

Power Systems

*Installing the IBM Power E1150 (9043-MRU)*



**Note**

Before using this information and the product it supports, read the information in [“Safety notices”](#) on page v, [“Notices”](#) on page 23, the *IBM Systems Safety Notices* manuals, G229-1110 and G229-9054, and the *IBM Environmental Notices and User Guide*, Z125-5823.

This edition applies to IBM Power Systems servers that contain the POWER11 processor and to all associated models.

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# Safety notices

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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, safety information documentation is included in the publications package (such as in printed documentation, on DVD, or as part of the product) shipped with the product. The documentation 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 documentation. You should also refer to the safety information documentation any time you do not clearly understand any safety information in the U.S. English publications.

Replacement or additional copies of safety information documentation can be obtained by calling the IBM Hotline at 1-800-300-8751.

## 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: If IBM supplied the power cord(s), 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. For AC power, disconnect all power cords from their AC power source. For racks with a DC power distribution panel (PDP), disconnect the customer's DC power source to the PDP.
- When connecting power to the product ensure all power cables are properly connected. For racks with AC power, 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. For racks with a DC power distribution panel (PDP), connect the customer's DC power source to the PDP. Ensure that the proper polarity is used when attaching the DC power and DC power return wiring.
- 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.
- Do not attempt to switch on power to the machine until all possible unsafe conditions are corrected.
- When performing a machine inspection: Assume that an electrical safety hazard is present. Perform all continuity, grounding, and power checks specified during the subsystem installation procedures to ensure that the machine meets safety requirements. Do not attempt to switch power to the machine until all possible unsafe conditions are corrected. Before you open the device covers, unless instructed otherwise in the installation and configuration procedures: Disconnect the attached AC power cords, turn off the applicable circuit breakers located in the rack power distribution panel (PDP), and disconnect any telecommunications systems, networks, and modems.
- 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) For AC power, remove the power cords from the outlets. 3) For racks with a DC power distribution panel (PDP), turn off the circuit breakers located in the PDP and remove the power from the Customer's DC power source. 4) Remove the signal cables from the connectors. 5) 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) For AC power, attach the power cords to the outlets. 5) For racks with a DC power distribution panel (PDP), restore the power from the Customer's DC power source and turn on the circuit breakers located in the PDP. 6) Turn on the devices.



- Sharp edges, corners and joints may be present in and around the system. Use care when handling equipment to avoid cuts, scrapes and pinching. (D005)

**(R001 part 1 of 2):**



**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 if provided, unless the earthquake option is to be installed.
- 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. In addition, do not lean on rack mounted devices and do not use them to stabilize your body position (for example, when working from a ladder).



- Stability hazard:
  - The rack may tip over causing serious personal injury.
  - Before extending the rack to the installation position, read the installation instructions.
  - Do not put any load on the slide-rail mounted equipment mounted in the installation position.
  - Do not leave the slide-rail mounted equipment in the installation position.
- Each rack cabinet might have more than one power cord.
  - For AC powered racks, be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.

- For racks with a DC power distribution panel (PDP), turn off the circuit breaker that controls the power to the system unit(s), or disconnect the customer's DC power source, 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. (R001 part 1 of 2)

**(R001 part 2 of 2):**



**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 or if the rack is not bolted to the floor. 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 part 2 of 2)



**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 (compliance ID RACK-001 or 22U (compliance ID RR001) and above.
  - Ensure that the heaviest devices are installed in the bottom of the rack cabinet.

- Ensure that there are little-to-no empty U-levels between devices installed in the rack cabinet below the 32U (compliance ID RACK-001 or 22U (compliance ID RR001) level, unless the received configuration specifically allowed it.
- If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.
- If the rack cabinet you are relocating was supplied with removable outriggers they must be reinstalled before the cabinet is relocated.
- 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 2083 mm (30 x 82 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 or in an earthquake environment bolt the rack to the floor.
  - 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)



**DANGER:** Hazardous voltage, current, or energy levels are present inside any component that has this label attached. Do not open any cover or barrier that contains this label. (L001)

(L002)



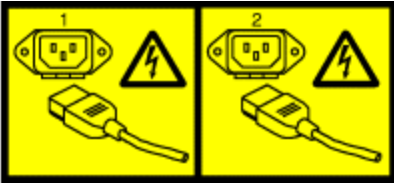
**DANGER:** Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices. In addition, do not lean on rack-mounted devices and do not use them to stabilize your body position (for example, when working from a ladder). Stability hazard:

- The rack may tip over causing serious personal injury.

- Before extending the rack to the installation position, read the installation instructions.
- Do not put any load on the slide-rail mounted equipment mounted in the installation position.
- Do not leave the slide-rail mounted equipment in the installation position.

(L002)

**(L003)**



or



or

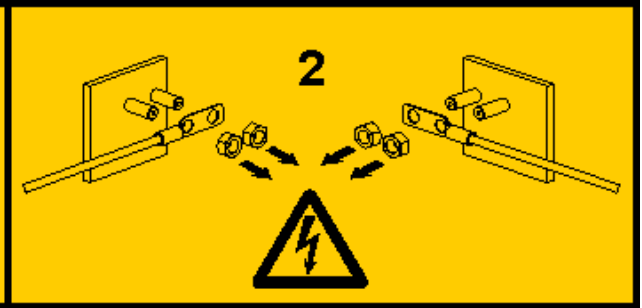
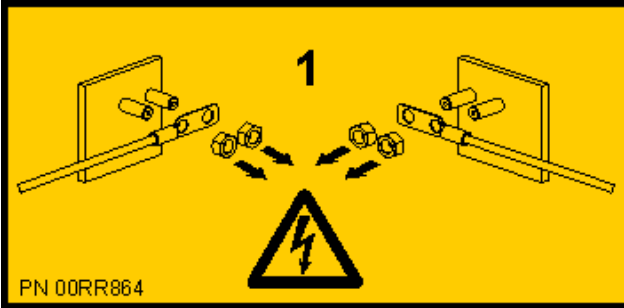


or



or





**DANGER:** Multiple power cords. The product might be equipped with multiple AC power cords or multiple DC power cables. To remove all hazardous voltages, disconnect all power cords and power cables. (L003)

(L007)



**CAUTION:** A hot surface nearby. (L007)

(L008)



**CAUTION:** Hazardous moving parts nearby. (L008)

(L018)



or



**CAUTION:** High levels of acoustical noise are (or could be under certain circumstances) present. Use approved hearing protection and/ or provide mitigation or limit exposure. (L018)

(L031)

**CAUTION:**

Enclosure Integrity.

- Access covers are intended only for occasional removal.
- Follow documented procedures when opening during live or temporary service.
- When service is complete, promptly reinstall all covers, lids, and/or doors for correct operation. (L031)

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. Although shining light into one end and looking into the other end of a disconnected optical fiber to verify the continuity of optic fibers may not injure the eye, this procedure is potentially dangerous. Therefore, verifying the continuity of optical fibers by shining light into one end and looking at the other end is not recommended. To verify continuity of a fiber optic cable, use an optical light source and power meter. (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)

(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 degrees C (212 degrees 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)



