System x3100 M5
Type 5457

lenovo

Installation and Service Guide

System x3100 M5
Type 5457

lenovo

Installation and Service Guide

Note

Before using this information and the product it supports, read the general information in Appendix D, "Getting help and technical assistance," on page 493, "Notices" on page 497, the *Warranty Information* document, and the *Safety Information* and *Environmental Notices and User Guide* documents on the Lenovo *Documentation* CD.

Second Edition (August 2015)

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Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الآمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
(安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

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ᠤᠨᠱᠢᠬᠤ ᠤᠮᠠᠷᠢᠭ ᠪᠦᠲᠦᠭᠡᠭᠳᠡᠬᠦᠨ ᠤ ᠮᠡᠳᠡᠭᠡᠯᠡᠯ ᠢ ᠤᠩᠱᠢᠵᠤ ᠪᠠᠢᠨ᠎ᠠ ᠤᠤ᠃

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

ཐོན་རྫས་འདི་བདེ་སྒྲིད་མ་བྱས་གོང་། ·སྐོར་ཕྱི་ཡིད་གཟབ་
བྱ་འདུ་མིན་ཡོད་པའི་འོད་སྣེར་བལྟ་དགོས།

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

ھەزكۇر ھەھسۇلاتنى ئورنىتىشتىن بۇرۇن بىخەتەرلىك ئۇچۇرلىرىنى ئوقۇپ چىقىڭ.

Youq mwngz yungh canjbinj neix gaxgonq, itdingh aeu doeg aen
canjbinj soengq cungj vahgangj ancien siusik.

Safety statements

These statements provide the caution and danger information that is used in this documentation.

Important:

Each caution and danger statement in this documentation is labeled with a number. This number is used to cross reference an English-language caution or danger statement with translated versions of the caution or danger statement in the *Safety Information* document.

For example, if a caution statement is labeled `Statement 1`, translations for that caution statement are in the *Safety Information* document under `Statement 1`.

Be sure to read all caution and danger statements in this documentation before you perform the procedures. Read any additional safety information that comes with your system or optional device before you install the device.

Statement 1

DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **Connect all power cords to a properly wired and grounded electrical outlet.**
- **Connect to properly wired outlets any equipment that will be attached to this product.**
- **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 table when installing, moving, or opening covers on this product or attached devices.**

To Connect:	**To Disconnect:**
1. Turn everything OFF.	1. Turn everything OFF.
2. First, attach all cables to devices.	2. First, remove power cords from outlet.
3. Attach signal cables to connectors.	3. Remove signal cables from connectors.
4. Attach power cords to outlet.	4. Remove all cables from devices.
5. Turn device ON.	

Statement 2

CAUTION:
When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- **Throw or immerse into water**
- **Heat to more than 100°C (212°F)**
- **Repair or disassemble**

Dispose of the battery as required by local ordinances or regulations.

Statement 3

CAUTION:
When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- **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 controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

DANGER

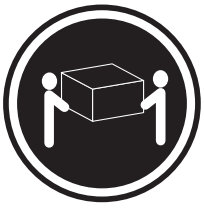
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following.

Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

Statement 4

CAUTION:
Use safe practices when lifting.



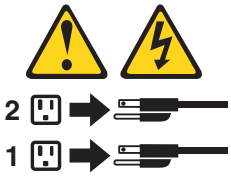
≥ 18 kg (39.7 lb)

≥ 32 kg (70.5 lb)

≥ 55 kg (121.2 lb)

Statement 5

CAUTION:
The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 6

CAUTION:
If you install a strain-relief bracket option over the end of the power cord that is connected to the device, you must connect the other end of the power cord to an easily accessible power source.

Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Statement 12

CAUTION:
The following label indicates a hot surface nearby.

Statement 26

CAUTION:
Do not place any object on top of rack-mounted devices.

Statement 27

CAUTION:
Hazardous moving parts are nearby.

Rack Safety Information, Statement 2

DANGER

- **Always lower the leveling pads on the rack cabinet.**
- **Always install stabilizer brackets on the rack cabinet.**
- **Always install servers and optional devices starting from the bottom of the rack cabinet.**
- **Always install the heaviest devices in the bottom of the rack cabinet.**

Chapter 1. The Lenovo System x3100 M5 Type 5457 server

This *Installation and Service Guide* contains information and instructions for setting up your Lenovo System x3100 M5 Type 5457 server, instructions for installing some optional devices, cabling and configuring the server, removing and replacing devices, and diagnostics and troubleshooting information.

In addition to the instructions in Chapter 2, "Installing optional devices," on page 27 for installing optional hardware devices, updating firmware and device drivers, and completing the installation, Business Partners must also complete the steps in "Instructions for Business Partners" on page 27.

The Lenovo System x3100 M5 Type 5457 server [1] includes 4U or 5U models. It is a self-contained, high performance tower system, which is scalable in cost, configuration and performance.

Performance, ease of use, reliability, manageability and expansion capabilities were key considerations in the design of the server. These design features make it possible for you to customize the system hardware to meet your needs today and provide flexible expansion capabilities for the future.

The server comes with a limited warranty. For information about the terms of the warranty and getting service and assistance, see the Lenovo *Warranty Information* document that comes with the server.

The server contains Lenovo next generation technologies, which help increase performance and reliability. For more information, see "What your server offers" on page 14 and "Reliability, availability, and serviceability" on page 17.

You can obtain up-to-date information about the server and other Lenovo server products at http://www.ibm.com/systems/x. At http://www.lenovo.com/support, you can create a personalized support page by identifying Lenovo products that are of interest to you. From this personalized page, you can subscribe to weekly email notifications about new technical documents, search for information and downloads, and access various administrative services.

If you participate in the client reference program, you can share information about your use of technology, best practices, and innovative solutions; build a professional network; and gain visibility for your business. For more information about the client reference program, see http://www.ibm.com/ibm/clientreference/.

If firmware and documentation updates are available, you can download them from the Lenovo website. The server might have features that are not described in the documentation that comes with the server, and the documentation might be updated occasionally to include information about those features, or technical updates might be available to provide additional information that is not included in the server documentation. To check for updates, go to http://www.lenovo.com/support.

1. Racks are measured in vertical increments of 4.45 cm (1.75 inches) each. Each increment is called a "U." A 1-U-high device is 1.75 inches tall

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Record information about the server in the following table.

Table 1. Record of the system information

Product name	Machine Type (s)	Model number	Serial number
Lenovo System x3100 M5 server	Type 5457		

The model number and serial number are on the ID label on the front of the server, as shown in the following illustrations for the respective 4U and 5U server models.

Note: The illustrations in this document might differ slightly from your hardware.

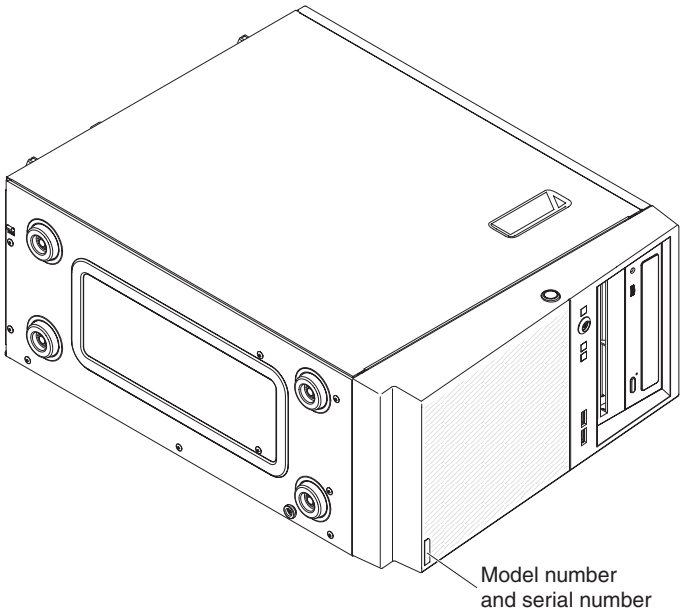


Figure 1. Location of model type/serial number of the 4U server model with non-hot-swap power supplies

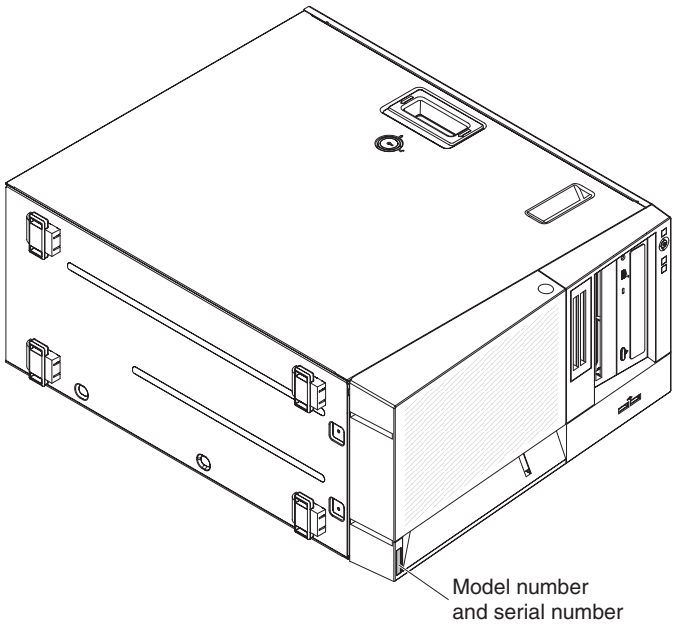


Figure 2. Location of model type/serial number of the 5U server model with hot-swap power supplies

Important: The server keys cannot be duplicated by a locksmith. If you lose them, order replacement keys from the key manufacturer. The key serial number and the telephone number of the manufacturer are on a tag that is attached to the keys.

In addition, the system service label, which is on the cover of the server, provides a QR code for mobile access to service information. You can scan the QR code using a QR code reader and scanner with a mobile device and get quick access to the Lenovo Service Information website. The Lenovo Service Information website provides additional information for parts installation and replacement videos, and error codes for server support.

In addition, the system service label, which is on the cover of the server, provides a QR code for mobile access to service information. You can scan the QR code using a QR code reader and scanner with a mobile device and get quick access to the Lenovo Service Information website. The Lenovo Service Information website provides additional information for parts installation and replacement videos, and error codes for server support.

The following illustration shows the QR code (http://ibm.co/1ja7bP8):

Figure 3. QR code

You can download the Lenovo *ServerGuide Setup and Installation* CD to help you configure the hardware, install device drivers, and install the operating system.

For a list of supported optional devices for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.

See the *Rack Installation Instructions* document on the Lenovo *System x Documentation* CD for complete rack installation and removal instructions.

The Lenovo Documentation CD

The Lenovo *Documentation* CD contains documentation for the server in Portable Document Format (PDF) and includes the Lenovo Documentation Browser to help you find information quickly.

Hardware and software requirements

The hardware and software requirements of the Lenovo *Documentation* CD.

The Lenovo *Documentation* CD requires the following minimum hardware and software:

- Microsoft Windows or Red Hat Linux
- 100 MHz microprocessor
- 32 MB of RAM
- Adobe Acrobat Reader 3.0 (or later) or xpdf, which comes with Linux operating systems

The Documentation Browser

Use the Documentation Browser to browse the contents of the CD, read brief descriptions of the documents, and view documents, using Adobe Acrobat Reader or xpdf.

The Documentation Browser automatically detects the regional settings in use in your server and displays the documents in the language for that region (if available). If a document is not available in the language for that region, the English-language version is displayed. Use one of the following procedures to start the Documentation Browser:

- If Autostart is enabled, insert the CD into the CD or DVD drive. The Documentation Browser starts automatically.
- If Autostart is disabled or is not enabled for all users, use one of the following procedures:
  - If you are using a Windows operating system, insert the CD into the CD or DVD drive and click **Start** > **Run**. In the Open field, type:

    ```
    e:\win32.bat
    ```

    where *e* is the drive letter of the CD or DVD drive, and click **OK**.
  - If you are using Red Hat Linux, insert the CD into the CD or DVD drive; then, run the following command from the `/mnt/cdrom` directory:

    ```
    sh runlinux.sh
    ```

Select the server from the **Product** menu. The **Available Topics** list displays all the documents for the server. Some documents might be in folders. A plus sign (+) indicates each folder or document that has additional documents under it. Click the plus sign to display the additional documents.

When you select a document, a description of the document is displayed under **Topic Description**. To select more than one document, press and hold the Ctrl key

while you select the documents. Click **View Book** to view the selected document or documents in Acrobat Reader or xpdf. If you selected more than one document, all the selected documents are opened in Acrobat Reader or xpdf.

To search all the documents, type a word or word string in the **Search** field and click **Search**. The documents in which the word or word string appears are listed in order of the most occurrences. Click a document to view it, and press Crtl+F to use the Acrobat search function, or press Alt+F to use the xpdf search function within the document.

Click **Help** for detailed information about using the Documentation Browser.

Related documentation

This *Installation and Service Guide* contains general information about the server including how to set up and cable the server, how to install supported optional devices, how to configure the server, and information to help you solve problems yourself and information for service technicians.

The following documentation also comes with the server:

- *Warranty Information*

  This document is in printed format and comes with the server. It contains warranty terms and a pointer to the Lenovo Statement of Limited Warranty on the Lenovo website.
- *Important Notices*

  This document is in printed format and comes with the server. It contains information about the safety, environmental, and electronic emission notices for your Lenovo product.
- *Environmental Notices and User Guide*

  This document is in PDF format on the Lenovo *Documentation* CD. It contains translated environmental notices.
- *Lenovo License Agreement for Machine Code*

  This document is in PDF on the Lenovo *Documentation* CD. It provides translated versions of the *Lenovo License Agreement for Machine Code* for your product.
- *Licenses and Attributions Document*

  This document is in PDF on the Lenovo *Documentation* CD. It provides the open source notices.
- *Safety Information*

  This document is in PDF on the Lenovo *Documentation* CD. It contains translated caution and danger statements. Each caution and danger statement that appears in the documentation has a number that you can use to locate the corresponding statement in your language in the *Safety Information* document.
- *Rack Installation Instructions*

  This printed document contains instructions for installing the server in a rack.

Depending on the server model, additional documentation might be included on the Lenovo *Documentation* CD.

The ToolsCenter for System x and BladeCenter is an online information center that contains information about tools for updating, managing, and deploying firmware,

device drivers, and operating systems. The ToolsCenter for System x and BladeCenter is at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-CENTER.

The server might have features that are not described in the documentation that you received with the server. The documentation might be updated occasionally to include information about those features, or technical updates might be available to provide additional information that is not included in the server documentation. These updates are available from the Lenovo website. To check for updates, go to http://www.lenovo.com/support.

