

Power Systems

*PCIe3 4-slot direct module for the PCIe  
Gen3 I/O expansion drawer*

**IBM**



Power Systems

*PCIe3 4-slot direct module for the PCIe  
Gen3 I/O expansion drawer*

**IBM**

**Note**

Before using this information and the product it supports, read the information in “Safety notices” on page v, “Notices” on page 9, the *IBM Systems Safety Notices* manual, G229-9054, and the *IBM Environmental Notices and User Guide*, Z125-5823.

This edition applies to IBM Power Systems™ servers that contain the POWER8 processor and to all associated models.

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## Safety notices

Safety notices may be printed throughout this guide:

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

### 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:

- 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)



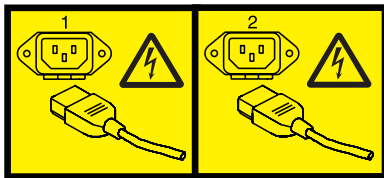
**DANGER:** Hazardous voltage, current, or energy levels are present inside any component that has this label attached. Do not open any cover or barrier that contains this label. (L001)

(L002)



**DANGER:** Rack-mounted devices are not to be used as shelves or work spaces. (L002)

(L003)



or



or



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

(L007)



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

(L008)



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

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.

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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## PCIe3 4-slot direct module for PCIe3 expansion drawer

You can remove or replace the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer.

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### Removing and replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer

Learn how to remove and replace the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer.

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see *Repairing a part by using the HMC*.

If you do not have an HMC, complete the following steps to prepare to remove and replace the PCIe3 4-slot direct module:

1. "Preparing the system to remove and replace the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer" on page 3
2. "Removing the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer" on page 3
3. "Replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer" on page 5
4. "Preparing the system for operation after removing and replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer" on page 7

### Preparing the system to remove and replace the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer

Learn how to prepare the system to remove and replace the PCIe3 4-slot direct module from a PCIe Gen3 I/O expansion drawer to replace a failing part or as part of another service procedure.

To prepare the system to remove the PCIe3 4-slot direct module, complete the following steps:

1. Identify the system that you are working on by using the identify the system process to turn on the system locate (blue) indicator. For instructions, see *Control panel LEDs and Enabling enclosure indicators with the ASMI*.
2. Complete the prerequisite tasks. For instructions, see *Before you begin*.
3. Stop the system and the expansion drawer. When you stop the system, the drawer automatically powers off. For instructions, see *Stopping a system or logical partition*.
4. Remove the front cover (A) from the PCIe3 expansion drawer by removing the screws (B), then pull off the cover by using your fingers. See Figure 1 on page 2.

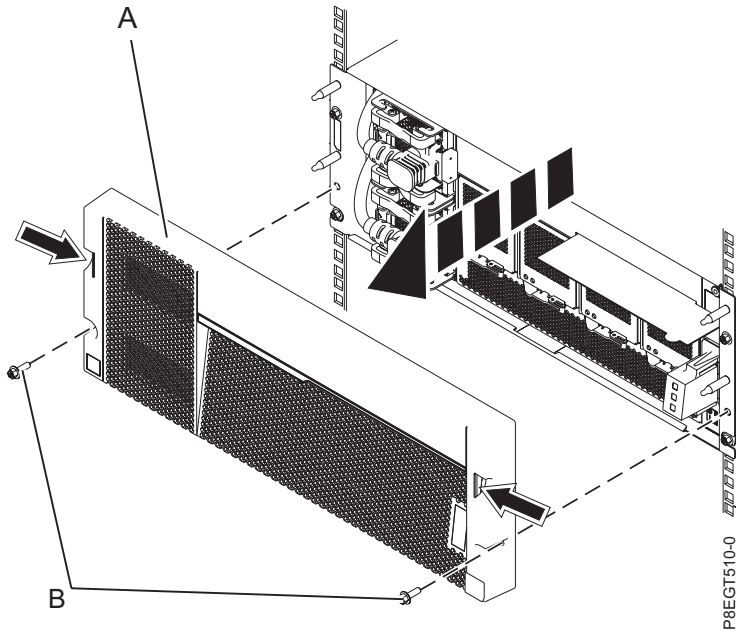


Figure 1. Removing the front cover

5. Attach the electrostatic discharge (ESD) wrist strap. Your PCIe3 expansion drawer has an ESD pin on the rear of the drawer. Attach the wrist strap to the ESD pin on the rear of the drawer.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
- When using a wrist strap, follow all electrical safety procedures. A wrist strap is 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 a 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.