**CAUTION:** Regarding IBM provided VENDOR LIFT TOOL:

- Operation of LIFT TOOL by authorized personnel only.
- LIFT TOOL intended for use to assist, lift, install, remove units (load) up into rack elevations. It is not to be used loaded transporting over major ramps nor as a replacement for such designated tools like pallet jacks, walkies, fork trucks and such related relocation practices. When this is not practicable, specially trained persons or services must be used (for instance, riggers or movers).
- Read and completely understand the contents of LIFT TOOL operator's manual before using. Failure to read, understand, obey safety rules, and follow instructions may result in property damage and/or personal injury. If there are questions, contact the vendor's service and support. Local paper manual must remain with machine in provided storage sleeve area. Latest revision manual available on vendor's web site.
- Test verify stabilizer brake function before each use. Do not over-force moving or rolling the LIFT TOOL with stabilizer brake engaged.
- Do not raise, lower or slide platform load shelf unless stabilizer (brake pedal jack) is fully engaged. Keep stabilizer brake engaged when not in use or motion.
- Do not move LIFT TOOL while platform is raised, except for minor positioning.
- Do not exceed rated load capacity. See LOAD CAPACITY CHART regarding maximum loads at center versus edge of extended platform.
- Only raise load if properly centered on platform. Do not place more than 200 lb (91 kg) on edge of sliding platform shelf also considering the load's center of mass/gravity (CoG).
- Do not corner load the platforms, tilt riser, angled unit install wedge or other such accessory options. Secure such platforms -- riser tilt, wedge, etc options to main lift shelf or forks in all four (4x or all other provisioned mounting) locations with provided hardware only, prior to use. Load objects are designed to slide on/off smooth platforms without appreciable force, so take care not to push or lean. Keep riser tilt [adjustable angling platform] option flat at all times except for final minor angle adjustment when needed.
- Do not stand under overhanging load.
- Do not use on uneven surface, incline or decline (major ramps).
- Do not stack loads.
- Do not operate while under the influence of drugs or alcohol.
- Do not support ladder against LIFT TOOL (unless the specific allowance is provided for one following qualified procedures for working at elevations with this TOOL).
- Tipping hazard. Do not push or lean against load with raised platform.
- Do not use as a personnel lifting platform or step. No riders.
- Do not stand on any part of lift. Not a step.
- Do not climb on mast.
- Do not operate a damaged or malfunctioning LIFT TOOL machine.
- Crush and pinch point hazard below platform. Only lower load in areas clear of personnel and obstructions. Keep hands and feet clear during operation.
- No Forks. Never lift or move bare LIFT TOOL MACHINE with pallet truck, jack or fork lift.
- Mast extends higher than platform. Be aware of ceiling height, cable trays, sprinklers, lights, and other overhead objects.
- Do not leave LIFT TOOL machine unattended with an elevated load.
- Watch and keep hands, fingers, and clothing clear when equipment is in motion.

- Turn Winch with hand power only. If winch handle cannot be cranked easily with one hand, it is probably over-loaded. Do not continue to turn winch past top or bottom of platform travel. Excessive unwinding will detach handle and damage cable. Always hold handle when lowering, unwinding. Always assure self that winch is holding load before releasing winch handle.
- A winch accident could cause serious injury. Not for moving humans. Make certain clicking sound is heard as the equipment is being raised. Be sure winch is locked in position before releasing handle. Read instruction page before operating this winch. Never allow winch to unwind freely. Freewheeling will cause uneven cable wrapping around winch drum, damage cable, and may cause serious injury.
- This TOOL must be maintained correctly for IBM Service personnel to use it. IBM shall inspect condition and verify maintenance history before operation. Personnel reserve the right not to use TOOL if inadequate. (C048)



**CAUTION:** This equipment is not suitable for use in locations where children are likely to be present. (C052)

## **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 intra-building ports of this equipment are suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building 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.

The DC-powered system is intended to be installed in a common bonding network (CBN) as described in GR-1089-CORE.



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# Installing the IBM Power E1150 (9043-MRU)

Use this information to learn about installing the IBM Power E1150 (9043-MRU) server.

## Installing a rack-based server

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Use this information to learn about installing a rack-based server.

### Prerequisite for installing the rack-mounted server

Use the information to understand the prerequisites that are required for installing the server.

#### About this task

You might need to read the following documents before you begin to install the server:

- The latest version of this document is maintained online. See [IBM Power E1150 \(9043-MRU\)](http://www.ibm.com/docs/POWER11/p11jah/p11jah_roadmap.htm) ([http://www.ibm.com/docs/POWER11/p11jah/p11jah\\_roadmap.htm](http://www.ibm.com/docs/POWER11/p11jah/p11jah_roadmap.htm)).
- To plan your server installation, see [Planning for the system](http://www.ibm.com/docs/POWER11/p11jah/p11jah_kickoff.htm) ([http://www.ibm.com/docs/POWER11/p11jah/p11jah\\_kickoff.htm](http://www.ibm.com/docs/POWER11/p11jah/p11jah_kickoff.htm)).
- To download HMC updates and fixes, see the [Hardware Management Console Support and downloads](https://www14.software.ibm.com/webapp/set2/sas/f/hmcl/home.html) website (<https://www14.software.ibm.com/webapp/set2/sas/f/hmcl/home.html>).

Consider the following prerequisites before you install the server:

**Important:** If you are installing a ENZO PCIe4 expansion drawer below the following IBM systems, ensure that you leave at least 1 EIA unit of open space between the system and the drawer, and install a single EIA unit rack filler in that space. This allows for proper servicing of the drawer.

1. NED24 NVMe expansion drawer
2. 9824-22A
3. 9824-22B
4. 9824-42A
5. 9856-22H
6. 9856-42H
7. 9043-MRU

This ensures that the ENZO PCIe4 expansion drawer's cable management arm has enough clearance for service procedures.

#### Procedure

1. Ensure that you have the following items before you start your installation:
  - Phillips screwdriver
  - Flat-head screwdriver
  - Rack with two units of space
2. Ensure that you have one of the following consoles:
  - HMC at version 11 release 1, or later.
  - Graphic monitor with keyboard and mouse.
  - Teletype (tty) monitor with keyboard.

## Completing inventory for your server

Use this information to complete inventory for your server.

### About this task

To complete the inventory, complete the following steps:

### Procedure

1. Verify that you received all the boxes you ordered.
2. Unpack the server components as needed.
3. Complete a parts inventory before you install each server component by following these steps:
  - a. Locate the inventory list for your server.
  - b. Ensure that you received all the parts that you ordered.

**Note:** Your order information is included with your product. You can also obtain the order information from your marketing representative or the IBM Business Partner.

## Determining the location and attaching the mounting hardware to the rack

You might need to determine where to install the system in the rack, and install the mounting hardware. Use this procedure to complete this task.

### About this task

**Note:** The system requires 4 EIA rack units (4U) of space.

To install the rails into the rack, complete the following steps:

### Procedure

1. Locate the left slide rail. The left mounting slide is stamped with an L identifier on the inside front location.
2. At the front of the rack, position the left slide rail between the left-side front and rear rack flanges.
3. Insert the front slide flange locator studs into the front EIA mounting holes.
4. Insert the rear slide flange locator studs on the slide rail into the rear EIA mounting holes.
5. Position the slam-latch bracket to cover the front EIA space of the slide rail.

**Note:** Each side of the slam-latch bracket is marked with an **L** and an **R**. Ensure that you position the R side with the right side and the L side with the left side of the rack.
6. Attach the slam-latch bracket to the front rail flange with one M5 X 16 mm screw. Place the screw in the upper hole of the EIA rack unit.
7. Repeat these steps for the right slide rail.
8. Move to the rear of the rack.
9. Working from the rear of the rack, verify that the locator studs have been installed in the correct holes of the flanges. Close the mechanism to hold it into place.
10. Attach the left slide rail and right slide rail with a M5x16mm screw. Insert and tighten each screw into the threaded slide flange hole, located in the middle hole of the lowest EIA rack unit.
11. If you are installing the system in a non-IBM rack with square holes, install the rail locator studs. To install the rail locator studs, complete the following steps:
  - a. Install four longer-length locator studs on the front end of each of the rails.
  - b. Install four standard-length locator studs on the rear end of each of the rails.

## What to do next

**Note:** When you have finished using the installation tools, store them for future use.

## Removing the shipping cover from the rear of the system chassis

You must remove the shipping cover from the rear of the system chassis.

### About this task

To remove the shipping cover from the rear of the system chassis, complete the following tasks:

### Procedure

1. Loosen the bolts on either end of the shipping cover.
2. Remove the shipping cover from the rear of the system.
3. If you plan to move the system later, store the shipping cover.

## Installing the server using four people

Before you install the system into the rack, you must remove components from the chassis so that it's less heavy and easier to lift. Read this section if you will have four people to lift the system onto the rails and into the rack.

To reduce the weight of the system so that four people can lift it, perform the following tasks

**Note:** If you are using a lift tool to install the system, it is not necessary to remove components from the system chassis.

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The following table lists the removal tasks you must perform so that you can lift the system and install it into the rack. The number of tasks you must perform is dependent on the number of people you have to install the rack.