Notices and statements in this document

The caution and danger statements in this document are also in the multilingual *Safety Information* document, which is on the Lenovo *Documentation* CD. Each statement is numbered for reference to the corresponding statement in your language in the *Safety Information* document.

The following notices and statements are used in this document:

- **Note:** These notices provide important tips, guidance, or advice.
- **Important:** These notices provide information or advice that might help you avoid inconvenient or problem situations.
- **Attention:** These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage might occur.
- **Caution:** These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.
- **Danger:** These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

Server features and specifications

Use this information for an overview of the server features and specifications.

The following information is a summary of the features and specifications of the 4U server model with non-hot-swap power supplies. For the 5U server model with hot-swap power supplies, please see the next sub-section. Depending on the model, some features might not be available, or some specifications might not apply.

Microprocessor (depending on the model):

- Supports one Intel dual-core or quad-core (Xeon E3-1200 V3 series) processor
- Multi-chip Package processor architecture
- Designed for LGA 1150 socket
- Scalable up to four cores
- 32 KB instruction L1 cache, 32 KB data L1 cache, 256 KB instruction/data L2 cache, and up to 8 MB L3 cache that is shared among the cores
- Support for Intel Extended Memory 64 Technology (EM64T)

Notes:

1. Use the Setup utility to determine the type and speed of the microprocessors in the server
2. For a list of supported microprocessors, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.

Memory:

- Connectors: four dual inline memory module (DIMM) connectors, two-way interleaved
- Minimum: 1 GB
- Maximum: 32 GB
- Types: PC3-12800 (single-rank or dual-rank), 1333 and 1600 MHz, ECC, DDR3 unbuffered SDRAM DIMMs only
- Sizes: 1GB (single-rank) 2GB (single-rank) 4GB (dual-rank) 8GB (dual-rank)

Fan:

- One system fan
- One option fan for PCIe card

Power supply:

- One fixed 350-watt or 300-watt power supply

Size:

- Height: 360 mm (14.17 in.)
- Depth: 480 mm (18.89 in.)
- Width: 180 mm (7.08 in.)
- Weight: 10 kg (22 lb) to 13 kg (28.66 lb) depending upon configuration

RAID controllers (depending on the model):

- ServeRAID H1110 SAS/SATA Controller that provides RAID levels 0, 1, and 10.
- ServeRAID C100 capabilities that support RAID levels 0, 1, and 10 (RAID 5 upgrade available for Lenovo System x)
- ServeRAID M1115 SAS/SATA Controller that provides RAID levels 0, 1, and 10 (RAID 5 upgrade available for Lenovo System x).

Environment:

- Power on:
  - Temperature: 5°C to 40°C (40°F to 104°F) up to 950 mm (3,117 ft); above 950 m, derated maximum air temperature is 1°C / 175 m
  - Humidity, non-condensing: -12°C dew point (10.4°F) and 8% ~ 85% relative humidity
  - Maximum dew point: 24°C (75°F)
  - Maximum altitude: 3,050 m (10,000 ft) and 5°C to 28°C (41°F to 82°F)
  - Maximum rate of temperature change: 5°C per hour (41°F per hour) for tape drive, 20°C per hour (68°F per hour) for hard disk drives
- Power off:
  - Temperature: 5°C to 45°C (41°F to 113°F)
  - Humidity: 8%~85%
  - Maximum dew point: 27°C (80.6°F)
- Storage (non-operating):

  - Temperature: 1°C to 60°C (33.8°F to 140°F)
  - Altitude: 3,050 m (10,000)
  - Humidity: 5%~80%
  - Maximum dew point: 29°C (84.2°F)
- Shipment (non-operating)
  - Temperature: -40°C to 60°C (-40°F to 140°F)
  - Altitude: 10.700 m (35,105 ft)
  - Humidity: 5%~100%
  - Maximum dew point: 29°C (84.2°F)
- Particulate contamination:

  Attention: Design to ASHRAE Class A3, ambient of 40°C, with relaxed support:
  - The system will support cloud-like workload with no performance degradation acceptable (Turbo-Off).
  - Under no circumstance can any combination of worst-case workload and configuration result in system shutdown or design exposure at 40°C.

Drives (depending on the model):

- Hard disk drives: up to four 3.5-inch simple-swap SATA
- One of the following SATA attached optical drives:
  - DVD-ROM
  - Tape drive

Drive bays (depending on the model):

- Two 5.25-inch half-high bays (one optical drive installed).
- Four 3.5-inch hard disk drive bays

Attention: As a general consideration, do not mix standard 512-byte and advanced 4-KB format drives in the same RAID array because it might lead to potential performance issues.

Integrated functions:

- Integrated management module II (IMM2), which consolidates multiple management functions in a single chip
- BroadCom 5717 Gb Ethernet controller with TCP/IP Offload Engine (TOE) and Wake on LAN support
- Integrated SATA controller
- Seven Universal Serial Bus (USB) ports:
  - Two USB 3.0 ports on the front. (Due to the limitation of USB 3.0, the front USB is not usable for RHEL 5.10, Vmware 5.1 and Vmware 5.5.)
  - Four USB 2.0 ports on the rear
  - One internal USB 2.0 port for an optional tape drive
- Six SATA ports (blue-colored ports for DVD drive or optional tape drive)
- One serial port
- Two Ethernet ports
- One VGA port

Heat output:

Approximate heat output:

- Minimum configuration: 341 Btu per hour (100 watts)
- Maximum configuration: 1194 Btu per hour (350 watts)

Expansion slots:

- One PCI Express x16 slot
- One PCI Express x8 slot
- One PCI Express x8 slot
- One PCI Express x4 slot

Electrical input:

- Sine-wave input (50-60 Hz) required
- Input voltage low range:
  - Minimum: 100 V AC
  - Maximum: 127 V AC
- Input voltage high range:
  - Minimum: 200 V ac
  - Maximum: 240 V ac
- Input kilovolt-amperes (kVA), approximately:
  - Minimum: 0.100 kVA (all models)
  - Maximum: 0.350 kVA

Acoustical noise emissions

- Sound power, idling: 5.0 bels
- Sound power, operating: 5.0 bels

Notes:

1. Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.
2. The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines. All measurements are made in accordance with ISO 7779 and reported in conformance with ISO 9296.

EU Regulation 617/2013 Technical Documentation:

International Business Machines Corporation
New Orchard Road
Armonk, New York 10504
http://www.ibm.com/customersupport/

For more information on the energy efficiency program, go to http://www.ibm.com/systems/x/hardware/energy-star/index.html

Product Type:
Computer server

Year first manufactured:
2014

Internal/external power supply efficiency:

- http://www.plugloadsolutions.com/psu_reports/IBM_DPS-430EB%20A_430W_SO-385_Report.pdf
- http://www.plugloadsolutions.com/psu_reports/DELTA%20ELECTRONICS_DPS-300AB-62%20A_ECOS%202471_300W_Report.pdf

Maximum power (watts):
See Power supply.

Idle state power (watts):
102

Sleep mode power (watts):
Not applicable for servers.

Off mode power (watts):
6

Noise levels (the declared A-weighed sound power level of the computer):
See Acoustical noise emissions.

Test voltage and frequency:
230V / 50 Hz or 60 Hz

Total harmonic distortion of the electricity supply system:
The maximum harmonic content of the input voltage waveform will be equal or less than 2%. The qualification is compliant with EN 61000-3-2.

Information and documentation on the instrumentation set-up and circuits used for electrical testing:
ENERGY STAR Test Method for Computer Servers; ECOVA Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies.

Measurement methodology used to determine information in this document:
ENERGY STAR Servers Version 2.0 Program Requirements; ECOVA Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies.

The following information is a summary of the features and specifications of the 5U server model with hot-swap power supplies. For the 4U server model with non-hot-swap power supplies, please see the above sub-section. Depending on the model, some features might not be available, or some specifications might not apply.

Microprocessor (depending on the model):

- Supports one Intel dual-core or quad-core (Xeon E3-1200 V3 series) processor
- Multi-chip Package processor architecture
- Designed for LGA 1150 socket
- Scalable up to four cores
- 32 KB instruction L1 cache, 32 KB data L1 cache, 256 KB instruction/data L2 cache, and up to 8 MB L3 cache that is shared among the cores
- Support for Intel Extended Memory 64 Technology (EM64T)

Notes:

1. Use the Setup utility to determine the type and speed of the microprocessors in the server
2. For a list of supported microprocessors, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.

Memory:

- Connectors: four dual inline memory module (DIMM) connectors, two-way interleaved

- Minimum: 1 GB
- Maximum: 32 GB
- Types: PC3-12800 (single-rank or dual-rank), 1333 and 1600 MHz, ECC, DDR3 unbuffered SDRAM DIMMs only
- Sizes: 1GB (single-rank) 2GB (single-rank) 4GB (dual-rank) 8GB (dual-rank)

Fan:

- One system fan
- One option fan for PCIe card

Power supply:

- One or two redundant 430-watt power supply

Size:

- Height: 438.60 mm (17.27 in.)
- Depth: 569.11 mm (22.41 in.)
- Width: 217.3 mm (8.56 in.)
- Weight: 19.6 kg (43 lb) to 22 kg (48.50 lb) depending upon configuration

RAID controllers (depending on the model):

- ServeRAID H1110 SAS/SATA Controller that provides RAID levels 0, 1, and 10.
- ServeRAID C100 capabilities that support RAID levels 0, 1, and 10 (RAID 5 upgrade available for Lenovo System x)
- ServeRAID M1115 SAS/SATA Controller that provides RAID levels 0, 1, and 10 (RAID 5 upgrade available for Lenovo System x).

Environment:

- Power on:
  - Temperature: 5°C to 40°C (40°F to 104°F) up to 950 mm (3,117 ft); above 950 m, derated maximum air temperature is 1°C / 175 m
  - Humidity, non-condensing: -12°C dew point (10.4°F) and 8% ~ 85% relative humidity
  - Maximum dew point: 24°C (75°F)
  - Maximum altitude: 3,050 m (10,000 ft) and 5°C to 28°C (41°F to 82°F)
  - Maximum rate of temperature change: 5°C per hour (41°F per hour) for tape drive, 20°C per hour (68°F per hour) for hard disk drives
- Power off:
  - Temperature: 5°C to 45°C (41°F to 113°F)
  - Humidity: 8%~85%
  - Maximum dew point: 27°C (80.6°F)
- Storage (non-operating):
  - Temperature: 1°C to 60°C (33.8°F to 140°F)
  - Altitude: 3,050 m (10,000)
  - Humidity: 5%~80%
  - Maximum dew point: 29°C (84.2°F)
- Shipment (non-operating)
  - Temperature: -40°C to 60°C (-40°F to 140°F)
  - Altitude: 10.700 m (35,105 ft)

- Humidity: 5%~100%
- Maximum dew point: 29°C (84.2°F)

- Particulate contamination:

  Attention: Design to ASHRAE Class A3, ambient of 40°C, with relaxed support:

  - The system will support cloud-like workload with no performance degradation acceptable (Turbo-Off).
  - Under no circumstance can any combination of worst-case workload and configuration result in system shutdown or design exposure at 40°C.

Drives (depending on the model):

- Hard disk drives: up to eight 2.5-inch hot-swap SATA/SAS or four 3.5-inch hot-swap SATA/SAS
- One of the following SATA attached optical drives:
  - DVD-ROM

Drive bays (depending on the model):

- Two 5.25-inch half-high bays (one optical drive installed).
- Eight 2.5-inch hard disk drive bays
- Four 3.5-inch hard disk drive bays

Attention: As a general consideration, do not mix standard 512-byte and advanced 4-KB format drives in the same RAID array because it might lead to potential performance issues.

Integrated functions:

- Integrated management module II (IMM2), which consolidates multiple management functions in a single chip
- BroadCom 5717 Gb Ethernet controller with TCP/IP Offload Engine (TOE) and Wake on LAN support
- Integrated SATA controller
- Seven Universal Serial Bus (USB) ports:
  - Two USB 3.0 ports on the front. (Due to the limitation of USB 3.0, the front USB is not usable for RHEL 5.10, Vmware 5.1 and Vmware 5.5.)
  - Four USB 2.0 ports on the rear
  - One internal USB 2.0 port for an optional tape drive
- Six SATA ports (blue-colored ports for DVD drive or optional tape drive)
- One serial port
- Two Ethernet ports
- One VGA port

Heat output:

Approximate heat output:

- Minimum configuration: 341 Btu per hour (100 watts)
- Maximum configuration: 1726 Btu per hour (506 watts)

Expansion slots:

- One PCI Express x16 slot
- One PCI Express x8 slot
- One PCI Express x8 slot

- One PCI Express x4 slot

Electrical input:

- Sine-wave input (50-60 Hz) required
- Input voltage low range:
  - Minimum: 100 V AC
  - Maximum: 127 V AC
- Input voltage high range:
  - Minimum: 200 V ac
  - Maximum: 240 V ac
- Input kilovolt-amperes (kVA), approximately:
  - Minimum: 0.100 kVA (all models)
  - Maximum: 0.506 kVA

Acoustical noise emissions

- Sound power, idling: 5.0 bels
- Sound power, operating: 5.0 bels

Notes:

1. Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.
2. The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines. All measurements are made in accordance with ISO 7779 and reported in conformance with ISO 9296.

EU Regulation 617/2013 Technical Documentation:

International Business Machines Corporation
New Orchard Road
Armonk, New York 10504
http://www.ibm.com/customersupport/

For more information on the energy efficiency program, go to http://www.ibm.com/systems/x/hardware/energy-star/index.html

Product Type:
Computer server

Year first manufactured:
2014

Internal/external power supply efficiency:

- http://www.plugloadsolutions.com/psu_reports/IBM_DPS-430EB%20A_430W_SO-385_Report.pdf
- http://www.plugloadsolutions.com/psu_reports/DELTA%20ELECTRONICS_DPS-300AB-62%20A_ECOS%202471_300W_Report.pdf

Maximum power (watts):
See Power supply.

Idle state power (watts):
102

Sleep mode power (watts):
Not applicable for servers.

Off mode power (watts):
6

Noise levels (the declared A-weighed sound power level of the computer):
See Acoustical noise emissions.

Test voltage and frequency:
230V / 50 Hz or 60 Hz

Total harmonic distortion of the electricity supply system:
The maximum harmonic content of the input voltage waveform will be equal or less than 2%. The qualification is compliant with EN 61000-3-2.

Information and documentation on the instrumentation set-up and circuits used for electrical testing:
ENERGY STAR Test Method for Computer Servers; ECOVA Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies.