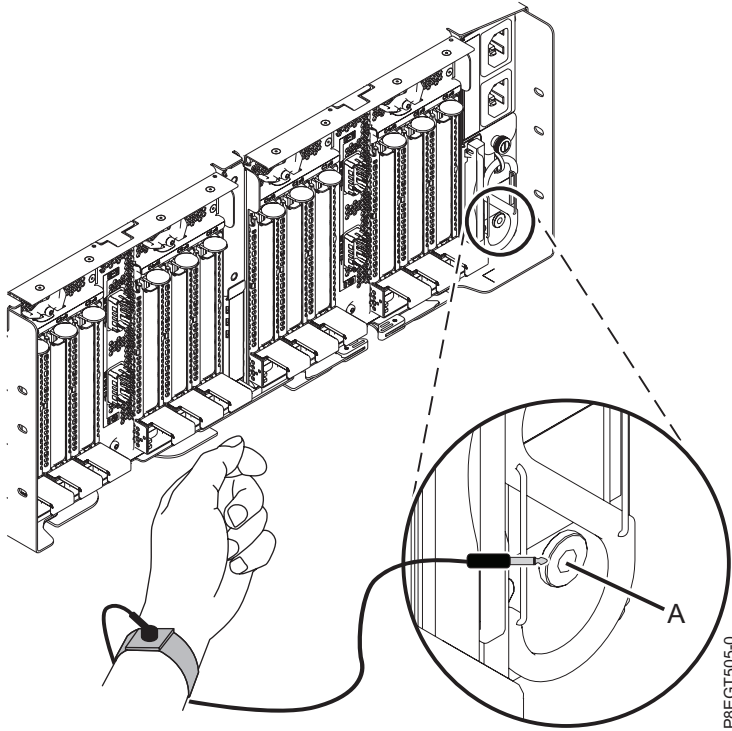


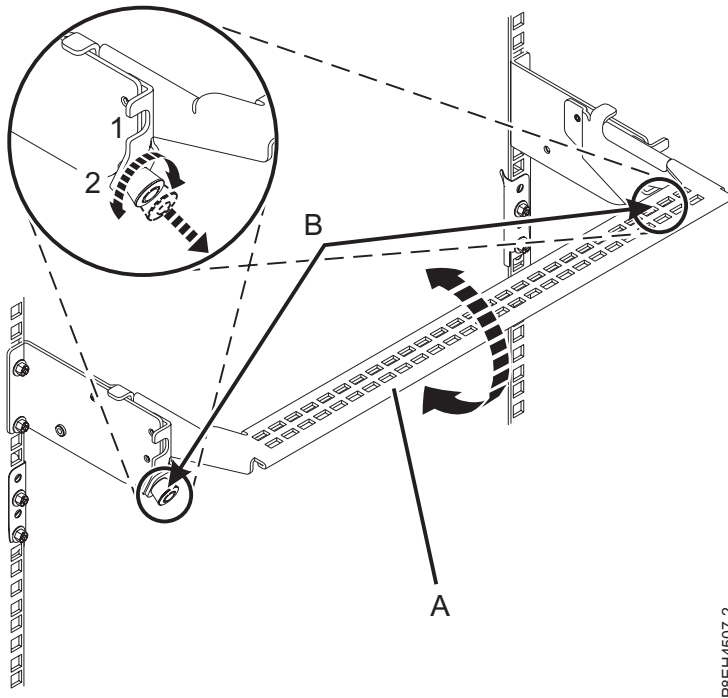
Figure 2. Location of the ESD pin on the rear of the PCIe3 expansion drawer

## Removing the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer

Learn how to remove the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer.