Number of installers	Required removal tasks
3	<ul style="list-style-type: none"><li>• Top cover</li><li>• Front bezel</li><li>• System fans (shipped uninstalled)</li><li>• <a href="#">Power supplies</a></li><li>• <a href="#">Disk drives</a></li><li>• <a href="#">PCI adapters</a></li><li>• <a href="#">Voltage regulator modules</a></li></ul>
4 or more	<ul style="list-style-type: none"><li>• Front bezel</li><li>• System fans (shipped uninstalled)</li><li>• <a href="#">Power supplies</a></li></ul>

## Removing the power supplies from the 9043-MRU system

To remove a power supply, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.

2. Remove the power supply from the system.
  - a) To unseat the power supply from its position in the system, push the locking-tab to the left.
  - b) Using the handle, pull the power supply away from the system.
3. Repeat this procedure for each power supply.

## Installing the server using three people

Before you install the system into the rack, you must remove components from the chassis so that it's less heavy and easier to lift. Perform the tasks in this section if you will have three people to lift the system onto the rails and into the rack.

To reduce the weight of the system so that three people can lift it, perform the following tasks.

**Note:** If you are using a lift tool to install the system, it is not necessary to remove components from the system chassis.

The following table lists the removal tasks you must perform so that you can lift the system and install it into the rack. The number of tasks you must perform is dependent on the number of people you have to install the rack.

Number of installers	Required removal tasks
3	<ul style="list-style-type: none"><li>• Top cover</li><li>• Front bezel</li><li>• System fans (shipped uninstalled)</li><li>• <a href="#">Power supplies</a></li><li>• <a href="#">Disk drives</a></li><li>• <a href="#">PCI adapters</a></li><li>• <a href="#">Voltage regulator modules</a></li></ul>
4 or more	<ul style="list-style-type: none"><li>• Top cover</li><li>• Front bezel</li><li>• System fans (shipped uninstalled)</li><li>• <a href="#">Power supplies</a></li></ul>

## Removing the power supplies from the 9043-MRU system

To remove a power supply, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the power supply from the system.
  - a) To unseat the power supply from its position in the system, push the locking-tab to the left.
  - b) Using the handle, pull the power supply away from the system.
3. Repeat this procedure for each power supply.

## Removing a voltage regulator module from the 9043-MRU

To remove a voltage regulator module from the 9043-MRU system, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the voltage regulator module. Place the voltage regulator module on an ESD mat.
  - a) Unlock the levers by pressing in on the tips of the levers.
  - b) Rotate the levers up and out to release the voltage regulator module from its connector.
  - c) While holding the voltage regulator module by its levers, pull upward to remove the voltage regulator module from its slot.
  - d) Place the voltage regulator module on an ESD mat.

## Removing an NVMe U.2 drive from the 9043-MRU system

To remove an NVMe U.2 drive from the system, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Press the drive handle release latch to the left to release the drive handle.
3. Support the bottom of the NVMe U.2 drive as you slide the drive out of the system, holding the drive by its sides.
4. Place the drive on an ESD mat.

## Removing an adapter from the 9043-MRU system

To remove an adapter from the system, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the cassette from the slot:
  - a) Squeeze the latch lever of the cassette and press down on the latch.  
This action pivots the cassette latch forwards, releases the cassette from the slot, and slightly slides the cassette out from the system..
  - b) Hold onto the latch lever and by using your hand to support the bottom of the cassette, pull out the cassette from its slot.
3. Place the removed adapter on an approved ESD surface.

## Installing the cable-management bracket

Install the cable management bracket to provide organization for the cables and cords connecting to the system.

### About this task

To install the cable management bracket, complete the following steps:

## Procedure

1. Two cable management bars are included with the system. One bar is wider than the other. The wider bar is used in racks that have a shorter depth (like the 7014-T42 rack). The shorter bar is used in racks that have a longer depth (like the 7965-S42 rack). Choose the cable management bar that matches the depth of the rack that you have.
2. Each cable management bracket takes up three EIA units. Three screws are used to attach each side of the cable management bracket to the rack flange. Each screw goes in the middle hole of each of the three EIA rack units. The screws are installed on the inside of the rack flange. Using a sticker or pen, mark the locations on the inside of the rack flange where the cable management bracket screws will be installed.
3. Assemble the cable management bracket by attaching the cable management bar to the cable management brackets, using two M3 screws (**D**), as shown in [Figure 1 on page 7](#).
4. Attach the cable management bracket to the rack. To attach the cable management bracket to the rack, complete the following steps:
  - a. At the rear of the rack, hold one side of the assembled cable management bracket (**A**) against the rack flange. Ensure that the bracket aligns with the locations that you marked in step “2” on page 6.
  - b. From inside of the rack, install three screws (**B**) through the rack flanges and into the cable management bracket (**A**), as shown in [Figure 1 on page 7](#).
  - c. Repeat this step for the opposite side of the cable management bracket.
5. Adjust the cable management bracket according to your needs by pulling the thumbscrews (**C**) and tilting the bracket, as shown in [Figure 1 on page 7](#).

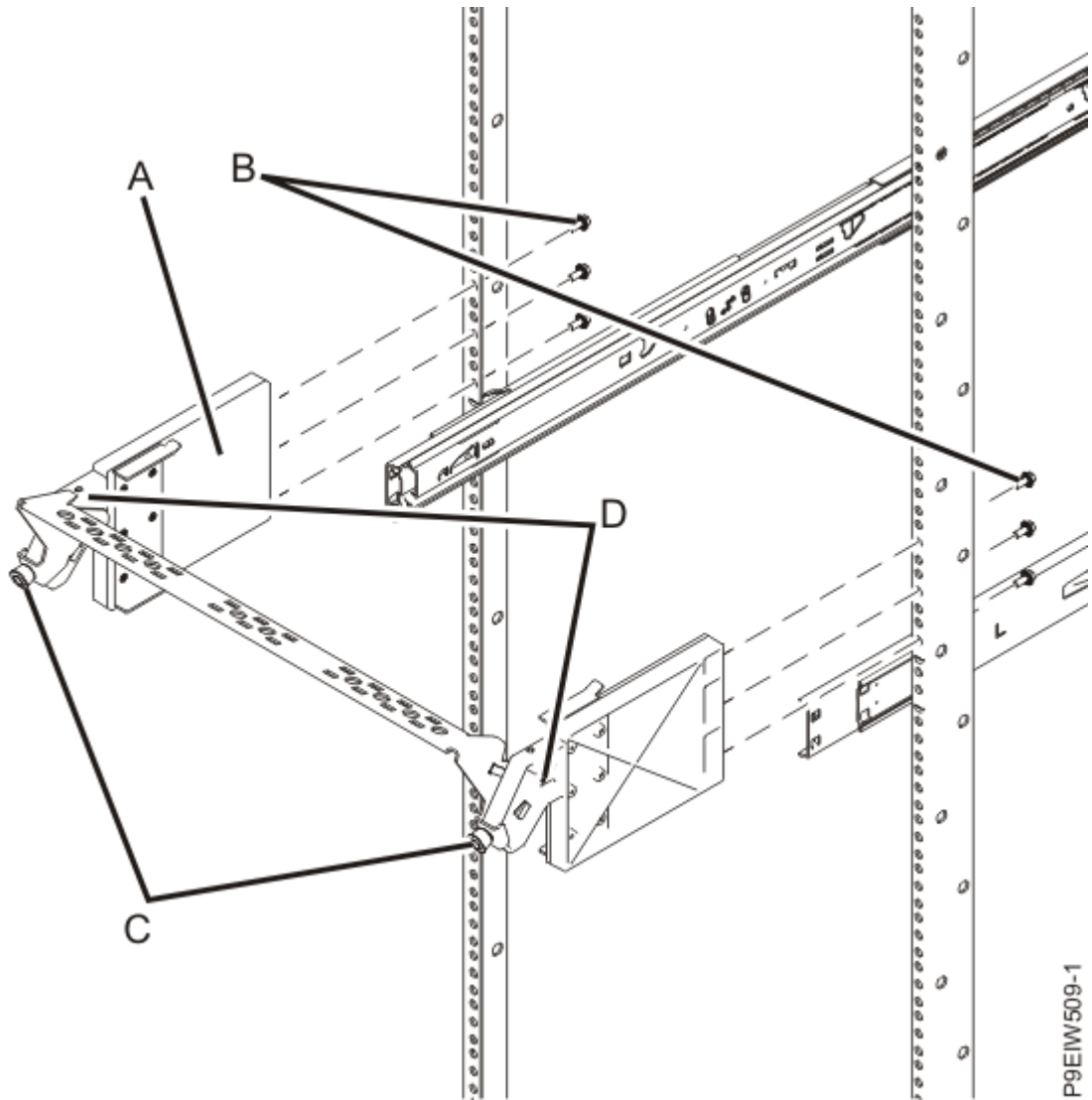


Figure 1. Attaching the cable management bracket to the rack

## Installing the system into the rack

Use the procedure in this section to install the system chassis into the rack.