Measurement methodology used to determine information in this document:
ENERGY STAR Servers Version 2.0 Program Requirements; ECOVA Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies.

What your server offers

The server uses the following features and technologies.

- **Integrated management module II (IMM2)**

  The integrated management module II (IMM2) is the second generation of the IMM. The IMM2 is the common management controller for Lenovo System x hardware. The IMM2 consolidates multiple management functions in a single chip on the server system board.

  Some of the features that are unique to the IMM2 are enhanced performance, expanded compatibility with blade servers, higher-resolution remote video, expanded security options, and Feature on Demand enablement for hardware and firmware options.

  For additional information, see "Using the Integrated Management Module II (IMM2)" on page 100 and the *Integrated Management Module II User's Guide* at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

- **UEFI-compliant server firmware**

  The Lenovo System x Server Firmware offers several features, including Unified Extensible Firmware Interface (UEFI) version 2.1 compliance, enhanced reliability, availability, and serviceability (RAS) capabilities, and basic input/output system (BIOS) compatibility support. UEFI replaces the legacy BIOS. UEFI defines a standard interface between the operating system, platform firmware and external devices, and offers capabilities that far exceeds that of the legacy BIOS.

  The server design combines the UEFI capabilities and features with legacy BIOS compatibility. The server is capable of booting UEFI-compliant operating systems, BIOS-based operating systems, and BIOS-based adapters as well as UEFI-compliant adapters.

  Note: The server does not support DOS (Disk Operating System).

- **Dynamic System Analysis (DSA)**

Dynamic System Analysis (DSA) collects and analyzes system information to aid in diagnosing server problems. DSA collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Hardware inventory, including PCI and USB information
- Installed applications and hot fixes (available in DSA Portable only)
- Kernel modules (available in DSA Portable only)
- Light path diagnostics status
- Network interfaces and settings
- Performance data and details about processes that are running
- RAID and controller configuration
- Service processor (Integrated Management Module II (IMM2) status and configuration
- System configuration
- Vital product data and firmware information
- IMM2 configuration information
- IMM2 enviromentals information
- Option card driver and firmware information

DSA creates a DSA log, which is a chronologically ordered merge of the system-event log (as the IPMI event log), the integrated management module II (IMM2) event log (as the ASM event log), and the operating-system event logs. You can send the DSA log as a file to a support representative or view the information as a text file or HTML file.

- **VMware ESXi embedded hypervisor**

  An optional USB flash device with VMware ESXi embedded hypervisor software is available for purchase. Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. Install the USB flash device in the USB embedded hypervisor flash device connectors on the system board (see “System-board internal connectors” on page 30). See “Using the embedded hypervisor” on page 103 for additional information.

- **Features on Demand**

  If a Features on Demand feature is integrated in the server or in an optional device that is installed in the server, you can purchase an activation key to activate the feature. For information about Features on Demand, see /http://www.ibm.com/systems/x/fod/.

- **High-performance graphics controller**

  The server comes with an onboard high-performance graphics controller that supports high resolutions and includes many performance-enhancing features for the operating-system environment..

- **Mobile access to Lenovo Service Information website**

  The server provides a QR code on the system service label, which is on the cover of the server, that you can scan using a QR code reader and scanner with a mobile device to get quick access to the Lenovo Service Information website. The Lenovo Service Information website provides additional information for parts installation and replacement videos, and error codes for server support. For the QR code, see QR code information on page Chapter 1, “The Lenovo System x3100 M5 Type 5457 server,” on page 1.

- **Systems Director**

Systems Director is a platform-management foundation that streamlines the way you manage physical and virtual systems in a heterogeneous environment. By using industry standards, Systems Director supports multiple operating systems and virtualization technologies for Lenovo and non-Lenovo x86 platforms. For more information, see the Systems Director Information Center at and "Systems Director" on page 18.

- **Enterprise X-Architecture technology**

  X-Architecture technology combines proven, innovative Lenovo designs to make your Intel-processor-based server powerful, scalable, and reliable.

- **Lenovo *ServerGuide Setup and Installation* CD**

  The *ServerGuide Setup and Installation* CD, which you can download from the web, provides programs to help you set up the server and install a Windows operating system. The ServerGuide program detects installed optional hardware devices and provides the correct configuration programs and device drivers. For more information about the *ServerGuide Setup and Installation* CD, see "Using the ServerGuide Setup and Installation CD" on page 92.

- **Integrated network support**

  The server comes with an integrated dual-port Intel 82574L Gigabit Ethernet controller, which supports connection to a 10 Mbps, 100 Mbps, or 1000 Mbps network. For more information, see "Configuring the Gigabit Ethernet controller" on page 104.

- **PCI adapter capabilities**

  The server has four PCI interface slots. The slots can support PCI Express or PCI-X adapters. See "Replacing an adapter" on page 260 for detailed information.

- **Large system-memory capacity**

  The server supports up to 32 GB of system memory when unbuffered DIMMs are installed. The memory controller supports error correcting code (ECC) and non-error correcting code for up to 4 industry-standard PC3-10600R-999 (single-rank or dual-rank), 1066 and 1333 MHz, DDR3 (third-generation double-data-rate) unbuffered synchronous dynamic random access memory (SDRAM) dual inline memory modules (DIMMs).

- **Redundant connection**

  The addition of an optional network interface card (NIC) provides a failover capability to a redundant Ethernet connection. If a problem occurs with the primary Ethernet connection, all Ethernet traffic that is associated with the primary connection is automatically switched to the redundant NIC. If the applicable device drivers are installed, this switching occurs without data loss and without user intervention.

- **ServeRAID support**

  The ServeRAID adapter provides hardware redundant array of independent disks (RAID) support to create configurations. The standard RAID adapter provides RAID levels 0, 1, and 10. An optional RAID adapter is available for purchase.

- **Dual-core or quad-core processing**

  The server supports one Intel Xeon™ dual-core or quad-core microprocessor.

- **Systems-management capabilities**

  The server comes with an integrated management module II (IMM2). When the IMM2 is used with the systems-management software that comes with the

server, you can manage the functions of the server locally and remotely. The IMM2 also provides system monitoring, event recording, and network alert capability.

- **TCP/IP offload engine (TOE) support**

  The Ethernet controller in the server support TOE, which is a technology that offloads the TCP/IP flow from the microprocessor and I/O subsystem to increase the speed of the TCP/IP flow. When an operating system that supports TOE is running on the server and TOE is enabled, the server supports TOE operation. See the operating-system documentation for information about enabling TOE. The Windows operating system requires that the Windows Scalable Network Pack (SNP) be installed for TOE support.

Reliability, availability, and serviceability

Three important computer design features are reliability, availability, and serviceability (RAS). The RAS features help to ensure the integrity of the data that is stored in the server, the availability of the server when you need it, and the ease with which you can diagnose and correct problems.

Your server has the following RAS features:

- Advanced Configuration and Power Interface (ACPI)
- Advanced Desktop Management Interface (DMI) features
- Automatic BIOS recovery to a backup image
- Automatic error retry or recovery
- Automatic memory downsizing on error detection
- Automatic restart on nonmaskable interrupt (NMI)
- Automatic Server Restart (ASR) logic supporting a system restart when the operating system becomes unresponsive
- Automatic server restart after a power failure, based on the UEFI setting
- Availability of microcode level
- Boot-block recovery
- Built-in, menu-driven setup, system configuration, and redundant array of independent disks (RAID) configuration
- Built-in monitoring for fan, power, temperature, and voltage
- Cooling fans with speed-sensing capability
- Customer support center that is available 24 hours a day, 7 days a week[2]
- Diagnostic support of ServeRAID adapters
- Error codes and messages
- Error correcting code (ECC) double-data-rate 3 (DDR3) synchronous dynamic random-access memory (SDRAM) with serial presence detect (SPD)
- Error logging of POST failures
- Simple-swap Serial ATA (SATA) hard disk drives
- Integrated Ethernet controller
- Intelligent Platform Management Interface (IPMI)
- Key-lock support for physical security
- Memory change messages posted to the error log
- integrated management module II (IMM2)
- Power management
- Power-on self-test (POST)
- Read-only memory (ROM) checksums
- Redundant Ethernet capabilities (requires an optional Ethernet adapter) with failover support
- ROM-based diagnostic programs

2. Service availability will vary by country. Response time varies; may exclude holidays.

- Simple-swap Serial Advanced Technology Attachment (SATA) hard disk drives
- Standby voltage for system-management features and monitoring
- System auto-configuring from the configuration menu
- System-error LED on the front bezel and diagnostic LEDs on the system board
- System-error logging (POST and IMM2)
- Upgradeable integrated management module II (IMM2) firmware
- Upgradeable microcode for POST, server firmware, and read-only memory (ROM) resident code, locally or over a LAN
- Vital product data (VPD); includes serial-number information and replacement part numbers, stored in nonvolatile memory, for easier remote maintenance
- Wake on LAN capability

Systems Director

Systems Director is a platform-management foundation that streamlines the way you manage physical and virtual systems in a heterogeneous environment. By using industry standards, Systems Director supports multiple operating systems and virtualization technologies in Lenovo and non-Lenovo x86 platforms.

Through a single user interface, Systems Director provides consistent views for viewing managed systems, determining how these systems relate to one other, and identifying their statuses, helping to correlate technical resources with business needs. A set of common tasks that are included with Systems Director provides many of the core capabilities that are required for basic management, which means instant out-of-the-box business value. The common tasks include discovery, inventory, configuration, system health, monitoring, updates, event notification, automation for managed systems, hardware log, power, and light path.

The Systems Director web and command-line interfaces provide a consistent interface that is focused on driving these common tasks and capabilities:

- Discovering, navigating, and visualizing systems on the network with the detailed inventory and relationships to the other network resources
- Notifying users of problems that occur on systems and the ability to isolate the source of the problem
- Notifying users when systems need updates and distributing and installing updates on a schedule
- Analyzing real-time data for systems and setting critical thresholds that notify the administrator of emerging problems
- Configuring settings of a single system and creating a configuration plan that can apply those settings to multiple systems
- Updating installed plug-ins to add new features and functions to the base capabilities
- Managing the life cycles of virtual resources

For more information about Systems Director, see the Systems Director Information Center at http://pic.dhe.ibm.com/infocenter/director/pubs/index.jsp?topic=%2Fcom.ibm.director.main.helps.doc%2Ffqm0_main.html, and the Systems Management web page at http://www.ibm.com/systems/management, which presents an overview of Systems Management and Systems Director.

Server controls, LEDs, and power

This section describes the controls and light-emitting diodes (LEDs) and how to turn the server on and off.

For the locations of other LEDs on the system board, see “System-board LEDs” on page 33.

Front view

The following illustrations respectively show the controls, LEDs and connectors on the front of the 4U and 5U server models.

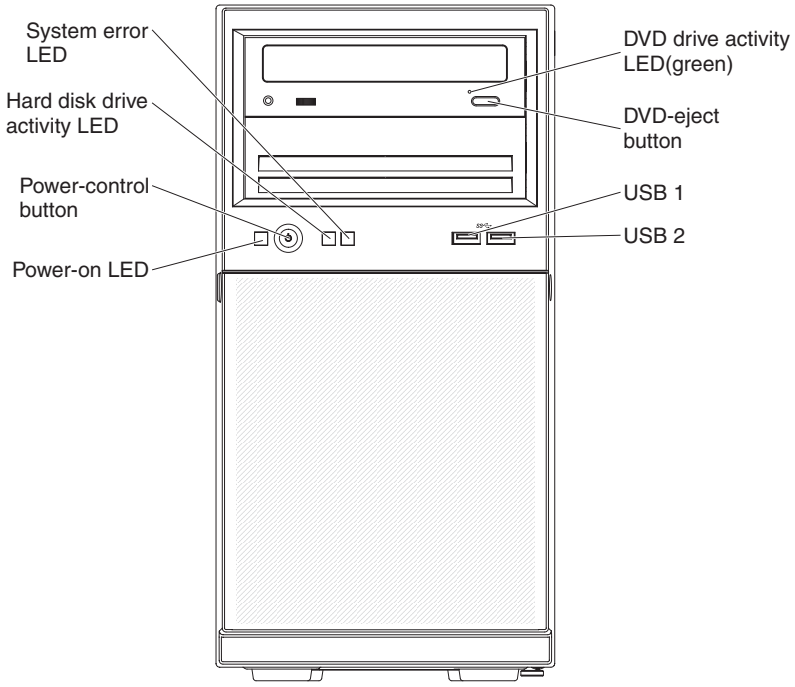


Figure 4. Front view of 4U server model with non-hot-swap power supplies (bezel installed)

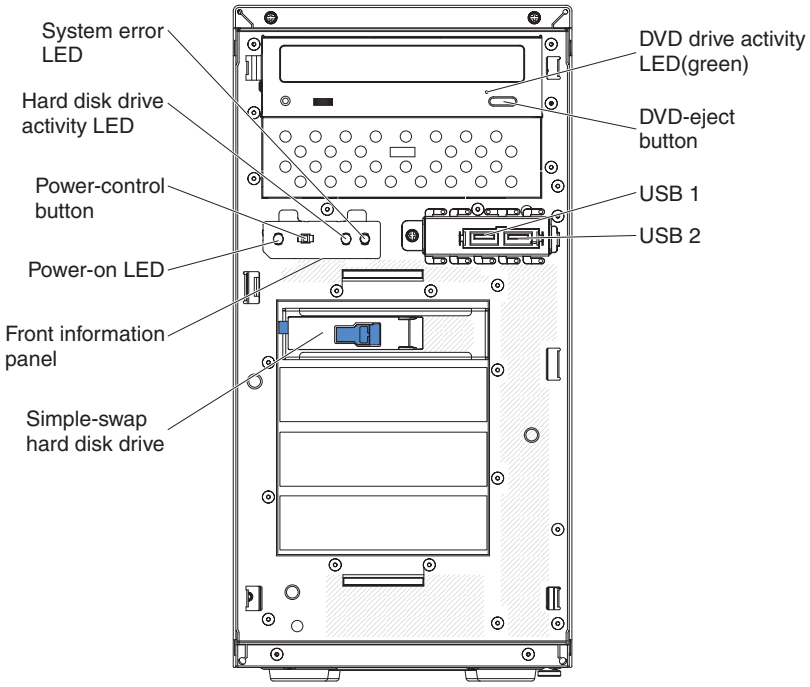


Figure 5. Front view of 4U server model with non-hot-swap power supplies (bezel removed)