To remove the PCIe3 4-slot direct module, complete the following steps:

1. At the rear of the PCIe3 expansion drawer, put the cable management bracket in the service position. See Figure 3 on page 4.
  - a. Pull out the quarter-turn fasteners **(B)** and turn them to disengage them while you lift the cable management bracket **(A)** to its raised position **(1)**.
  - b. Turn the quarter-turn fasteners **(B)** to engage and lock the bracket into position.



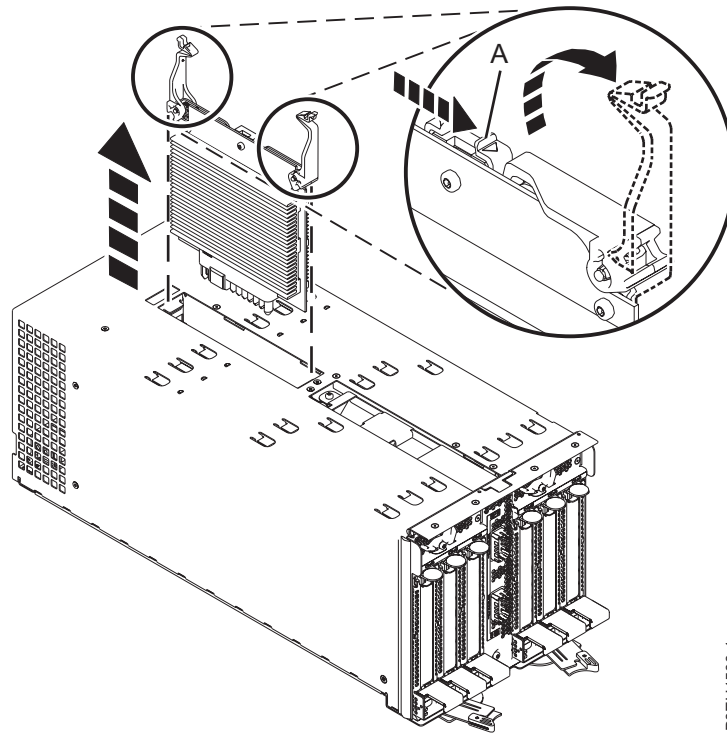
P8EH4507-2

Figure 3. Placing the cable management bracket in the service position

2. Disconnect all cables from the PCIe3 4-slot direct module. Label the cables so that they can be connected again in the correct order.
3. Open the release latches (**B**) on the PCIe3 4-slot direct module (**A**) by pulling them away from the rack. See figure “Removing the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer” on page 3.
4. Slide the PCIe3 4-slot direct module (**A**) halfway out of the drawer. The PCIe3 4-slot direct module might be heavy. Therefore, support the module at the base and then pull it out fully.

Figure 4. Opening the release latches

5. Place the PCIe3 4-slot direct module on an electrostatic discharge (ESD) surface.
6. Remove the voltage regulator module. See “Removing the PCIe3 4-slot direct module from the PCIe Gen3 I/O expansion drawer” on page 3.
  - a. Press the release latch (**A**) and lift the latch up to open it.
  - b. Pull the voltage regulator module out of the fanout module.
  - c. Place the voltage regulator module on an ESD surface.



P8EH1500-1

Figure 5. Removing the voltage regulator module

7. Label the PCIe adapter cassettes so that they can be installed again in the correct order. To remove the PCIe adapter cassettes from the PCIe3 4-slot direct module, complete the following steps:
  - a. Release both latch doors (B) by pressing the latch levers(A) in the direction shown in Figure 6. The latch doors (B) automatically rotate in the direction shown in Figure 6.
  - b. Lift up the cassette handle (C) and pull out the cassette (D) from its slot as shown in Figure 6.
  - c. Place the cassette with the cover facing up on an approved ESD surface.
  - d. Repeat steps 7b and 7c for each cassette in the PCIe3 4-slot direct module.