### About this task



**CAUTION:** This system requires at least three people to install the system into the rack.

To install the system into the rack, complete the following steps:

### Procedure

1. Install the lift handles.

To install the lift handles onto the system chassis, complete the following steps:

- a. Using both hands, press the latches on each side of the handle using your index fingers.
- b. Align the holes in the lift handles with the six pins on the chassis, and then lift the handle up, until the latches click into place.
- c. Repeat these steps for each lift handle.

2. Extend the mounting hardware.

3. Position one person in front of the system, one person on the left side of the system and one person on the right side of the system.
4. Using the lift handles, lift the chassis over the rails.
5. Tilt the front of the system up so that the rear chassis pins insert into the rear holes on the mounting hardware.
6. Tilt the front of the system down so that the chassis pins are inserted into the front and middle holes in the mounting hardware.
7. Remove the lift handles that you installed on both sides of the chassis and store them for future use. Removal instructions are printed on each handle.
8. Depending on the rails you have installed, slide or press the blue rail buttons on the side of each rail.
9. Push the system into the rack until it is flush with the front of the rack.

## Replacing components in the system chassis

Replace the components into the system chassis, now that it is installed onto the rails.

### Replacing a voltage regulator module in the 9043-MRU

To replace a voltage regulator module, complete the steps in this procedure.

#### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the voltage regulator module.
  - a) With the levers in the open position, hold the voltage regulator module by its levers and lower the voltage regulator module into its slot in the system.
  - b) Gently push the voltage regulator module into its connector.
  - c) Rotate the levers in and press down on the latches to secure the voltage regulator module in its slot.
3. Replace the system top cover.
4. Remove the system-to-rail locking clips that you installed.

To remove the system-to-rail locking clips, complete the following steps:

- a. On the right rail, pull the blue latch marked **R**.
  - b. While holding the blue latch, rotate the clip off of the rail.
  - c. Release the blue latch.
  - d. Repeat these steps to remove the system-to-rail locking clip on the left rail.
5. Release the latches in the middle of the rails again and push the system all way into the rack.

### Replacing an NVMe U.2 drive in the 9043-MRU system

To replace an NVMe U.2 drive in the system, complete the steps in this procedure.

#### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the NVMe U.2 drive from the antistatic package.
3. Install or replace the NVMe U.2 drive.
  - a) Ensure the drive handle is in the open position.
  - b) Slide the NVMe U.2 drive into the slot until it is fully seated.

c) Close the drive handle to lock the NVMe U.2 drive in place.

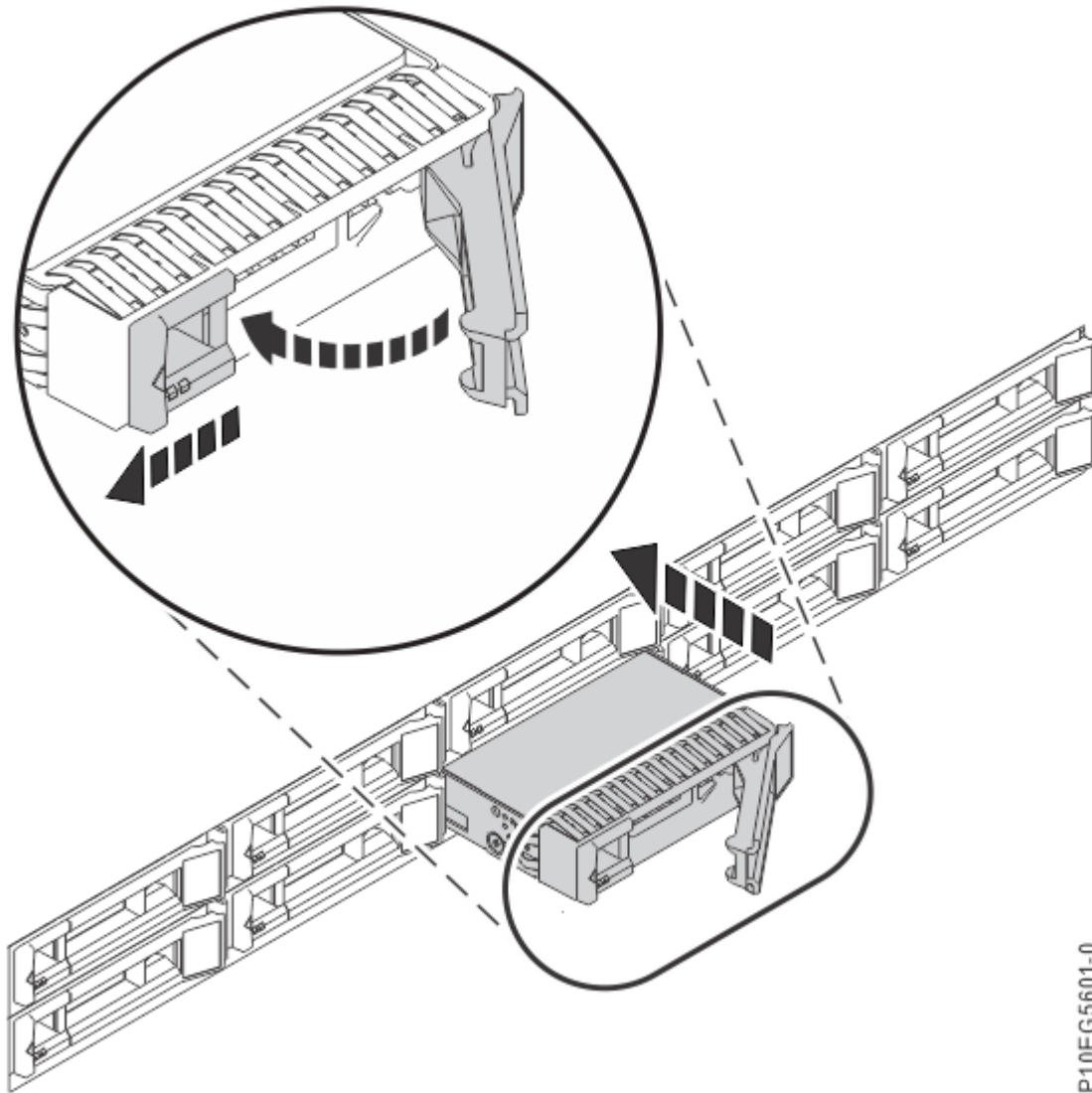


Figure 2. Installing or replacing an NVMe U.2 drive

4. Repeat this procedure for each NVMe U.2 drive.

## Replacing an adapter in the 9043-MRU system

To replace an adapter in the system, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Ensure that the target slot is empty.
3. Place the adapter, component-side up, on a flat, antistatic surface.



**Attention:** A pin on the tailstock of the adapter resembles a removable screw. Do not remove this pin. It is required for correct alignment and seating.

4. Install or replace an adapter into the cassette:
  - a) Open the tailstock clamp by rotating the clamp to the right.
  - b) Open the cassette by pressing and sliding the release bar on the bottom of the cassette to the rear of the cassette.

- c) Insert the adapter into the cassette.
  - d) Close the cassette by pressing and sliding the release bar on the bottom of the cassette toward the front.
  - e)
5. Place the cassette with the adapter in it on an antistatic surface.
  6. Repeat this procedure for each adapter that you removed.

## **Installing the system fans**

You must install the system fans after you have placed the system onto the rails.

### **Procedure**

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the fan.
  - a) Ensure that the fan latch is open.
  - b) Hold on to the fan latch and using your hand to support the bottom of the fan, push the fan into its slot.
  - c) Slide the fan latch to the right to lock the fan into its slot.
  - d) Continue to push in against the latch with your thumb until the latch is fully seated.