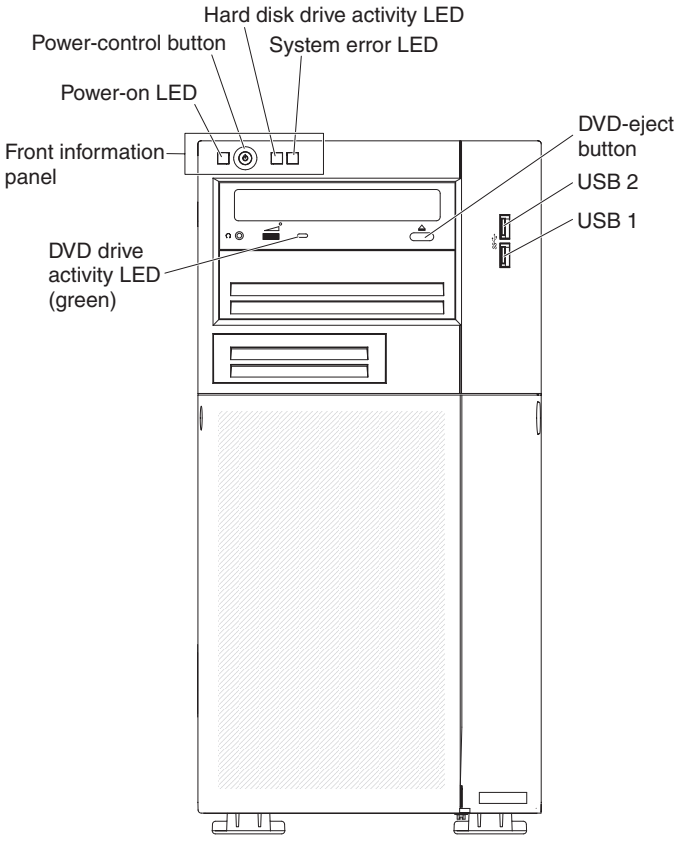


Figure 6. Front view of 5U server model with hot-swap power supplies (lower and upper bezel installed)

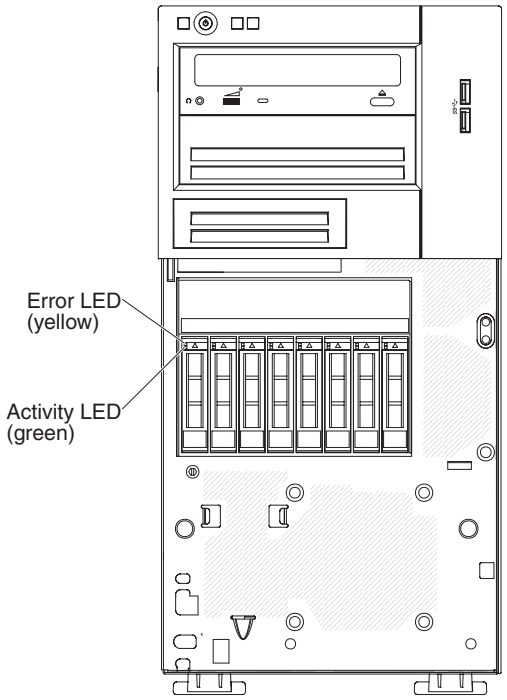


Figure 7. Front view of 5U server model with hot-swap power supplies (lower and upper bezel installed) (Eight 2.5" hard disk drive configuration)

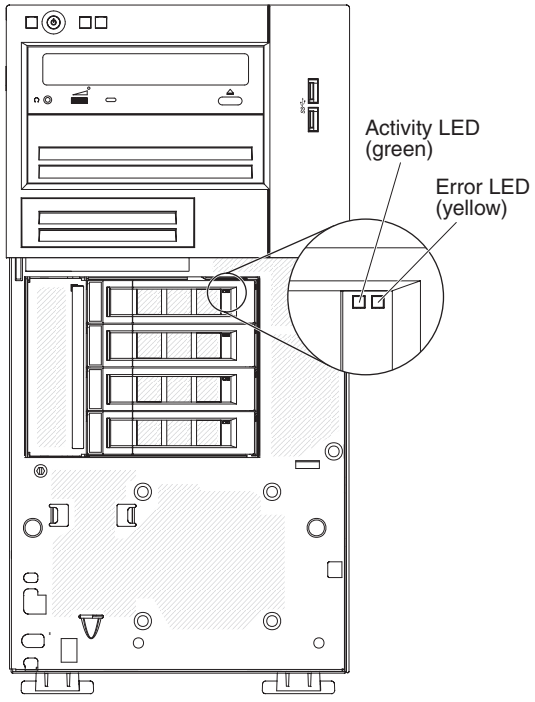


Figure 8. Front view of 5U server model with hot-swap power supplies (lower and upper bezel installed) (Four 3.5" hard disk drive configuration)

- **Power control button and power-on LED:**

  Press this button to turn the server on and off manually. The states of the power-on LED are as follows:

  - **Off:** AC power is not present, or the power supply or the LED itself has failed.
  - **Flashing rapidly (4 times per second):** The server is partially on, but not ready to be fully turned on. The power-control button is disabled. This will last approximately 1 to 3 minutes.
  - **Flashing slowly (once per second):** The server is ready to be turned on. You can press the power-control button to turn on the server.
  - **Lit:** The server is turned on.
- **Hard disk drive activity LEDs:**

  When this LED is flashing, it indicates that the associated hard disk drive is in use.
- **System-error LED:**

  When this yellow LED is lit, it indicates that a system error has occurred. An LED on the system board might also be lit to help isolate the error. See"Diagnostic tools" on page 117 for additional information.
- **USB connectors:**

  Connect USB devices to these connectors.
- **DVD eject button:**

  Press this button to release a DVD or CD from the DVD drive.
- **DVD drive activity LED:**

  When this LED is lit, it indicates that the DVD drive is in use.
- **Hot-swap hard disk drive activity LED (some models):**

  On some server models, each hot-swap drive has a hard disk drive activity LED. When this green LED is flashing, it indicates that the drive is in use.

  When the drive is removed, this LED also is visible on the SAS/SATA backplane, next to the drive connector. The backplane is the printed circuit board behind drive bays 4 through 7 on 3.5-inch hard disk drive models.
- **Hot-swap hard disk drive status LED (some models):**

  On some server models, each hot-swap hard disk drive has an yellow status LED. If this yellow status LED for a drive is lit, it indicates that the associated hard disk drive has failed.

  If an optional ServeRAID adapter is installed in the server and the LED flashes slowly (one flash per second), the drive is being rebuilt. If the LED flashes rapidly (three flashes per second), the adapter is identifying the drive.

  When the drive is removed, this LED also is visible on the SAS/SATA backplane, below the hot-swap hard disk drive activity LED.

Rear view

The following illustrations respectively show the controls, LEDs and connectors on the rear of the 4U and 5U server models.

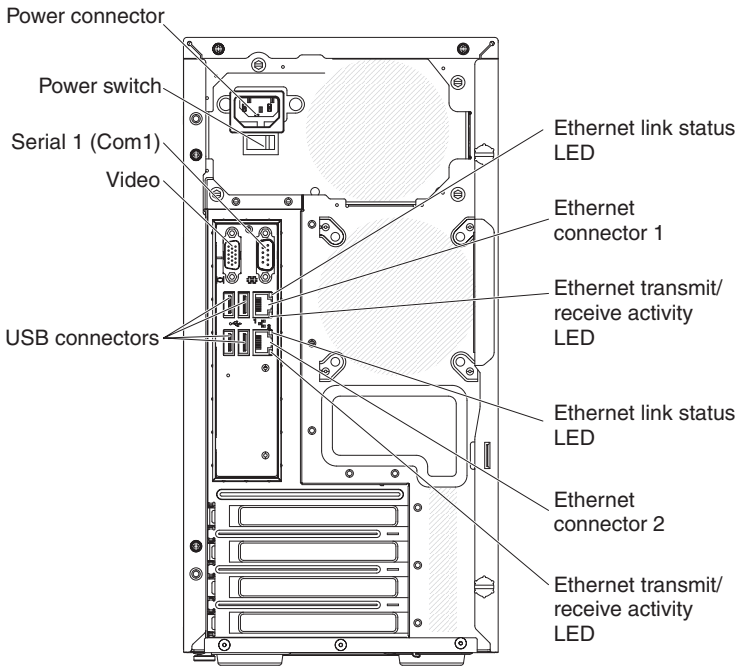


Figure 9. Rear view of 4U server model with non-hot-swap power supplies (no power supply LEDs present)

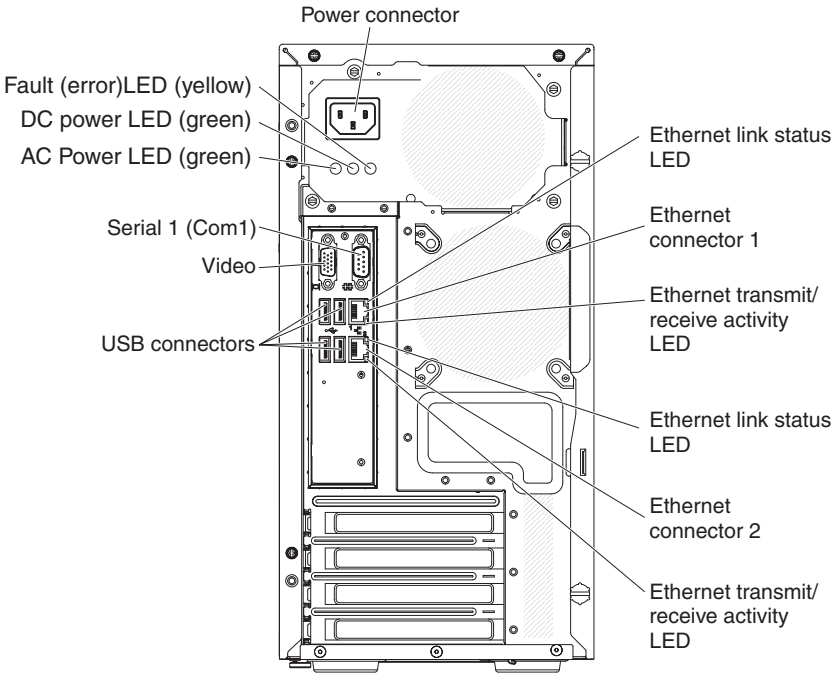


Figure 10. Rear view of 4U server model with non-hot-swap power supplies (power supply LEDs present)

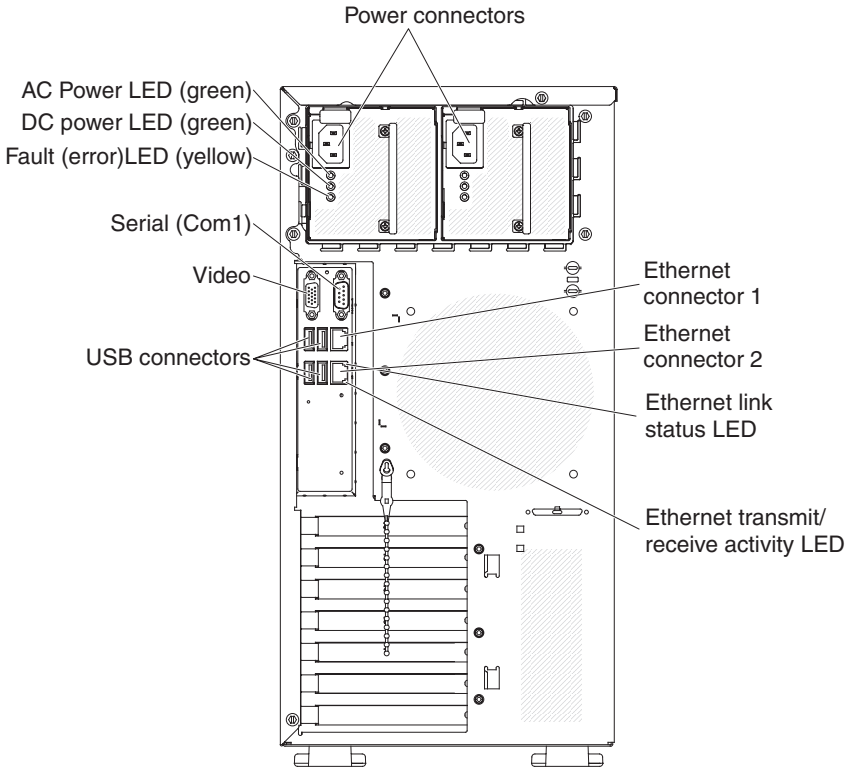


Figure 11. Rear view of 5U server model with hot-swap power supplies

- **Power connector:** Connect the power cord to this connector.
- **AC power LED:** This green LED provides status information about the power supply. During typical operation, both the ac and dc power LEDs are lit.
- **DC power LED:** This green LED provides status information about the power supply. During typical operation, both the ac and dc power LEDs are lit.
- **Fault-error LED:** When this yellow LED is lit, it indicates that the power supply has failed..
- **Serial connector:** Connect a 9-pin serial device to this connector. The serial port is shared with the integrated management module II (IMM2). The IMM2 can take control of the shared serial port to redirect serial traffic, using Serial over LAN (SOL).
- **Video connector:** Connect a monitor to this connector.
- **USB connectors:** Connect USB devices to these connectors.
- **NMI button:** Press this button to force a nonmaskable interrupt to the microprocessor. It allows you to blue screen the server and take a memory dump (use this button only when directed by the Lenovo service support). You might have to use a pen or the end of a straightened paper clip to press the button.
- **Ethernet connector:** Use either of these connectors to connect the server to a network. When you use the Ethernet 1 connector, the network can be shared with the IMM2 through a single network cable.
- **Ethernet transmit/receive activity LED:** This LED is on the Ethernet connector. When this LED is flashing, it indicates that there is activity between the server and the network..
- **Ethernet link status LED:** This LED is on the Ethernet connector. When this LED is lit, it indicates that there is an active connection on the Ethernet port.

Server power features

When the server is connected to an ac power source but is not turned on, the operating system does not run, and all core logic except for the integrated management module II (IMM2) is shut down; however, the server can respond to requests from IMM2, such as a remote request to turn on the server.

The power-on LED flashes to indicate that the server is connected to an ac power source but is not turned on.

Turning on the server

Use this information to turn on the server.

About this task

Approximately 5 seconds after the server is connected to input power, one or more fans might start running and the power-on LED flashes quickly. Approximately 10 seconds after the server is connected to input power, the power-on button becomes active. After the power-on button becomes active, the power-on LED flashes slowly. You can turn on the server by pressing the power-on button.

Procedure

1. Press the power-on button to turn on the server.
2. The server can also be turned on in any of the following ways:
   - If a power failure occurs while the server is turned on, the server will restart automatically when power is restored.
   - If your operating system supports the Wake on LAN feature, the Wake on LAN feature can turn on the server.