Figure 6. Removing a PCIe adapter cassette

## Replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer

Learn how to replace the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer.

To replace the PCIe3 4-slot direct module, complete the following steps:

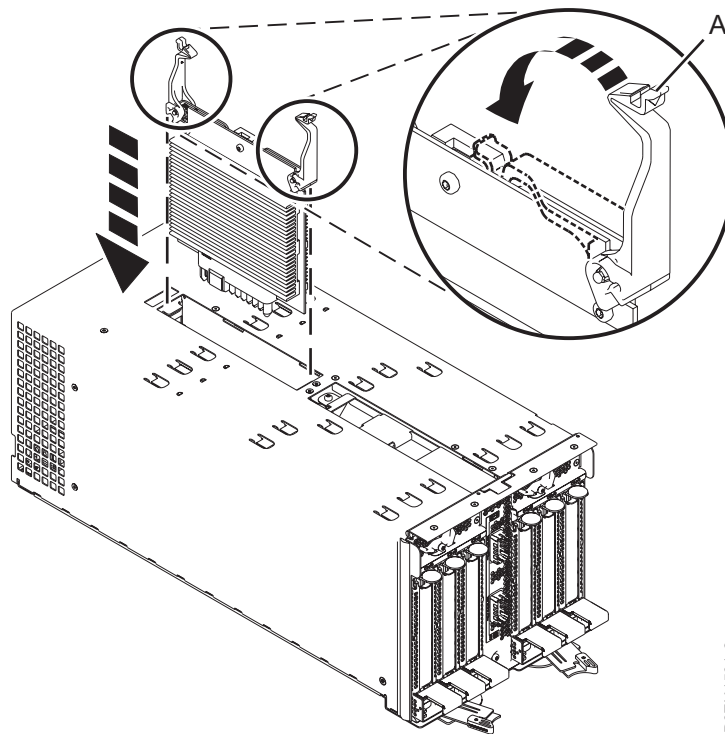
1. Ensure that you have the electrostatic discharge (ESD) wrist strap attached. If not, attach it now.
2. Replace the PCIe adapter cassettes that you removed from the original PCIe3 4-slot direct module in the new fanout module.
  - a. Ensure that the latch doors (B) are in the open position.
 

**Attention:** Before you insert the adapter cassette in the PCI slot, ensure that the adapter does not have any cables attached to it. If the adapter has cables attached, remove them. The cables must be attached to the adapter after the adapter cassette is inserted in the PCI slot.
  - b. Carefully grasp the adapter cassette (D) by its top edge, and align the adapter cassette with the slot. See Figure 7 on page 6.
  - c. Slide the PCIe adapter cassette (D) into the cassette slot.

- d. When the PCIe adapter cassette (**D**) is fully inserted into the slot, press the cassette handle (**C**) downward to lock the adapter cassette (**D**) in its connector. See Figure 7.
- e. Repeat steps 2b on page 5 through 2d for each cassette in the PCIe3 4-slot direct module.
- f. Rotate the latch doors (**B**) downward and press them into the closed position, as shown in Figure 7. The adapter latches (**A**) automatically lock in place.

Figure 7. Installing a PCIe adapter cassette

3. Replace the voltage regulator module that you removed from the original PCIe3 6-slot fanout module. See Figure 8.
  - a. Push the voltage regulator module into the PCIe3 6-slot fanout module.
  - b. Press the latches (**A**) until the latches lock in place.



