciadapters_front.htm).

4. See Power on (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hby/poweronoff.htm).
5. 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.
6. Install an operating system and update the operating system, if required.

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

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

   For instructions to install the Linux operating system, see Installing Linux on Power Systems servers (http://publib.boulder.ibm.com/infocenter/lnxinfo/v3r0m0/topic/liaae/lcon_Installing_Linux_on_System_p5.htm).

   For instructions to install the VIOS operating system, see Installing VIOS (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7hch/iphchinstallvios.htm).
7. Update the system firmware, if required.
   • For instructions to get firmware fixes through the AIX or Linux operating system, see Getting server firmware fixes through AIX or Linux without an HMC (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7ha5/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.
   • If you are using VIOS, see Updating the Virtual I/O Server's firmware and device microcode with an Internet connection (http://publib.boulder.ibm.com/infocenter/systems/scope/hw/topic/p7ha5/fix_virtual_firm_ivm.htm).

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This product is not intended to be connected directly or indirectly by any means whatsoever to interfaces of public telecommunications networks.

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Electronic emission notices

When attaching a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices supplied with the monitor.

Class A Notices

The following Class A statements apply to the IBM servers that contain the POWER7 processor and its features unless designated as electromagnetic compatibility (EMC) Class B in the feature information.

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 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.

European Community contact:
IBM Deutschland GmbH
Technical Regulations, Department M456
IBM-Allee 1, 71139 Ehningen, Germany
Tele: +49 7032 15-2937
email: tjahn@de.ibm.com

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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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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這是甲類的資訊產品，在
居住的環境中使用時，可
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。

The following is a summary of the EMI Taiwan statement above.

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

IBM Taiwan Contact Information:

台灣IBM 產品服務聯絡方式：
台灣國際商業機器股份有限公司
台北市松仁路7號3樓
電話：0800-016-888

Electromagnetic Interference (EMI) Statement - Korea

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

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

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Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
Tel: 914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:
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Technical Regulations, Abteilung M456
IBM-Allee 1, 71139 Ehningen, Germany
Tel: +49 7032 15-2937
email: tjahn@de.ibm.com

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
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Class B Notices

The following Class B statements apply to features designated as electromagnetic compatibility (EMC)
Class B in the feature installation information.

Federal Communications Commission (FCC) statement

This equipment has been tested and found to comply with the limits for a Class B digital device,
pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against
harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM-authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM-authorized dealers. IBM is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this 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 B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

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高調波ガイドライン準用品

IBM Taiwan Contact Information

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

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

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Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
Tel: 914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:
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Technical Regulations, Abteilung M456
IBM-Allee 1, 71139 Ehningen, Germany
Tel: +49 7032 15-2937
email: tjahn@de.ibm.com

Generelle Informationen:

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