What to do next

1. When 4 GB or more of memory (physical or logical) is installed, some memory is reserved for various system resources and is unavailable to the operating system. The amount of memory that is reserved for system resources depends on the operating system, the configuration of the server, and the configured PCI options.
2. When you turn on the server with external graphical adapters installed, the Lenovo logo displays on the screen after approximately 3 minutes. This is normal operation while the system loads.
3. Make sure the left-side cover is closed.

Turning off the server

Use this information to turn off the server.

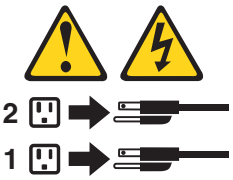
About this task

When you turn off the server and leave it connected to input power, the server can respond to requests to the service processor (the integrated management module), such as a remote request to turn on the server. While the server remains connected to input power, one or more fans might continue to run. To remove all power from the server, you must disconnect it from the power source.

Some operating systems require an orderly shutdown before you turn off the server. See your operating-system documentation for information about shutting down the operating system.

Statement 5

CAUTION:
The power control button on the device do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Procedure

The server can be turned off in any of the following ways:

- You can turn off the server from the operating system, if your operating system supports this feature. After an orderly shutdown of the operating system, the server will turn off automatically.
- You can press the power-control button to start an orderly shutdown of the operating system and turn off the server, if your operating system supports this feature.
- If the operating system stops functioning, you can press and hold the power-control button for more than 4 seconds to turn off the server.
- The server can be turned off by Wake on LAN feature with the following limitation:
- The integrated management module II (IMM2) can turn off the server as an automatic response to a critical system failure.

Chapter 2. Installing optional devices

This chapter provides detailed instructions for installing optional hardware devices in the server.

Before you begin

In addition to the instructions in this chapter for installing optional hardware devices, updating the firmware and device drivers, and completing the installation, Business Partners must also complete the steps in "Instructions for Business Partners."

Important: To help ensure that the devices that you install work correctly and do not introduce problems, observe the following precautions.

Procedure

1. Make sure that the server and the installed firmware levels support the devices that you are installing. If necessary, update the UEFI and IMM firmware and any other firmware that is stored on the system board. For information about where firmware is stored in the server, see "Updating the firmware" on page 89. For a list of supported optional devices for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.
2. Use the best practices to apply current firmware and device-driver updates for the server and optional devices. To download the "Lenovo System x Firmware Update Best Practices" document, go to www.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5082923&brandind=5000008. Additional hints and tips are available from the following sites:
   - Lenovo support: http://www.lenovo.com/support
   - System x configuration tools: http://www.ibm.com/systems/x/hardware/configtools.html
3. Before you install optional hardware devices, make sure that the server is working correctly. Start the server and make sure that the operating system starts, if an operating system is installed, or that a 19990305 error code is displayed, indicating that an operating system was not found but the server is otherwise working correctly. If the server is not working correctly, see "Running DSA Preboot diagnostic programs" on page 130 for information about how to run diagnostics.
4. Follow the installation procedures in this chapter and use the correct tools. Incorrectly installed devices can cause system failure because of damaged pins in sockets or connectors, loose cabling, or loose components.

Instructions for Business Partners

Instructions for Business Partners on verifying the newly installed devices by running the Dynamic System Analysis (DSA) stress test.

In addition to the instructions in this chapter for installing optional hardware devices, updating firmware and device drivers, and completing the installation, Business Partners must also complete the following steps:

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1. After you have confirmed that the server starts correctly and recognizes the newly installed devices and that no error LEDs are lit, run the Dynamic System Analysis (DSA) stress test. For information about using DSA, see “Dynamic System Analysis” on page 129.
2. Shut down and restart the server multiple times to ensure that the server is correctly configured and functions correctly with the newly installed devices.
3. Save the DSA log as a file and send it to Lenovo. For information about transferring data and logs, see “How to send DSA data” on page 494.
4. To ship the server, repackage it in the original undamaged packing material and observe Lenovo procedures for shipping.

Support information for Business Partners is available at http://www.ibm.com/partnerworld.

How to send DSA data to Lenovo

You can send DSA data to Lenovo with standard upload, standard upload with the system serial number, secure upload, and secure upload with the system serial number.

Before you send diagnostic data to Lenovo, read the terms of use at http://www.ibm.com/de/support/ecurep/terms.html.

You can use any of the following methods to send diagnostic data to Lenovo:

- **Standard upload:**
- **Standard upload with the system serial number:**
- **Secure upload:**
- **Secure upload with the system serial number:**

Server components

The section shows the major components in the server.

The following illustration shows the server components in 4U server models with non-hot-swap power supplies. The illustrations in this document might differ slightly from your hardware.

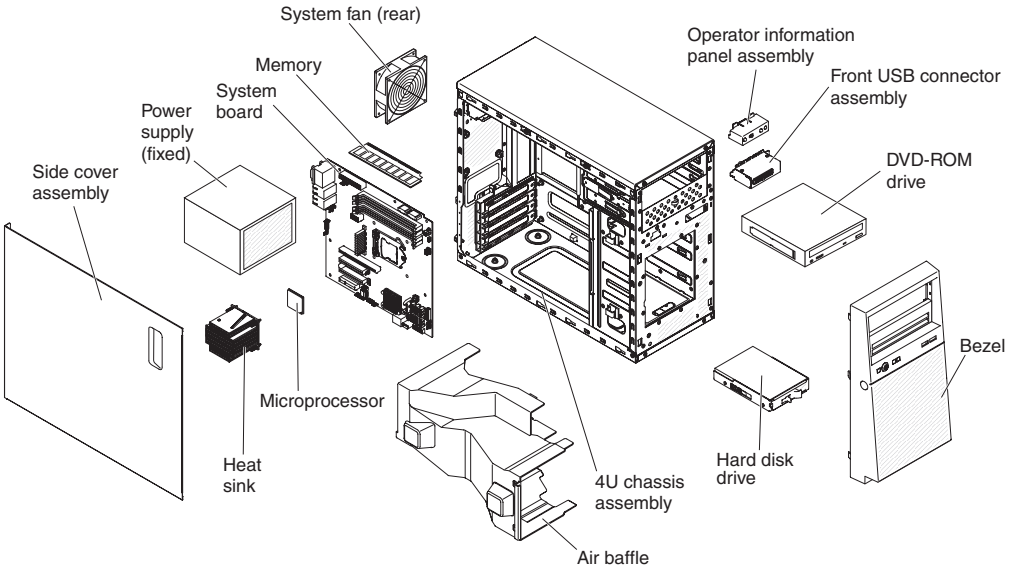


Figure 12. Server components for 4U server models with non-hot-swap power supplies

The following illustration shows the server components in 5U server models with hot-swap power supplies. The illustrations in this document might differ slightly from your hardware.

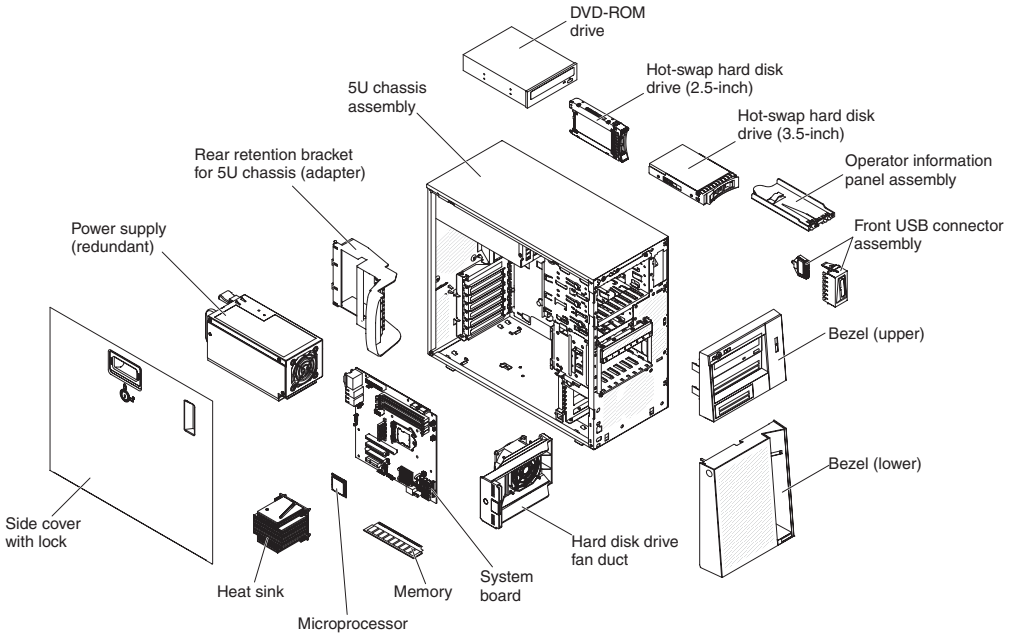


Figure 13. Server components for 5U server models with hot-swap power supplies

Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the server, open or close a latch, and so on.

Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped, which means that if the server and operating system support hot-swap capability, you can remove or install the component while the server is running. (Orange can also indicate touch points on hot-swap

components.) See the instructions for removing or installing a specific hot-swap component for any additional procedures that you might have to perform before you remove or install the component.

System-board internal connectors

This section contains information regarding the system board internal connectors.

The following illustration shows the internal connectors on the system board.

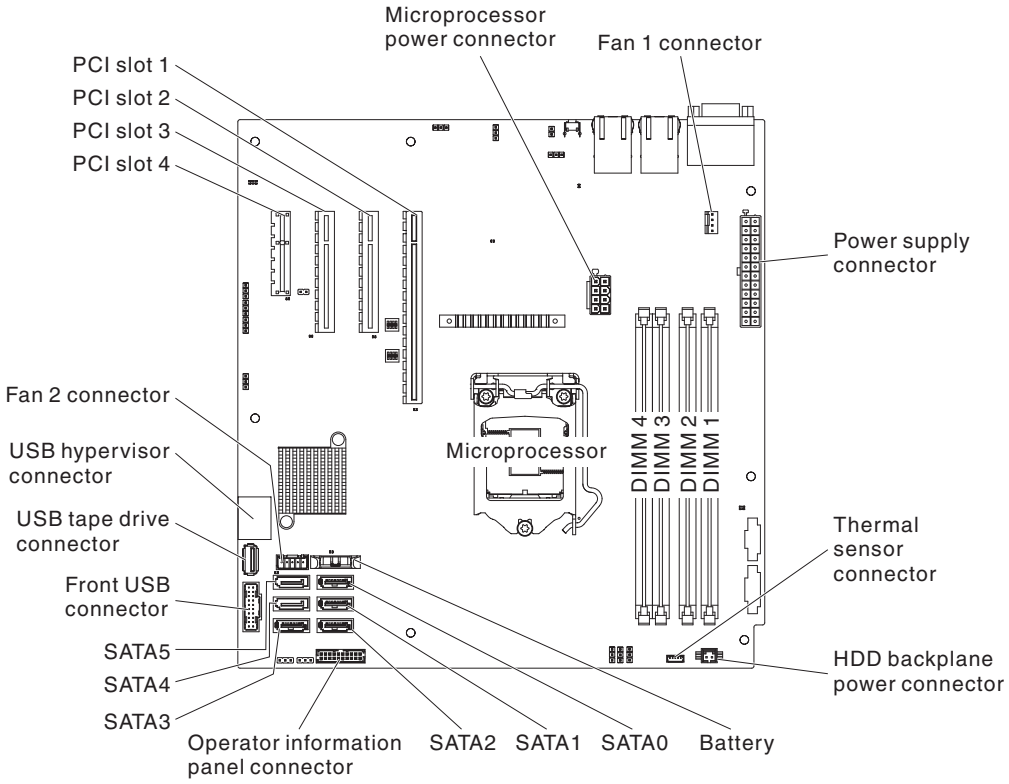


Figure 14. Internal connectors on system board

System-board external connectors

This section contains information regarding the system board external connectors.

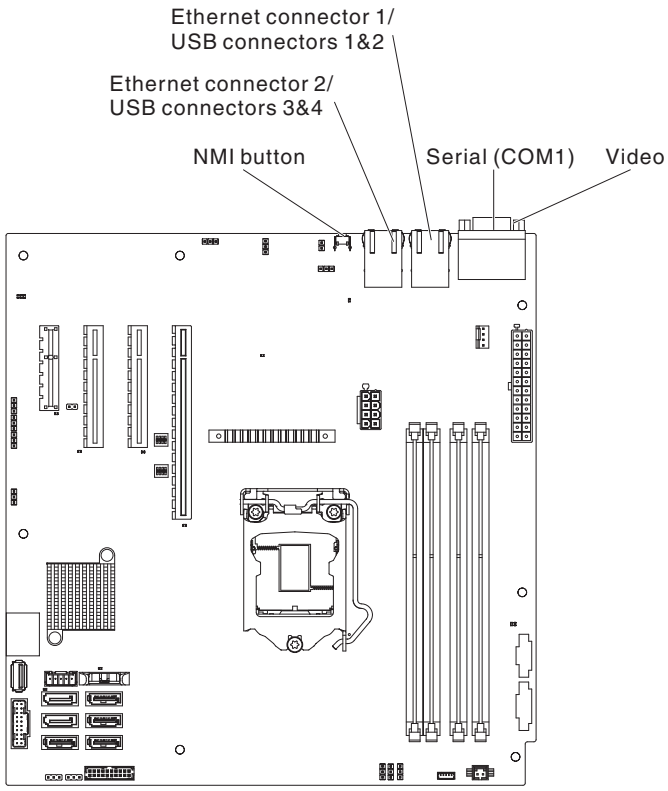


Figure 15. External connectors on system board

System-board switches and jumpers

This section contains information regarding the system board switches and jumpers.