P8EH1501-2

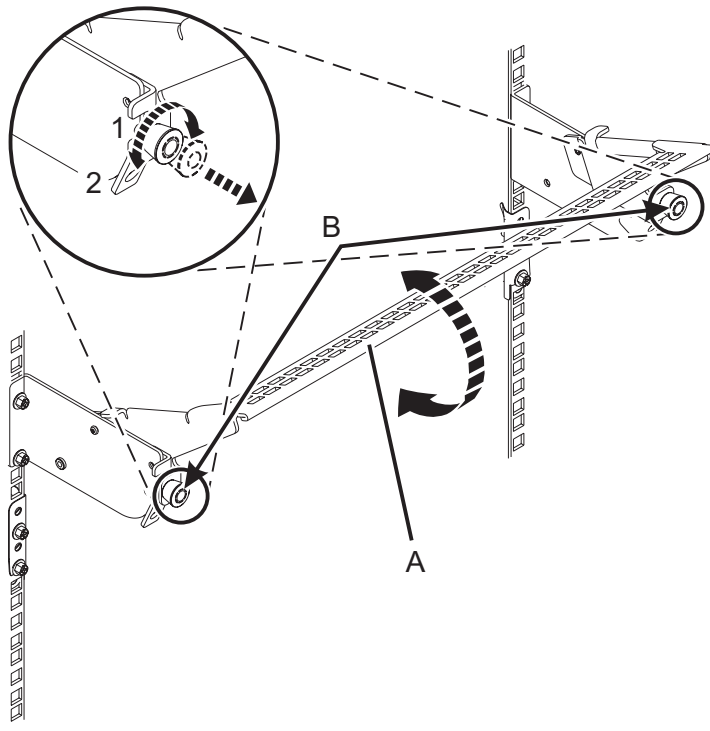
Figure 8. Replacing the voltage regulator module

4. Place the new PCIe3 4-slot direct module into the expansion unit chassis. Support the weight of the PCIe3 4-slot direct module by holding it at the bottom while pushing it in.
5. Push the release latches (**B**) on the PCIe3 4-slot direct module (**A**) toward the system until they lock in place. See Figure 9.

Figure 9. Closing the release latches on the PCIe3 4-slot direct module

6. Reconnect the cables to the PCIe3 4-slot direct module.
7. Put the cable management bracket in the operating position. See Figure 10 on page 7.
8. Pull the quarter-turn fasteners (**B**) out and turn them to disengage them while moving the cable management bracket (**A**) to its lower position (**2**).

- Turn the quarter-turn fasteners (B) to engage and lock the bracket into position.



P8EH4508-2

Figure 10. Placing the cable management bracket in the operating position

## Preparing the system for operation after removing and replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer

Learn how to prepare the system for operation after removing and replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer.

To prepare the system for operation after replacing the PCIe3 4-slot direct module, complete the following steps:

- Ensure the AC input LED (A) on the power supplies is on. See Figure 11 on page 8.

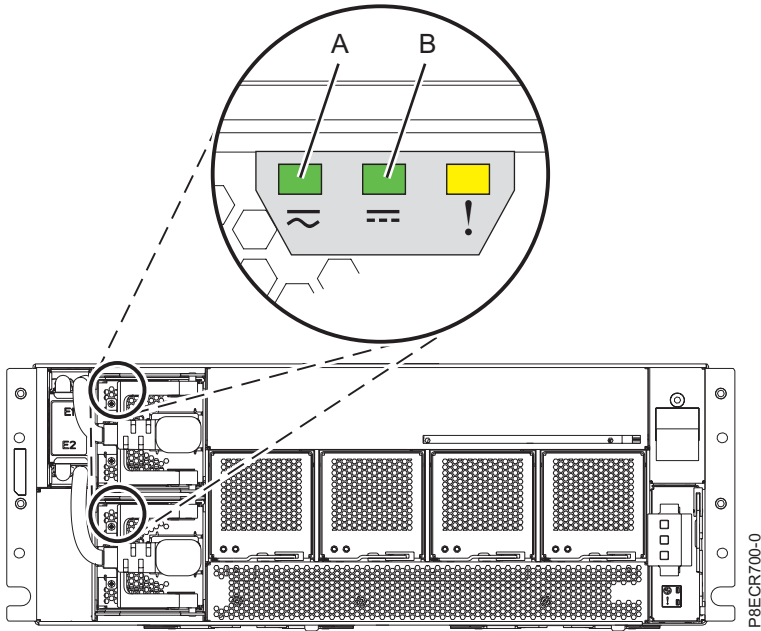


Figure 11. Verifying the power supply LEDs are on

2. Replace the front cover (A) by pressing the cover onto the locating pins (B). If the cover had screws when it was removed, secure the cover with the screws (C). See “Preparing the system for operation after removing and replacing the PCIe3 4-slot direct module in the PCIe Gen3 I/O expansion drawer” on page 7.