## **Replacing the power supplies in the 9043-MRU system**

To replace a power supply, complete the steps in this procedure.

### **Procedure**

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the power supply.
  - a) Align the power supply with the bay and slide the power supply into the system until the latch locks in place.
  - b) Use the hook-and-loop fastener and tie the power cord to the power supply handle.
3. Repeat this procedure for each power supply.

## **Install the front cover**

Use this procedure to install the cover.

### **About this task**

### **Procedure**

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Position the cover on the front of the system unit, so that the four pins on the system match the four holes at the rear of the cover. Press the tabs to snap the cover into position.

## Cabling the server and connecting expansion units

Learn how to cable the server and to connect expansion units.

### About this task

To cable the server and to connect expansion units, complete the following steps:

### Procedure

1. Complete the following steps:
  - a. Plug the power cords into the power supplies.
  - b. Plug the system power cords and the power cords for any other attached devices into the power source.
  - c. If your system uses a power distribution unit (PDU), complete the following steps:
    - i) Connect the system power cords from the server and I/O drawers to the PDU with an IEC 320 type receptacle.
    - ii) Attach the PDU input power cord and plug it into the power source.
    - iii) If your system uses two PDUs for redundancy, plug E0 and E1 to **PDU A** and E2 and E3 to **PDU B**.
- Note:** Confirm that the system is in standby mode. The green power status indicator on the front control panel is flashing, and the dc out indicator lights on the power supplies are flashing. If none of the indicators are flashing, check the power cord connections. Ensure that power has been applied to the outlet to which the PDU is connected.
2. For information about connecting enclosures and expansion units, see [Enclosures and expansion units](http://www.ibm.com/docs/POWER11/p11ham/p11ham_kickoff.htm) ([http://www.ibm.com/docs/POWER11/p11ham/p11ham\\_kickoff.htm](http://www.ibm.com/docs/POWER11/p11ham/p11ham_kickoff.htm))..

## Completing the server setup

Learn about the tasks you must complete to set up your managed system.

Select from the following options:

- [“Completing the server setup by using an HMC with DHCP ” on page 12](#)
- [“Completing the server setup without using the HMC” on page 14](#)

## Accessing the eBMC so that you can manage the system

IBM® Power Systems servers use a enterprise baseboard management controller (eBMC) for system service management, monitoring, maintenance, and control. The eBMC also provides access to the system event log files (SEL). The eBMC is a specialized service processor that monitors the physical state of the system by using sensors. A system administrator or service representative can communicate with the eBMC through an independent connection.

### About this task

**Note:** Before you continue with this step, ensure that you have removed the orange system-to-rail locking clips on each slide rail and pushed the system into the rack.

**Important:** Intelligent Platform Management Interface (IPMI) is disabled by default on your system. Inherent security vulnerabilities are associated with using the IPMI. Consider using Redfish APIs or the GUI to manage your system. You must enable the IPMI and authorize the user before you can use the service.

**Note:** To manage your system using the eBMC using your HMC, your HMC must be at Version 10 Release 1 Service Pack 1020.

To access the eBMC by using your HMC, complete the following steps:

## Procedure

1. Attach one end of the system power supply cable to a power source.

**Note:** Do not apply power at this time.

2. Identify the port on the HMC that is enabled as a DHCP server and connect the new system to the managed system network.

**Note:** If you are managing a standalone system without an HMC by using DHCP, you can identify the IP addresses by using **Function 30: Service processor IP address and port location**. For more information, see [Function 30: Service processor IP address and port location](http://www.ibm.com/docs/POWER11/p11hb5/func30.htm) (<http://www.ibm.com/docs/POWER11/p11hb5/func30.htm>).

3. Connect each end of the power cables to the power supplies on the rear of the system, and connect the other ends to a power source.
4. The HMC discovers the system and assigns it a default name. The name is the DHCP IP address you are using, without the decimals. The server displays the **Pending Authentication** state.
5. You are prompted to set the HMC Access password that your HMC will use to authenticate and manage the system. This is the same password that you will use to access the ASMI as **admin**. To set the system password, select the server, then select **Actions > Set System Password**.

**Note:** The HMC Access password is also the eBMC ASMI admin password.

6. Click **Finish**.
7. Select **System Actions > VMI configuration**. Select the network interface, then select **Modify**.

**Note:** You can choose either **T0** or **T1**. If you previously connected to **T0**, configure **Eth0**. If you previously connected to T1 on the HMC network, configure **Eth1**.

8. Select **DHCP** and click **OK**.
9. Use the HMC to power on the system.
  - a. In the navigation area, select **Resources > All Systems**.
  - b. In the content pane, select the managed system.
  - c. In the navigation area, select **System Actions > Operations > Power On**.

## Completing the server setup using an HMC

Perform these tasks to complete the server setup by using an HMC.

### ***Completing the server setup by using an HMC with DHCP***

Perform these tasks to complete the server setup by using an HMC that uses a DHCP network configuration.

### **About this task**

**Note:** Before you continue with this step, ensure that you have removed the orange system-to-rail locking clips on each slide rail and pushed the system into the rack.

IBM® Power Systems servers use an enterprise baseboard management controller (eBMC) for system service management, monitoring, maintenance, and control. The eBMC also provides access to the system event log files (SEL). The eBMC is a specialized service processor that monitors the physical state of the system by using sensors. A system administrator or service representative can communicate with the eBMC through an independent connection.

**Important:** Intelligent Platform Management Interface (IPMI) is disabled by default on your system. Inherent security vulnerabilities are associated with using the IPMI. Consider using Redfish APIs or the GUI to manage your system. You must enable the IPMI and authorize the user before you can use the service.

**Note:** To manage your system using the eBMC using your HMC, your HMC must be at Version 10 Release 1 Service Pack 1020, or later.

To access the eBMC by using your HMC, complete the following steps:

## Procedure

1. Attach one end of the system power supply cable to a power source.

**Note:** Do not apply power at this time.

2. Identify the port on the HMC that is enabled as a DHCP server and connect the new system to the managed system network.

**Note:** If you are managing a standalone system without an HMC by using DHCP, you can identify the IP addresses by using **Function 30: Service processor IP address and port location**. For more information, see [Function 30: Service processor IP address and port location](http://www.ibm.com/docs/POWER11/p11hb5/func30.htm) (<http://www.ibm.com/docs/POWER11/p11hb5/func30.htm>).

3. Connect each end of the power cables to the power supplies on the rear of the system, and connect the other ends to a power source.
4. The HMC discovers the system and assigns it a default name. The name is the DHCP IP address you are using, without the decimals. The server displays the **Pending Authentication** state.
5. You are prompted to set the HMC Access password that your HMC will use to authenticate and manage the system. This is the same password that you will use to access the ASMI as **admin**. To set the system password, select the server, then select **Actions > Set System Password**.

**Note:** The HMC Access password is also the eBMC ASMI admin password.

6. Click **Finish**.
7. Select **System Actions > VMI configuration**. Select the network interface, then select **Modify**.

**Note:** You can choose either T0 or T1. If you previously connected to T0, configure Eth0. If you previously connected to T1 on the HMC network, configure Eth1.

8. Select **DHCP** and click **OK**.

9. Use the HMC to power on the system.

- a. In the navigation area, select **Resources > All Systems**.
- b. In the content pane, select the managed system.
- c. In the navigation area, select **System Actions > Operations > Power On**.

10. Check the time of day.

- a. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
- b. In the navigation area, expand **System Configuration**.
- c. Select **Time of Day**. The content pane displays a form that shows the current date (day, month, and year) and time (hours, minutes, and seconds).

11. Check the firmware level of your managed system.

To check your managed system's firmware level, select **Actions > Update Firmware > System Firmware > View Current Levels**.

12. If necessary, update your managed system firmware. Select **Actions > Update Firmware > System Firmware > Update**.

## ***Completing the server setup by using an HMC with a static network configuration***

Perform these tasks to complete the server setup by using an HMC that uses a static network configuration.

## Procedure

1. Connect an Ethernet cable between the **T2 (ETH0)** port on the rear of the system to a PC equipped with an Ethernet port, assuming that **T3 (ETH1)** is connected to the HMC.
2. If you haven't already done so, connect the power cables to the power supplies. The panel displays **01 N**.