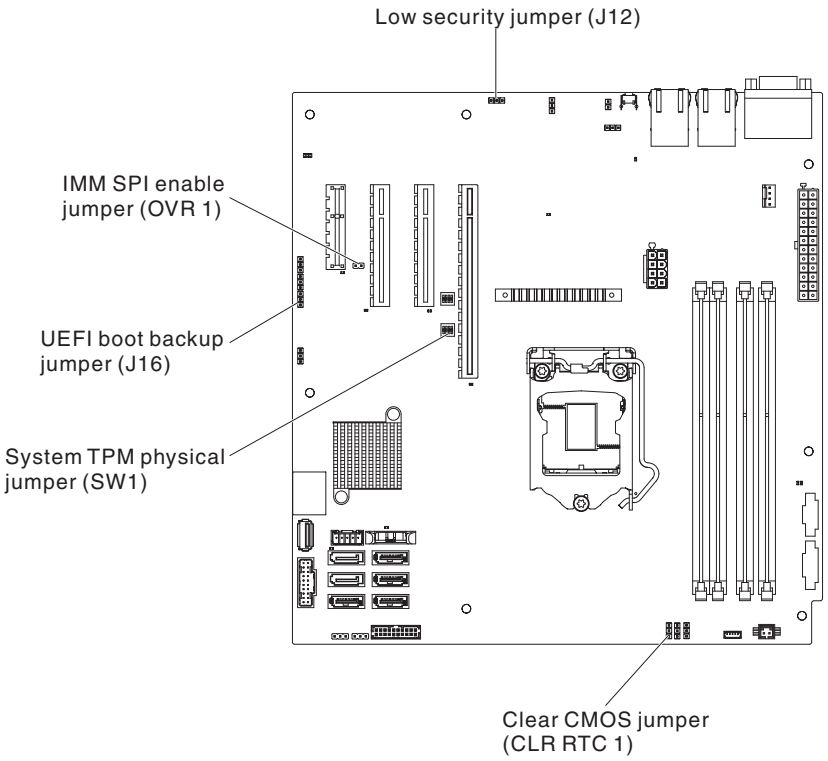


Figure 16. Location and description of switches and jumpers

The following table describes the functions of switches and jumpers on the system board.

Table 2. System board switches and jumpers definition

Jumper number	Jumper name	Jumper setting
J12	Low security jumper	• Pins 1 and 2: Normal (default). • Pins 2 and 3: Activate low security.
OVR 1	IMM SPI enable jumper	• Pins 1 and 2: Disabled. • Pins 2 and 3: Enable IMM SPI half ROM default)
J16	UEFI boot backup jumper	• Pins 1 and 2: Boot from primary BIOS page (default). • Pins 2 and 3: Boot from backup BIOS page.
CLR RTC 1	Clear CMOS jumper	• Pins 1 and 2: Keep CMOS data (default). • Pins 2 and 3: Clear CMOS data.
Note: 1. If no jumper is present, the server responds as default. 2. Changing the position of the boot block jumper from pins 1 and 2 to pins 2 and 3 for 5 seconds before the server is turned on alters which flash ROM page is loaded. Do not change the jumper pin position after the server is turned on. This can cause an unpredictable problem.		

Important:

1. Before you change any switch settings or move any jumpers, turn off the server; then, disconnect all power cords and external cables. Review the information in “Safety” on page v, “Installation guidelines,” “Handling static-sensitive devices” on page 36, and “Turning off the server” on page 25.
2. Any system-board switch or jumper blocks that are not shown in the illustrations in this document are reserved.
3. If there is a clear protective sticker on the top of the switch blocks, you must remove and discard it to access the switches.

System-board LEDs

This section contains information regarding the system board LEDs.

The following illustration shows the LEDs on the system board.

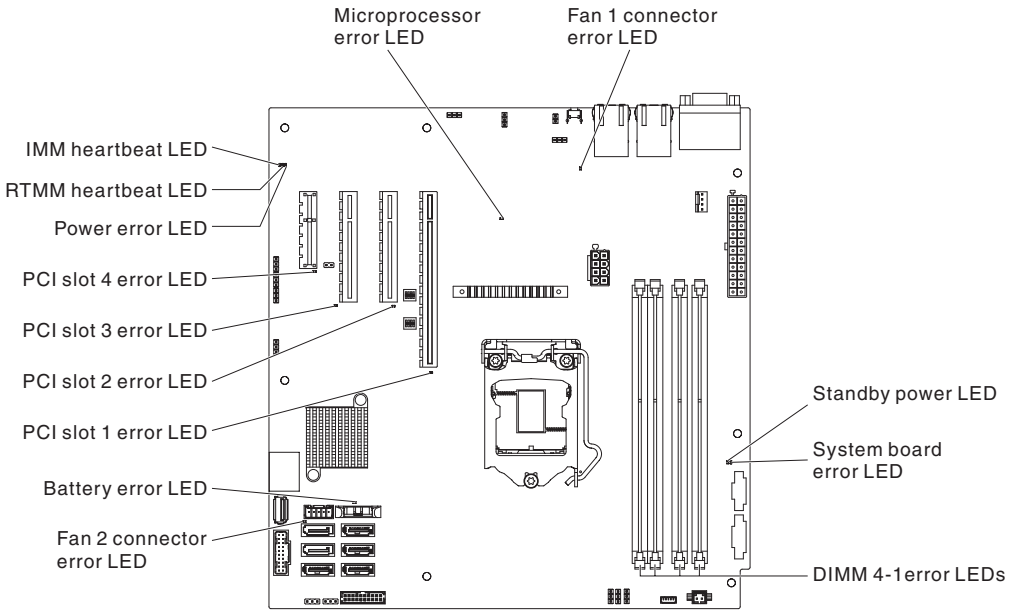


Figure 17. LED location on system board

Note: When you disconnect the power source from the server, you lose the ability to view the LEDs because the LEDs are not lit when the power source is removed. Before you disconnect the power source, make a note of which LEDs are lit, including the LEDs that are lit on the operation information panel and LEDs inside the server on the system board.

Installation guidelines

Use the installation guidelines to install the Lenovo System x3100 M5 Type 5457.

Attention: Static electricity that is released to internal server components when the server is powered-on might cause the system to halt, which might result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when removing or installing a hot-swap device.

Before you install optional devices, read the following information:

- Read the safety information in "Safety" on page v and the guidelines in "Working inside the server with the power on" on page 35, and "Handling static-sensitive devices" on page 36. This information will help you work safely.
- Make sure that the devices that you are installing are supported. For a list of supported optional devices for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.
- When you install your new server, take the opportunity to download and apply the most recent firmware updates. This step will help to ensure that any known issues are addressed and that your server is ready to function at maximum levels of performance. To download firmware updates for your server, go to http://www.ibm.com/support/fixcentral.

  Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

  For additional information about tools for updating, managing, and deploying firmware, see the ToolsCenter for System x and BladeCenter at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-CENTER
- Before you install optional hardware, make sure that the server is working correctly. Start the server, and make sure that the operating system starts, if an operating system is installed, or that a 19990305 error code is displayed, indicating that an operating system was not found but the server is otherwise working correctly. If the server is not working correctly, see "Running DSA Preboot diagnostic programs" on page 130 for information about how to run diagnostics.
- Observe good housekeeping in the area where you are working. Place removed covers and other parts in a safe place.
- Do not attempt to lift an object that you think is too heavy for you. If you have to lift a heavy object, observe the following precautions:
  - Make sure that you can stand safely without slipping.
  - Distribute the weight of the object equally between your feet.
  - Use a slow lifting force. Never move suddenly or twist when you lift a heavy object.
  - To avoid straining the muscles in your back, lift by standing or by pushing up with your leg muscles.
- Make sure that you have an adequate number of properly grounded electrical outlets for the server, monitor, and other devices.
- Back up all important data before you make changes to disk drives.
- Have a small flat-blade screwdriver available.
- To view the error LEDs on the system board and internal components, leave the server connected to power.
- You do not have to turn off the server to install or replace hot-swap power supplies, hot-swap fans, or hot-plug Universal Serial Bus (USB) devices. However, you must turn off the server before you perform any steps that involve removing or installing adapter cables and you must disconnect the power source from the server before you perform any steps that involve removing or installing a riser card.
- Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the server, open or close a latch, and so on.
- Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped, which means that if the server and

operating system support hot-swap capability, you can remove or install the component while the server is running. (Orange can also indicate touch points on hot-swap components.) See the instructions for removing or installing a specific hot-swap component for any additional procedures that you might have to perform before you remove or install the component.

- When you are finished working on the server, reinstall all safety shields, guards, labels, and ground wires.

System reliability guidelines

The system reliability guidelines to ensure proper system cooling.

To help ensure proper system cooling and system reliability, make sure that the following requirements are met:

- Each of the drive bays has a drive or a filler panel and electromagnetic compatibility (EMC) shield installed in it.
- If the server has redundant power, each of the power-supply bays has a power supply installed in it.
- There is adequate space around the server to allow the server cooling system to work properly. Leave approximately 50 mm (2.0 in.) of open space around the front and rear of the server. Do not place objects in front of the fans. For proper cooling and airflow, replace the server cover before you turn on the server. Operating the server for extended periods of time (more than 30 minutes) with the server cover removed might damage server components.
- You have followed the cabling instructions that come with optional adapters.
- You have replaced a failed fan as soon as possible.
- You have replaced a hot-swap drive within 2 minutes of removal.
- You do not operate the server without the air baffle installed. Operating the server without the air baffle might cause the microprocessor to overheat.

Working inside the server with the power on

Guidelines to work inside the server with the power on.

Attention: Static electricity that is released to internal server components when the server is powered-on might cause the server to halt, which might result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server with the power on.

The server supports hot-plug, hot-add, and hot-swap devices and is designed to operate safely while it is turned on and the server cover is removed. Follow these guidelines when you work inside a server that is turned on:

Note: In order to work inside the server with the power on, you have to disable the power cut-off switch before removing the server cover.

- Avoid wearing loose-fitting clothing on your forearms. Button long-sleeved shirts before working inside the server; do not wear cuff links while you are working inside the server.
- Do not allow your necktie or scarf to hang inside the server.
- Remove jewelry, such as bracelets, necklaces, rings, and loose-fitting wrist watches.
- Remove items from your shirt pocket, such as pens and pencils, that could fall into the server as you lean over it.

- Avoid dropping any metallic objects, such as paper clips, hairpins, and screws, into the server.

Handling static-sensitive devices

Use this information to handle static-sensitive devices.

Attention: Static electricity can damage the server and other electronic devices. To avoid damage, keep static-sensitive devices in their static-protective packages until you are ready to install them.

To reduce the possibility of damage from electrostatic discharge, observe the following precautions:

- Limit your movement. Movement can cause static electricity to build up around you.
- The use of a grounding system is recommended. For example, wear an electrostatic-discharge wrist strap, if one is available. Always use an electrostatic-discharge wrist strap or other grounding system when working inside the server with the power on.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed circuitry.
- Do not leave the device where others can handle and damage it.
- While the device is still in its static-protective package, touch it to an unpainted metal surface on the outside of the server for at least 2 seconds. This drains static electricity from the package and from your body.
- Remove the device from its package and install it directly into the server without setting down the device. If it is necessary to set down the device, put it back into its static-protective package. Do not place the device on the server cover or on a metal surface.
- Take additional care when handling devices during cold weather. Heating reduces indoor humidity and increases static electricity.

Removing the side cover

Use this information to remove the side cover.

Attention: Operating the server for more than 30 minutes with the side cover removed might damage server components. For proper cooling and airflow, install the side cover before you turn on the server.

For 4U server models with non-hot-swap power supplies, complete the following steps to remove the side cover. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see “Turning off the server” on page 25).
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Unscrew the two chassis screws on the rear side of the server.

5. Pull the rear side cover handle and push the front side cover handle at the same time.

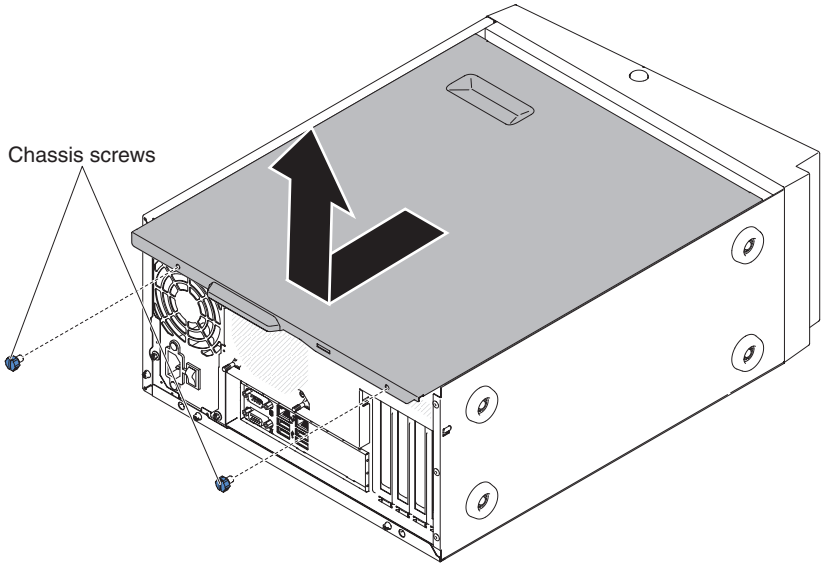


Figure 18. Side cover removal for 4U server model with non-hot-swap power supplies

Attention: For proper cooling and airflow, replace the server cover before you turn on the server.

6. If you are instructed to return the side cover, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

For the 5U server model with hot-swap power supplies, complete the following steps to remove the side cover. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see "Turning off the server" on page 25).
3. Unlock the side cover; then, press the cover-release latch down (as shown in the illustration) to remove the cover.

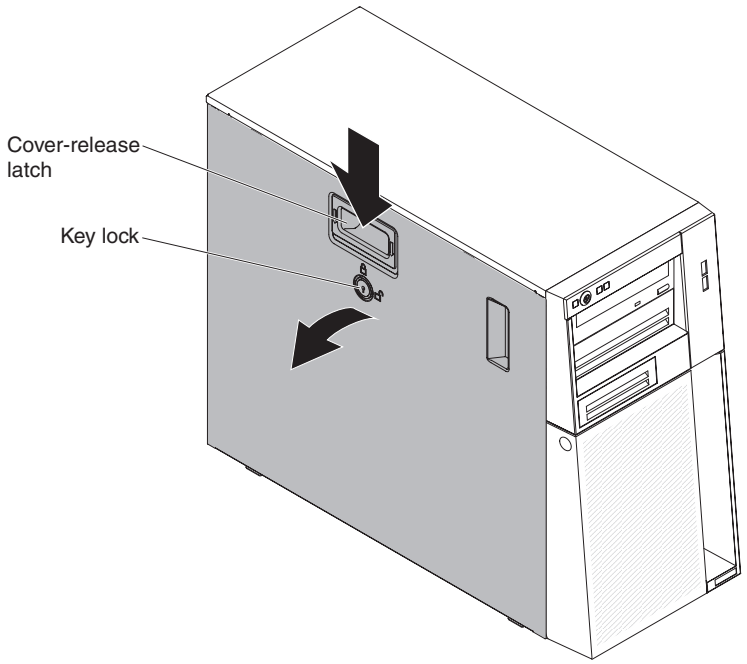


Figure 19. Side cover removal for 5U server model with hot-swap power supplies

Attention: For proper cooling and airflow, replace the server cover before you turn on the server.