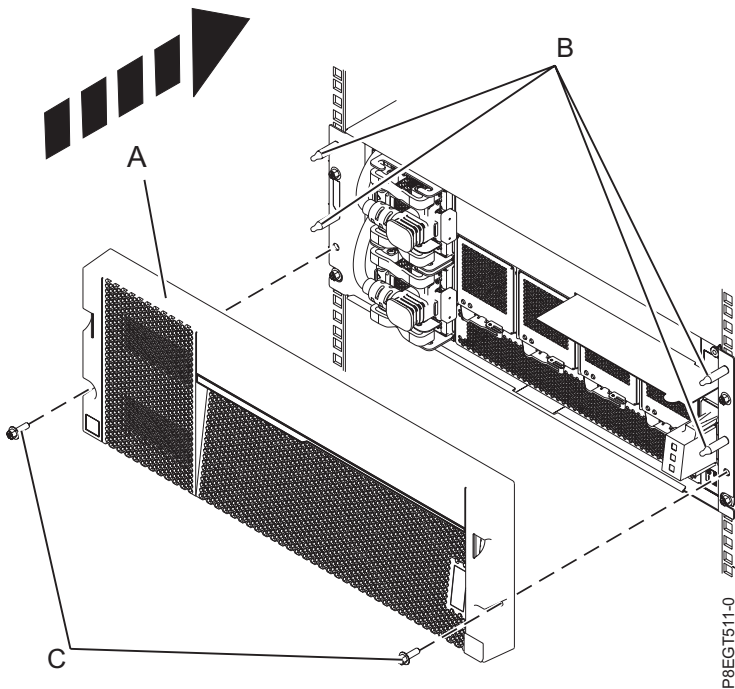


Figure 12. Replacing the front cover

3. Start the system or logical partition. For instructions, see Starting the system or logical partition.

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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 POWER8™ 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 M372  
IBM-Allee 1, 71139 Ehningen, Germany  
Tele: +49 (0) 800 225 5423 or +49 (0) 180 331 3233  
email: halloibm@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.

### VCCI Statement - Japan

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

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

This is a Class A product based on the standard of the VCCI Council. If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

### 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

### 警告使用者：

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

이 기기는 업무용(A급)으로 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

## **Germany Compliance Statement**

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

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

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.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:  
"Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

### **Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten**

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

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

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

Verantwortlich für die 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:  
IBM Deutschland GmbH  
Technical Regulations, Abteilung M372  
IBM-Allee 1, 71139 Ehningen, Germany  
Tel: +49 (0) 800 225 5423 or +49 (0) 180 331 3233  
email: halloibm@de.ibm.com

Generelle Informationen:

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

## Electromagnetic Interference (EMI) Statement - Russia

**ВНИМАНИЕ!** Настоящее изделие относится к классу А.  
В жилых помещениях оно может создавать радиопомехи, для снижения которых необходимы дополнительные меры

### 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

Cet appareil numérique de la classe B 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 B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication equipment.

European Community contact:  
IBM Deutschland GmbH  
Technical Regulations, Department M372  
IBM-Allee 1, 71139 Ehningen, Germany  
Tele: +49 (0) 800 225 5423 or +49 (0) 180 331 3233  
email: halloibm@de.ibm.com

## VCCI Statement - Japan

この装置は、クラスB情報技術装置です。この装置は、家庭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

## 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

## 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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## Germany Compliance Statement

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

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

### Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse 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:  
IBM Deutschland GmbH  
Technical Regulations, Abteilung M372  
IBM-Allee 1, 71139 Ehningen, Germany  
Tel: +49 (0) 800 225 5423 or +49 (0) 180 331 3233  
email: halloibm@de.ibm.com

Generelle Informationen:

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

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