3. Log in using the default user ID and password.  
**Note:** The default user ID is admin and the default password is admin.
4. Enter a new password to continue.
5. Press the up arrow key to select **02** and press Enter.
6. Press Enter again. **A <** (less than symbol) appears next to **N**. Press the Up Arrow key. The **N** changes to an **M**.
7. Press Enter.
8. Press Enter twice. **02** displays on the control panel.
9. Press the Up Arrow key until it returns **30** and press Enter.
10. Press enter again. The panel now displays 3000. Press Enter.
11. Record the information that displays. You will need this information for a later step.
12. Move to your Ethernet-equipped device. Open your device's network configuration panel and assign an IP that is the same as what you recorded in the previous step, but subtract 1. For instance, if you recorded 169.254.176.**9**, then assign your laptop 169.254.176.**8**. Use subnet mask **255.255.0.0** on the device. This will be the BMC's default value.
13. Use your device to verify that you can connect using the address you used in the previous step, and then attach a web browser to that IP and open ASMI.
14. Use the ASMI interface to set a new admin password. The initial login is **admin/admin**.
15. Set a new password. Ensure that you enter an acceptable password before proceeding to the next step.
16. Configure ETH1 as a static IP. To configure ETH1 as a static IP, complete the following steps:  
**Note:** You will need one available IP address for ETH1 on the BMC.
  - a. on the BMC, select **Settings > Network > Eth1**.
  - b. Select **Add Static IPv4 Address**.
  - c. Enter your IP address, gateway, and subnet information.
  - d. Click **Add**.
17. Using the IP address that you configured above, add the system to your HMC. To add a managed system so that it can be managed by your HMC, in the contents area click **Connect Systems...** and complete the fields. Click **OK**.
18. Configure VMI. To configure VMI, select **Operations > VMI Settings**.
19. Type the VMI IP information and configure the IP type to be **Static**.
20. Use the HMC to power on the system.
  - a. In the navigation area, select **Resources > All Systems**.
  - b. In the content pane, select the managed system.
  - c. In the navigation area, select **System Actions > Operations > Power On**.
21. Check the firmware level of your managed system.  
 To check your managed system's firmware level, select **Actions > Update Firmware > System Firmware > View Current Levels**.
22. If necessary, update your managed system firmware. Select **Actions > Update Firmware > System Firmware > Update**.

## Completing the server setup without using the HMC

To access the eBMC without using the HMC, complete the steps in this procedure.

### About this task

To access the eBMC without using an HMC, complete the following steps:

## Procedure

1. Connect an Ethernet cable between the **T2 (ETH0)** port on the rear of the system to a PC equipped with an Ethernet port, assuming that **T3 (ETH1)** is connected to the HMC.
2. If you haven't already done so, connect the power cables to the power supplies. The panel displays **01 N**.
3. Press the up arrow key to select **02** and press Enter.
4. Press Enter again. **A <** (less than symbol) appears next to **N**. Press the Up Arrow key. The **N** changes to an **M**.
5. Press Enter.
6. Press Enter twice. **02** displays on the control panel.
7. Press the Up Arrow key until it returns **30** and press Enter.
8. Press enter again. The panel now displays 3000. Press Enter.
9. Record the information that displays. You will need this information for a later step.
10. Move to your Ethernet-equipped device. Open your device's network configuration panel and assign an IP that is the same as what you recorded in the previous step, but subtract 1. For instance, if you recorded 169.254.176.**9**, then assign your laptop 169.254.176.**8**. Use subnet mask **255.255.0.0** on the device. This will be the BMC's default value.
11. Use your device to verify that you can connect using the address you used in the previous step, and then attach a web browser to that IP and open ASMI.
12. Use the ASMI interface to set a new admin password. The initial login is **admin/admin**.
13. Set a new password. Ensure that you enter an acceptable password before proceeding to the next step.
14. Configure ETH1 as a static IP. To configure ETH1 as a static IP, complete the following steps:
  - Note:** You will need one available IP address for ETH1 on the BMC.
  - a. on the BMC, select **Settings > Network > Eth1**.
  - b. Select **Add Static IPv4 Address**.
  - c. Enter your IP address, gateway, and subnet information.
  - d. Click **Add**.

## Setting up a preinstalled server

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Learn how to set up a server that arrives preinstalled in a rack.

### Prerequisite for installing the preinstalled server

Use the information to understand the prerequisites that are required for setting up the preinstalled server.

#### About this task

**Note:** Before you install your preinstalled server, ensure that:

- Each power cable is firmly seated into a corresponding power distribution unit receptacle
- All the circuit breaker buttons on each PDU are in the fully-closed position

You might need to read the following documents before you begin to install the server:

- The latest version of this document is maintained online. See [IBM Power E1150 \(9824-42A\)](http://www.ibm.com/docs/POWER11/p11jah/p11jah_roadmap.htm) ([http://www.ibm.com/docs/POWER11/p11jah/p11jah\\_roadmap.htm](http://www.ibm.com/docs/POWER11/p11jah/p11jah_roadmap.htm)).
- To plan your server installation, see [Planning for the system](http://www.ibm.com/docs/POWER11/p11jah/p11jah_kickoff.htm) ([http://www.ibm.com/docs/POWER11/p11jah/p11jah\\_kickoff.htm](http://www.ibm.com/docs/POWER11/p11jah/p11jah_kickoff.htm)).

Consider the following prerequisites before you install the server:

## Procedure

1. Ensure that you have the following items before you start your installation:
  - Phillips screwdriver
  - Flat-head screwdriver
2. Ensure that you have one of the following consoles:
  - Hardware Management Console (HMC): To manage POWER11 processor-based systems, the HMC must be at version 11 release 1.0, or later.
  - Graphic monitor with keyboard and mouse.
  - Teletype (tty) monitor with keyboard.

## Completing inventory for your preinstalled server

Use this information to complete inventory for your server.

### About this task

To complete the inventory, complete the following steps:

## Procedure

1. Verify that you received all the boxes you ordered.
2. Unpack the server components as needed.
3. Complete a parts inventory before you install each server component by following these steps:
  - a. Locate the inventory list for your server.
  - b. Ensure that you received all the parts that you ordered.

**Note:** Your order information is included with your product. You can also obtain the order information from your marketing representative or the IBM Business Partner.

## Removing the shipping bracket and connecting power cords and power distribution unit (PDU) for your preinstalled server

Before you set up a console, you must remove the shipping bracket and connect power cords.

### About this task



#### Attention:

- Attach an electrostatic discharge (ESD) wrist strap to the front ESD jack, to the rear ESD jack, or to an unpainted metal surface of your hardware to prevent the electrostatic discharge from damaging your hardware.
- When you use an ESD wrist strap, follow all electrical safety procedures. An ESD wrist strap is used for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- If you do not have an ESD wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

To remove the shipping bracket and connect power cords, do the following:

## Procedure

1. Remove the six screws that secure the shipping bracket to the chassis.
2. Cable the server.

- a. Connect the system power cords from the server and I/O drawers to the PDU with an IEC 320 type receptacle.
- b. Attach the PDU input power cord and plug it into the power source.

## Installing the system fans

You must install the system fans after you have placed the system onto the rails.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the fan.
  - a) Ensure that the fan latch is open.
  - b) Hold on to the fan latch and using your hand to support the bottom of the fan, push the fan into its slot.
  - c) Slide the fan latch to the right to lock the fan into its slot.
  - d) Continue to push in against the latch with your thumb until the latch is fully seated.

## Installing the power supplies in the 9043-MRU system

To install a power supply, complete the steps in this procedure.

### Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Install the power supplies.
  - a) Align the power supply with the bay and slide the power supply into the system until the latch locks in place.
  - b) Connect the power cord to the power supply.
  - c) Use the hook-and-loop fastener and tie the power cord to the power supply handle.
3. Repeat this procedure for each power supply that you removed.
4. Replace the system top cover.
5. Remove the system-to-rail locking clips that you installed.