4. If you are instructed to return the side cover, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing the air baffle

This procedure applies only to 4U server models with non-hot-swap power supplies.

To remove the air baffle, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see "Turning off the server" on page 25).
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Grasp the top of the air baffle and lift it out of the server.

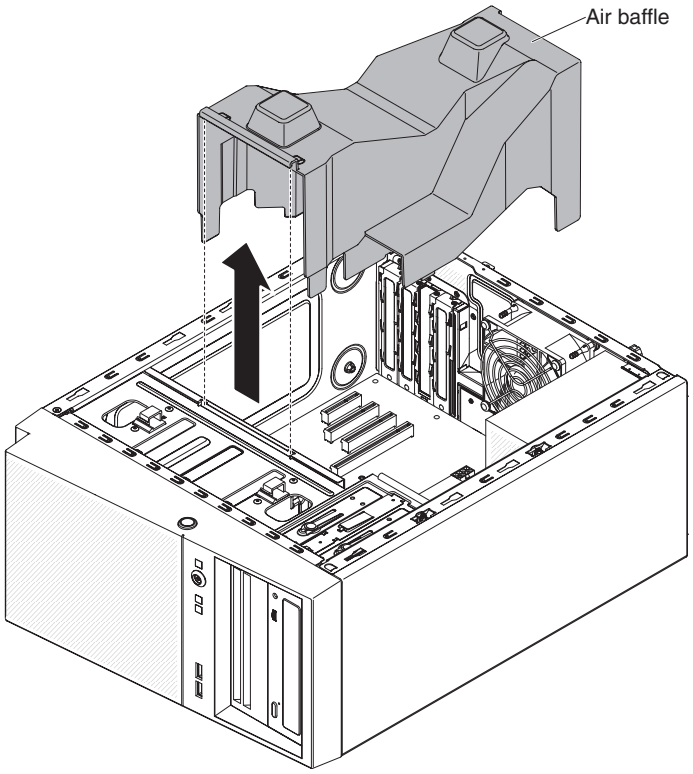


Figure 20. Air baffle removal for 4U server model with non-hot-swap power supplies

Attention: For proper cooling and airflow, reinstall the air baffle, making sure all cables are out of the way, before you turn on the server. Operating the server with the air baffle removed might damage server components.

6. If you are instructed to return the air baffle, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing the bezel

This procedure applies only to 4U server models with non-hot-swap power supplies.

When you work with some devices on 4U server models with non-hot-swap power supplies, such as the drives in bays 3 through 6, you must first remove the bezel to access the devices.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Press the button on the left edge of the bezel; then, rotate the left side of the bezel away from the server until it disengages and set it aside.

   Note: When rotating the bezel to a certain point, it may automatically disengage from the chassis.

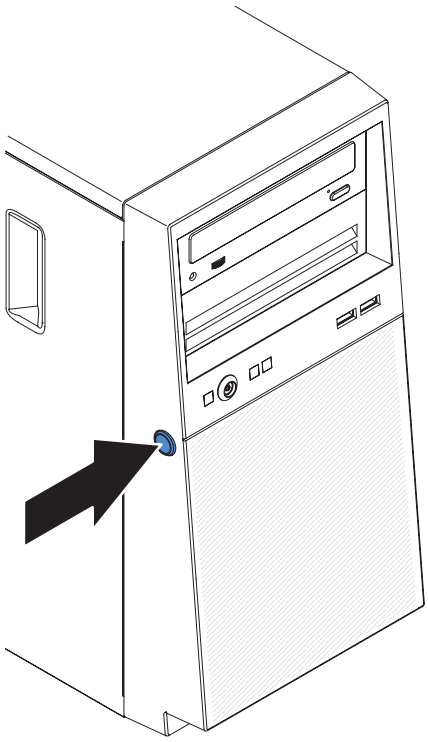


Figure 21. Bezel removal for 4U server model with non-hot-swap power supplies (1)

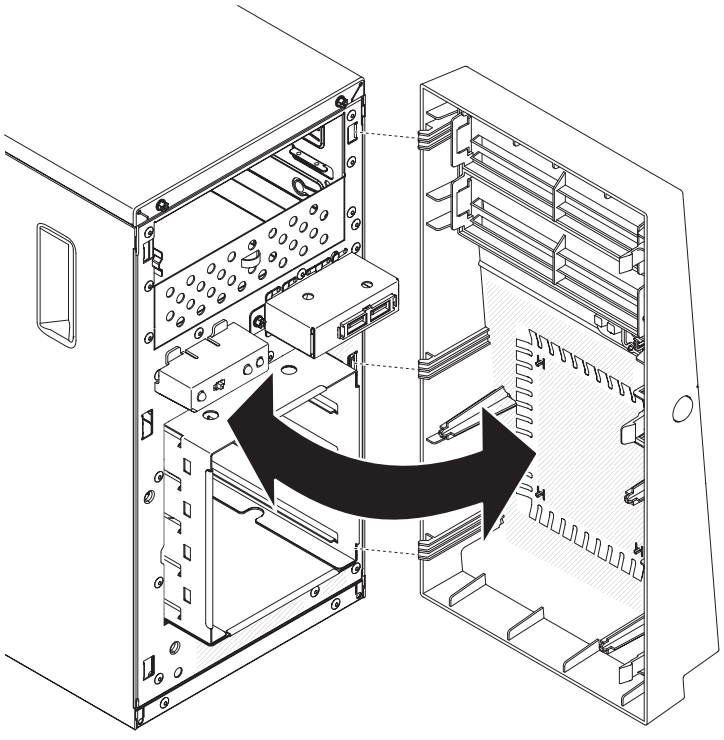


Figure 22. Bezel removal for 4U server model with non-hot-swap power supplies (2)

3. If you are instructed to return the bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing the lower bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To access the hard disk drives on the 5U server model with hot-swap power supplies, you must first remove the lower bezel.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. If you are replacing a non-hot-swap component, turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Press the blue-colored release button on the right side of the lower bezel and rotate the lower bezel downward to disengage from the chassis.

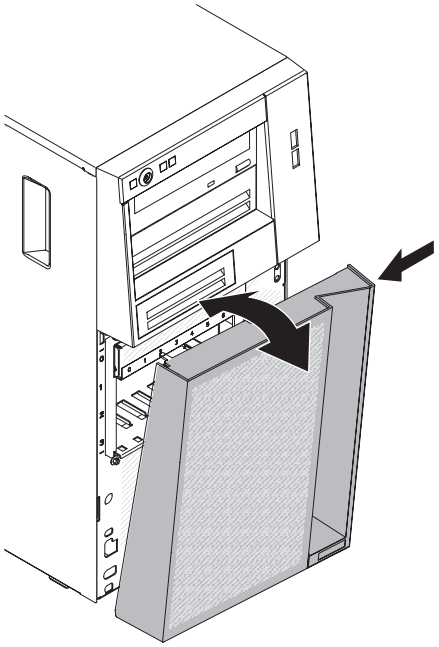


Figure 23. Lower bezel removal for 5U server model with hot-swap power supplies

4. If you are instructed to return the lower bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing the upper bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To access the DVD drive or tape drive on the 5U server model with hot-swap power supplies, you must first remove the upper bezel to access the devices.

To remove the upper bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. If you are replacing a non-hot-swap component, turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).

4. Remove the lower bezel (see “Removing the lower bezel” on page 41).
5. Carefully pull the two bezel clips on the left side of the upper bezel; then, rotate the upper bezel to the right side of the server to disengage the two right-side tabs from the chassis.

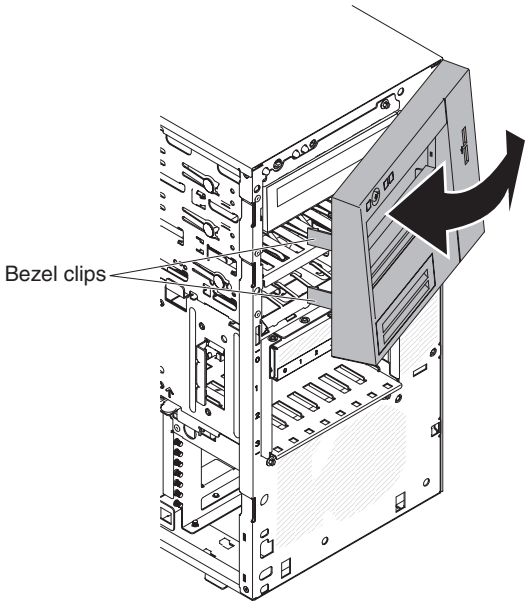


Figure 24. Lower bezel removal for 5U server model with hot-swap power supplies

6. If you are instructed to return the upper bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Installing a memory module

Use this information to install a memory module

The following notes describe the types of dual inline memory modules (DIMMs) that the server supports and other information that you must consider when you install DIMMs (see “System-board internal connectors” on page 30).

If you are replacing a memory module, make sure that:

- The server supports industry-standard, 1066, 1333 and 1600 MHz, PC3-12800 (single-rank or dual-rank) double-data-rate 3 (DDR3), registered or unbuffered, synchronous dynamic random-access memory (SDRAM) dual inline memory modules (DIMMs) with error correcting code (ECC). For a list of supported options for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us; then, select your country and navigate to the list of options for the server.
- The maximum amount of memory that the server supports is dependent on the type of memory that you install in the server.
- The amount of usable memory is reduced, depending on the system configuration. A certain amount of memory must be reserved for system resources. To view the total amount of installed memory and the amount of configured memory, run the Setup utility. For additional information, see “Using the Setup utility” on page 93.

- The maximum operating speed of the server is determined by the slowest DIMM in the server.
- If you install a pair of DIMMs in DIMM connectors 1 and 3, the size and speed of the DIMMs that you install in DIMM connectors 1 and 3 must match each other. However, they do not have to be the same size and speed as the DIMMs that are installed in DIMM connectors 2 and 4.
- You can use compatible DIMMs from various manufacturers in the same pair.
- When you install or remove DIMMs, the server configuration information changes. When you restart the server, the system displays a message that indicates that the memory configuration has changed.

  Attention: Static electricity that is released to internal server components when the server is powered-on might cause the server to stop, which could result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when working inside the server with the power on.
- The specifications of a DDR3 DIMM are on a label on the DIMM, in the following format.

  *ggg e*Rx*ff*-PC3-*wwwwwm-aa-bb-cc*

  where:

  – *ggg* is the total capacity of the DIMM (for example, 1GB, 2GB, or 4GB)
  – *e* is the number of ranks
    - 1 = single-rank
    - 2 = dual-rank
    - 4 = quad-rank
  – *ff* is the device organization (bit width)
    - 4 = x4 organization (4 DQ lines per SDRAM)
    - 8 = x8 organization
    - 16 = x16 organization
  – *wwwww* is the DIMM bandwidth, in MBps
    - 8500 = 8.53 GBps (PC3-1066 SDRAMs, 8-byte primary data bus)
    - 10600 = 10.66 GBps (PC3-1333 SDRAMs, 8-byte primary data bus)
    - 12800 = 12.8 GBps (PC3-1600 SDRAMs, 8-byte primary data bus)
  – *m* is the DIMM type
    - E = Unbuffered DIMM (UDIMM) with ECC (x72-bit module data bus)
    - R = Registered DIMM (RDIMM)
    - U = Unbuffered DIMM with no ECC (x64-bit primary data bus)
  – *aa* is the CAS latency, in clocks at maximum operating frequency
  – *bb* is the JEDEC SPD Revision Encoding and Additions level
  – *cc* is the reference design file for the design of the DIMM
  – *d* is the revision number of the reference design of the DIMM

  Note: To determine the type of a DIMM, see the label on the DIMM. The information on the label is in the format xxxxx nRxxx PC3-xxxxx-xx-xx-xxx. The numeral in the sixth numerical position indicates whether the DIMM is single-rank (n=1) or dual-rank (n=2).

Unbuffered DIMMs (UDIMMs)

The following notes provide information that you must consider when you install UDIMMs:

- The memory channels run at the lowest common frequency of the DIMMs installed.
- The UDIMM options that are available for the server are 1 GB, 2 GB, 4 GB, and 8 GB (when available) DIMMs.
- The server supports up to two single-rank or dual-rank UDIMMs per channel.

The following table lists the supported UDIMM population.

Table 3. Supported UDIMM population per channel

DIMM connectors per channel	DIMMs installed in each channel	DIMM type	DIMM speed	Ranks per DIMM (any combination)
2	1	Unbuffered DDR3 ECC	1333, 1600	Single-rank, dual-rank
2	2	Unbuffered DDR3 ECC	1333, 1600	Single-rank, dual-rank

The following table lists the maximum DIMM population using ranked UDIMMs.

Table 4. Maximum memory population using ranked UDIMMs (depending on your model)

Number of UDIMMs	DIMM type	Size	Total memory
4	Single-rank UDIMMs	1 GB	4 GB
4	Dual-rank UDIMMs	2 GB	8 GB
4	Dual-rank UDIMMs	4 GB	16 GB
4	Dual-rank UDIMMs	8 GB (when available)	32 GB

The following table shows the UDIMM memory population rule to optimize the system performance.

Table 5. UDIMM population rule

DIMM connector 1	DIMM connector 2	DIMM connector 3	DIMM connector 4
Populated	Empty	Empty	Empty
Populated	Empty	Populated	Empty
Populated	Populated	Populated	Populated

The following illustration shows the location of the DIMM connectors on the system board.

Note: The illustrations in this document might differ slightly from your model.