To remove the system-to-rail locking clips, complete the following steps:

  - a. On the right rail, pull the blue latch marked **R**.
  - b. While holding the blue latch, rotate the clip off of the rail.
  - c. Release the blue latch.
  - d. Repeat these steps to remove the system-to-rail locking clip on the left rail.
6. Release the latches in the middle of the rails again and push the system all way into the rack.
7. If you are installing the system in a non-IBM rack with square holes, install the rail locator studs. To install the rail locator studs, complete the following steps:
  - a. Install four longer-length locator studs on the front end of each of the rails.
  - b. Install four standard-length locator studs on the rear end of each of the rails.

## Routing cables through the cable-management arm and connecting expansion units

Use this procedure to route cables through the cable-management arm and to connect expansion units.

### About this task

To route cables through the cable-management arm and to connect expansion units, complete the following steps:

### Procedure

1. Route the console cable through the cable management arm.
2. Connect expansion units that were shipped with the system. For more information, see the expansion unit installation book that was shipped with the system. Complete the tasks associated with connecting a preinstalled expansion unit or disk drive enclosure, then return to this document to complete your server setup.
3. Power on the managed system.
4. Continue with [“Completing the server setup” on page 18](#).

## Completing the server setup

Learn about the tasks you must complete to set up your managed system.

Select from the following options:

- [“Completing the server setup by using an HMC with DHCP ” on page 19](#)
- [“Completing the server setup without using the HMC” on page 21](#)

## Accessing the eBMC so that you can manage the system

IBM® Power Systems servers use a enterprise baseboard management controller (eBMC) for system service management, monitoring, maintenance, and control. The eBMC also provides access to the system event log files (SEL). The eBMC is a specialized service processor that monitors the physical state of the system by using sensors. A system administrator or service representative can communicate with the eBMC through an independent connection.

### About this task

**Note:** Before you continue with this step, ensure that you have removed the orange system-to-rail locking clips on each slide rail and pushed the system into the rack.

**Important:** Intelligent Platform Management Interface (IPMI) is disabled by default on your system. Inherent security vulnerabilities are associated with using the IPMI. Consider using Redfish APIs or the GUI to manage your system. You must enable the IPMI and authorize the user before you can use the service.

**Note:** To manage your system using the eBMC using your HMC, your HMC must be at Version 10 Release 1 Service Pack 1020.

To access the eBMC by using your HMC, complete the following steps:

### Procedure

1. Attach one end of the system power supply cable to a power source.  
**Note:** Do not apply power at this time.
2. Identify the port on the HMC that is enabled as a DHCP server and connect the new system to the managed system network.

**Note:** If you are managing a standalone system without an HMC by using DHCP, you can identify the IP addresses by using **Function 30: Service processor IP address and port location**. For more information, see [Function 30: Service processor IP address and port location](http://www.ibm.com/docs/POWER11/p11hb5/func30.htm) (<http://www.ibm.com/docs/POWER11/p11hb5/func30.htm>).

3. Connect each end of the power cables to the power supplies on the rear of the system, and connect the other ends to a power source.
4. The HMC discovers the system and assigns it a default name. The name is the DHCP IP address you are using, without the decimals. The server displays the **Pending Authentication** state.
5. You are prompted to set the HMC Access password that your HMC will use to authenticate and manage the system. This is the same password that you will use to access the ASMI as **admin**. To set the system password, select the server, then select **Actions > Set System Password**.

**Note:** The HMC Access password is also the eBMC ASMI admin password.

6. Click **Finish**.
7. Select **System Actions > VMI configuration**. Select the network interface, then select **Modify**.

**Note:** You can choose either **T0** or **T1**. If you previously connected to **T0**, configure **Eth0**. If you previously connected to T1 on the HMC network, configure **Eth1**.

8. Select **DHCP** and click **OK**.
9. Use the HMC to power on the system.
  - a. In the navigation area, select **Resources > All Systems**.
  - b. In the content pane, select the managed system.
  - c. In the navigation area, select **System Actions > Operations > Power On**.

## Completing the server setup using an HMC

Perform these tasks to complete the server setup by using an HMC.

### *Completing the server setup by using an HMC with DHCP*

Perform these tasks to complete the server setup by using an HMC that uses a DHCP network configuration.

### About this task

**Note:** Before you continue with this step, ensure that you have removed the orange system-to-rail locking clips on each slide rail and pushed the system into the rack.

IBM® Power Systems servers use an enterprise baseboard management controller (eBMC) for system service management, monitoring, maintenance, and control. The eBMC also provides access to the system event log files (SEL). The eBMC is a specialized service processor that monitors the physical state of the system by using sensors. A system administrator or service representative can communicate with the eBMC through an independent connection.

**Important:** Intelligent Platform Management Interface (IPMI) is disabled by default on your system. Inherent security vulnerabilities are associated with using the IPMI. Consider using Redfish APIs or the GUI to manage your system. You must enable the IPMI and authorize the user before you can use the service.

**Note:** To manage your system using the eBMC using your HMC, your HMC must be at Version 10 Release 1 Service Pack 1020, or later.

To access the eBMC by using your HMC, complete the following steps:

### Procedure

1. Attach one end of the system power supply cable to a power source.

**Note:** Do not apply power at this time.

2. Identify the port on the HMC that is enabled as a DHCP server and connect the new system to the managed system network.  
**Note:** If you are managing a standalone system without an HMC by using DHCP, you can identify the IP addresses by using **Function 30: Service processor IP address and port location**. For more information, see [Function 30: Service processor IP address and port location](http://www.ibm.com/docs/POWER11/p11hb5/func30.htm) (<http://www.ibm.com/docs/POWER11/p11hb5/func30.htm>).
3. Connect each end of the power cables to the power supplies on the rear of the system, and connect the other ends to a power source.
4. The HMC discovers the system and assigns it a default name. The name is the DHCP IP address you are using, without the decimals. The server displays the **Pending Authentication** state.
5. You are prompted to set the HMC Access password that your HMC will use to authenticate and manage the system. This is the same password that you will use to access the ASMI as **admin**. To set the system password, select the server, then select **Actions > Set System Password**.  
**Note:** The HMC Access password is also the eBMC ASMI admin password.
6. Click **Finish**.
7. Select **System Actions > VMI configuration**. Select the network interface, then select **Modify**.  
**Note:** You can choose either **T0** or **T1**. If you previously connected to **T0**, configure **Eth0**. If you previously connected to T1 on the HMC network, configure **Eth1**.
8. Select **DHCP** and click **OK**.
9. Use the HMC to power on the system.
  - a. In the navigation area, select **Resources > All Systems**.
  - b. In the content pane, select the managed system.
  - c. In the navigation area, select **System Actions > Operations > Power On**.
10. Check the firmware level of your managed system.  
To check your managed system's firmware level, select **Actions > Update Firmware > System Firmware > View Current Levels**.
11. If necessary, update your managed system firmware. Select **Actions > Update Firmware > System Firmware > Update**.

### ***Completing the server setup by using an HMC with a static network configuration***

Perform these tasks to complete the server setup by using an HMC that uses a static network configuration.

#### **Procedure**

1. Connect an Ethernet cable between the **T2 (ETH0)** port on the rear of the system to a PC equipped with an Ethernet port, assuming that **T3 (ETH1)** is connected to the HMC.
2. If you haven't already done so, connect the power cables to the power supplies. The panel displays **01 N**.
3. Press the up arrow key to select **02** and press Enter.
4. Press Enter again. **A <** (less than symbol) appears next to **N**. Press the Up Arrow key. The **N** changes to an **M**.
5. Press Enter.
6. Press Enter twice. **02** displays on the control panel.
7. Press the Up Arrow key until it returns **30** and press Enter.
8. Press enter again. The panel now displays 3000. Press Enter.
9. Record the information that displays. You will need this information for a later step.
10. Move to your Ethernet-equipped device. Open your device's network configuration panel and assign an IP that is the same as what you recorded in the previous step, but subtract 1. For instance, if you

recorded 169.254.176.**9**, then assign your laptop 169.254.176.**8**. Use subnet mask **255.255.0.0** on the device. This will be the BMC's default value.

11. Use your device to verify that you can connect using the address you used in the previous step, and then attach a web browser to that IP and open ASMI.
12. Use the ASMI interface to set a new admin password. The initial login is **admin/admin**.
13. Set a new password. Ensure that you enter an acceptable password before proceeding to the next step.
14. Configure ETH1 as a static IP. To configure ETH1 as a static IP, complete the following steps:  
**Note:** You will need one available IP address for ETH1 on the BMC.
  - a. on the BMC, select **Settings > Network > Eth1**.
  - b. Select **Add Static IPv4 Address**.
  - c. Enter your IP address, gateway, and subnet information.
  - d. Click **Add**.
15. Using the IP address that you configured above, add the system to your HMC. To add a managed system so that it can be managed by your HMC, in the contents area click **Connect Systems...** and complete the fields. Click **OK**.
16. Configure VMI. To configure VMI, select **Operations > VMI Settings**.
17. Type the VMI IP information and configure the IP type to be **Static**.
18. Use the HMC to power on the system.
  - a. In the navigation area, select **Resources > All Systems**.
  - b. In the content pane, select the managed system.
  - c. In the navigation area, select **System Actions > Operations > Power On**.
19. Check the firmware level of your managed system.  
To check your managed system's firmware level, select **Actions > Update Firmware > System Firmware > View Current Levels**.
20. If necessary, update your managed system firmware. Select **Actions > Update Firmware > System Firmware > Update**.

## Completing the server setup without using the HMC

To access the eBMC without using the HMC, complete the steps in this procedure.

### About this task

To access the eBMC without using an HMC, complete the following steps:

### Procedure

1. Connect an Ethernet cable between the **T0 (ETH0)** port on the rear of the system to a PC equipped with an Ethernet port, assuming that **T1 (ETH1)** is connected to the HMC, or unused if no HMC is attached (ie. If LAN Console was selected).
2. If you haven't already done so, connect the power cables to the power supplies. The panel displays **01 N**.
3. Press the up arrow key to select **02** and press Enter.
4. Press Enter again. A **<** (less than symbol) appears next to **N**. Press the Up Arrow key. The **N** changes to an **M**.
5. Press Enter.
6. Press Enter again. **02** displays on the control panel.
7. Press the Up Arrow key until it returns **30** and press Enter. The panel now displays **30\*\***.
8. Press the Up Arrow key. The panel now displays 3000. Press Enter.

9. Record the information that displays. You will need this information for a later step.
10. Return the settings to Normal IPL.  
To return the settings to the Normal IPL, complete the following steps:
  - a. i) Press the Up Arrow key until it returns **30\*\*** and press Enter. The panel now displays **30**.
  - ii) Press the Down Arrow key until it returns **02** and press Enter.
  - iii) Press Enter again. A **<** (less than symbol) displays next to **M**. Press the Up Arrow key. The **M** changes to an **N**.
  - iv) Press Enter.
  - v) Press Enter again. **02** displays on the control panel.
  - vi) Press the Down Arrow key until it returns **01** and press Enter.
11. Move to your Ethernet-equipped device. Open your device's network configuration panel and assign an IP that is the same as what you recorded in the previous step, but subtract 1. For instance, if you recorded 169.254.176.**9**, then assign your laptop 169.254.176.**8**. Use subnet mask **255.255.0.0** on the device. This will be the BMC's default value.
12. Use your device to verify that you can connect using the address you used in the previous step, and then attach a web browser to that IP (for instance, <https://169.254.176.9>) and open ASMI.
13. Use the ASMI interface to set a new admin password. The initial login is **admin/admin**.
14. Set a new password. Ensure that you enter an acceptable password before proceeding to the next step.
15. Configure ETH1 as a static IP. To configure ETH1 as a static IP, complete the following steps:  
**Note:** You will need one available IP address for ETH1 on the BMC.
  - a. on the BMC, select **Settings > Network > Eth1**.
  - b. Select **Add Static IPv4 Address**.
  - c. Enter your IP address, gateway, and subnet information.
  - d. Click **Add**.
16. Connect an Ethernet cable between the **T1 (ETH1)** port on the rear of the system to your Console PC equipped with an Ethernet port, or to your network switch. Use the IP address that you configured to connect to the BMC.

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## Accessibility features for IBM Power servers

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Accessibility features assist users who have a disability, such as restricted mobility or limited vision, to use information technology content successfully.

### Overview

The IBM Power servers include the following major accessibility features:

- Keyboard-only operation
- Operations that use a screen reader

The IBM Power servers use the latest W3C Standard, [WAI-ARIA 1.0](http://www.w3.org/TR/wai-aria/) ([www.w3.org/TR/wai-aria/](http://www.w3.org/TR/wai-aria/)), to ensure compliance with [ICT Accessibility 508 Standards and 255 Guidelines](https://www.access-board.gov/ict/) (<https://www.access-board.gov/ict/>) and [Web Content Accessibility Guidelines \(WCAG\) 2.0](http://www.w3.org/TR/WCAG20/) ([www.w3.org/TR/WCAG20/](http://www.w3.org/TR/WCAG20/)). To take advantage of accessibility features, use the latest release of your screen reader and the latest web browser that is supported by the IBM Power servers.

The IBM Power servers online product documentation in IBM Documentation is enabled for accessibility. For more information about IBM's commitment to accessibility, see the IBM accessibility website at [IBM Accessibility](https://www.ibm.com/able/) (<https://www.ibm.com/able/>).

### Keyboard navigation

This product uses standard navigation keys.

### Interface information

The IBM Power servers user interfaces do not have content that flashes 2 - 55 times per second.

The IBM Power servers web user interface relies on cascading style sheets to render content properly and to provide a usable experience. The application provides an equivalent way for low-vision users to use system display settings, including high-contrast mode. You can control font size by using the device or web browser settings.

The IBM Power servers web user interface includes WAI-ARIA navigational landmarks that you can use to quickly navigate to functional areas in the application.

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## Related accessibility information

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TTY service  
800-IBM-3383 (800-426-3383)  
(within North America)

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CAN ICES-3 (A)/NMB-3(A)

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Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:  
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New Orchard Road

Armonk, New York 10504  
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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.

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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.

Responsible Party:

International Business Machines Corporation

New Orchard Road

Armonk, NY 10504

Contact for FCC compliance information only: [fccinfo@us.ibm.com](mailto:fccinfo@us.ibm.com)

## United Kingdom Notice

This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.

## Class B Notices

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

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

## Canada Notice

CAN ICES-3 (B)/NMB-3(B)

## European Community and Morocco Notice

This product is in conformity with the protection requirements of Directive 2014/30/EU of the European Parliament and of the Council on the harmonization 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.

## German Notice

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

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2014/30/EU zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022/ EN 55032 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung von IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung von IBM gesteckt/eingebaut werden.

#### **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 2014/30/EU in der Bundesrepublik Deutschland.

#### **Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC Richtlinie 2014/30/EU) für Geräte der Klasse B**

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

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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Tel: +49 (0) 800 225 5426  
email: HalloIBM@de.ibm.com

Generelle Informationen:

**Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55032 Klasse B**

#### **Japan Electronics and Information Technology Industries Association (JEITA) Notice**

(一社) 電子情報技術産業協会 高調波電流抑制対策実施  
要領に基づく定格入力電力値 : IBM Documentationの各製品  
の仕様ページ参照

This statement applies to products less than or equal to 20 A per phase.

高調波電流規格 JIS C 61000-3-2 適合品

This statement applies to products greater than 20 A, single phase.

高調波電流規格 JIS C 61000-3-2 準用品

本装置は、「高圧又は特別高圧で受電する需要家の高調波抑制対策ガイドライン」対象機器（高調波発生機器）です。

- ・回路分類 : 6 (単相、P F C回路付)
- ・換算係数 : 0

This statement applies to products greater than 20 A per phase, three-phase.

## 高調波電流規格 JIS C 61000-3-2 準用品

本装置は、「高圧又は特別高圧で受電する需要家の高調波抑制対策ガイドライン」対象機器（高調波発生機器）です。

- 回路分類 : 5 (3相、PFC回路付)
- 換算係数 : 0

### Japan Voluntary Control Council for Interference (VCCI) Notice

この装置は、クラス B 機器です。この装置は、住宅環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

### Taiwan Notice

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

### United States Federal Communications Commission (FCC) Notice

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 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.

Responsible Party:

International Business Machines Corporation  
New Orchard Road

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Part Number: 03KG574

(4L) Origin: MX



Printed in Mexico

(1P) P/N: 03KG574