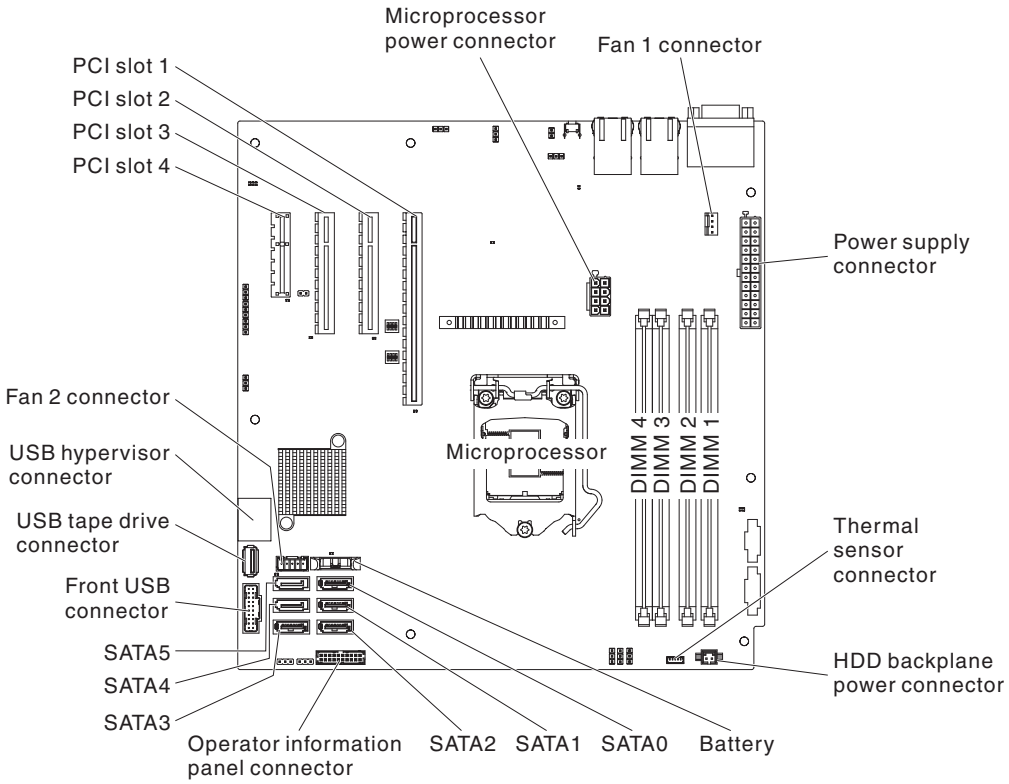


Figure 25. DIMM connectors on system board

Attention: Static electricity that is released to internal server components when the server is powered on might cause the server to halt, which might result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server with the power on.

To install a DIMM on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices, and disconnect the power cords and all external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Locate the DIMM connectors on the system board. Determine the connectors into which you will install the DIMMs. Install the DIMMs in the sequence shown in the following table.

Table 6. DIMM installation sequence

Number of DIMMs	Installation sequence (connectors)
First pair of DIMMs	1, 3
Second pair of DIMMs	2, 4

7. Open the retaining clips and, if necessary, remove any existing DIMM.

   Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.
8. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the outside of the server. Then, remove the DIMM from the package.
9. Turn the DIMM so that the DIMM keys align correctly with the connector.
10. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector.
11. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector.

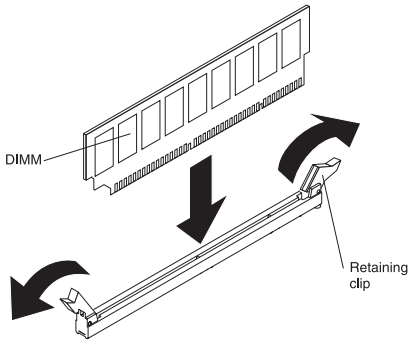


Figure 26. DIMM installation

   Note: If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly inserted; open the retaining clips, remove the DIMM, and then reinsert it.
12. If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

To install a DIMM on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices, and disconnect the power cords and all external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Locate the DIMM connectors on the system board. Determine the connectors into which you will install the DIMMs. Install the DIMMs in the sequence shown in the following table.

Table 7. DIMM installation sequence

Number of DIMMs	Installation sequence (connectors)

Table 7. DIMM installation sequence (continued)

First pair of DIMMs	1, 3
Second pair of DIMMs	2, 4

6. Open the retaining clips and, if necessary, remove any existing DIMM.

   Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.
7. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the server. Then, remove the new DIMM from the package.
8. Turn the DIMM so that the DIMM keys align correctly with the connector.
9. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector.
10. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector.

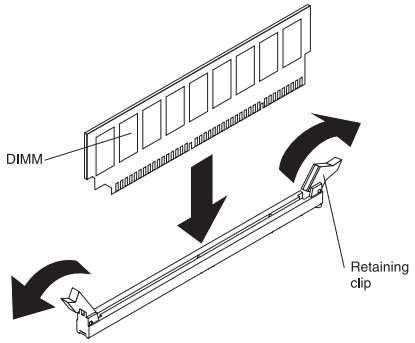


Figure 27. DIMM installation

   Note: If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly inserted; open the retaining clips, remove the DIMM, and then reinsert it.
11. If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing drives

Use this information to install drives.

Depending on the server model, a DVD-ROM or multiburner drive might be installed in the server. For 4U server models with non-hot-swap power supplies, the server supports up to four 3.5-inch simple-swap SATA hard disk drives (depending on the model). For the 5U server model with hot-swap power supplies, the server supports up to eight 2.5" hot-swap SATA/SAS hard disk drives or four 3.5" hot-swap SATA/SAS hard disk drives.

The following figure shows the location of the four 3.5" simple-swap hard disk drive bays in the 4U server model with non-hot-swap power supplies.

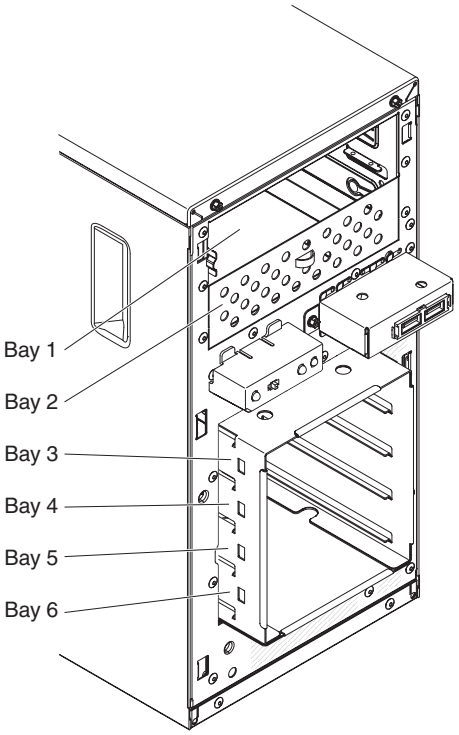


Figure 28. Location of the four 3.5" simple-swap hard disk drive bays in the 4U server model with non-hot-swap power supplies

The following figure shows the location of the eight 2.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies.

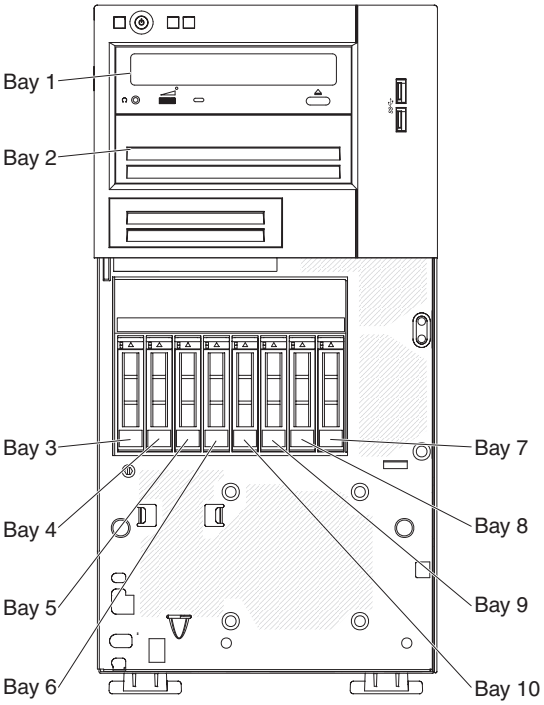


Figure 29. Location of the eight 2.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies

The following figure shows the location of the four 3.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies.

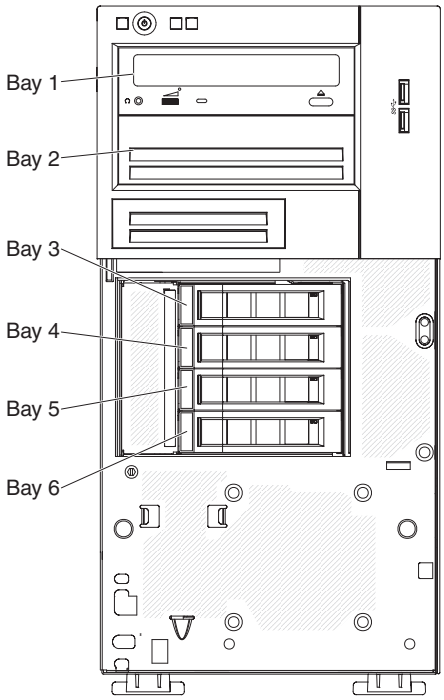


Figure 30. Location of the four 3.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies

The following notes describe the types of drives that the server supports and other information that you must consider when installing a drive:

- Locate the documentation that comes with the drive and follow those instructions in addition to the instructions in this chapter.
- Make sure that you have all the cables and other equipment that are specified in the documentation that comes with the drive.
- Select the bay in which you want to install the drive.
- Check the instructions that come with the drive to determine whether you have to set any switches or jumpers on the drive.
- The electromagnetic interference (EMI) integrity and cooling of the server are protected by having all bays and PCI and PCI Express slots covered or occupied. When you install a drive, PCI, or PCI Express adapter, save the EMC shield and filler panel from the bay or PCI adapter or PCI Express adapter slot cover in the event that you later remove the device.
- For a complete list of supported options for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.

Installing a DVD drive

Use this information to install a DVD drive

If you are replacing a removed drive with a new drive, make sure that:

- You have all the cables and other equipment that are specified in the documentation that comes with the new drive.
- You have checked the instructions that come with the new drive to determine whether you must set any switches or jumpers in the drive.

- You have removed the blue optical drive rails from the side of the old drive and have them available for installation on the new drive.

Note: If you are installing a drive that contains a laser, observe the following safety precautions.

Statement 3

CAUTION:
When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- **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 controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

DANGER

Some laser products contain an embedded Class 3A or Class 3B laser diode.

Note the following. Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

To install a DVD drive on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Follow the instructions that come with the drive to set jumpers or switches, if there are any.

Note: You might find it easier to install the new drive from the front and then attach the cables.

3. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
4. Remove the bezel (see "Removing the bezel" on page 39).
5. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
6. Remove the side cover (see "Removing the side cover" on page 36).
7. Touch the static-protective package that contains the new DVD drive to any unpainted metal surface on the server; then, remove the DVD drive from the package and place it on a static-protective surface.
8. Stand the server back up in its vertical position.
9. Remove the drive retainer clip from the side of the drive cage of bay 1 or bay 2. Slide the drive retainer clip to the front to remove it from the drive cage; then, snap the drive retainer clip into the screw holes on the side of the drive.
10. Push the drive into the bay.

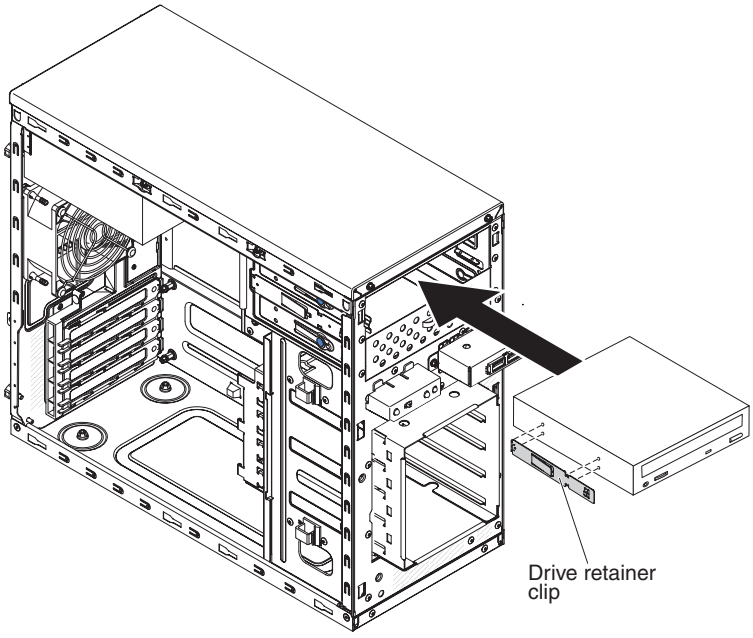


Figure 31. DVD drive installation for 4U server models with non-hot-swap power supplies

11. Carefully turn the server on its side so that it is lying flat.

    Attention: Do not allow the server to fall over.
12. Connect the power (power connector P9) and signal cables to the drive.

    Note: Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

To install a DVD drive on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Follow the instructions that come with the drive to set jumpers or switches, if there are any.

   Note: You might find it easier to install the new drive from the front and then attach the cables.
3. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
4. Unlock and remove the side cover (see “Removing the side cover” on page 36).
5. Remove the lower bezel (see “Removing the lower bezel” on page 41).
6. Remove the upper bezel (see “Removing the upper bezel” on page 41).
7. Touch the static-protective package that contains the new DVD drive to any unpainted metal surface on the server; then, remove the DVD drive from the package and place it on a static-protective surface.
8. Follow the instructions that come with the drive to set jumpers or switches, if there are any.

   Note: You might find it easier to install the new drive from the front and then attach the cables.
9. Attach the drive retainer clip that you removed from the previous drive to the side of the new drive.
10. Push the drive into the bay.

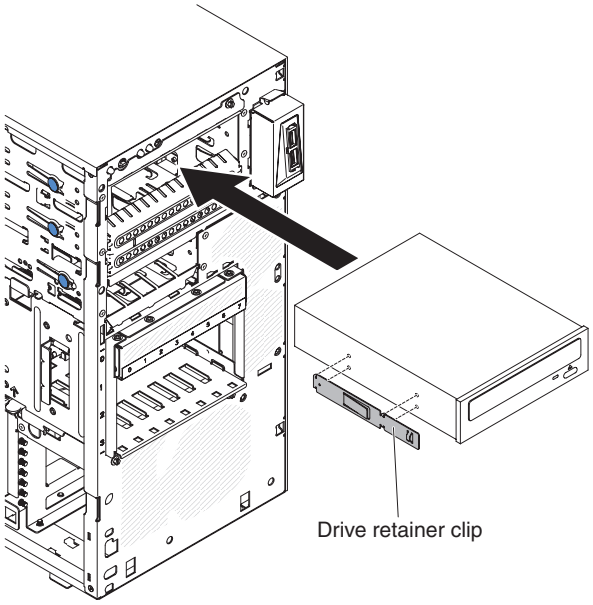


Figure 32. DVD drive installation for 5U server model with hot-swap power supplies

11. Connect the power and signal cables to the drive.

Note: Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing a tape drive

Use this information to install a tape drive

If you are replacing a drive, make sure that:

- You have all the cables and other equipment that is specified in the documentation that comes with the new drive.
- You check the instructions that come with the new drive to determine whether you must set any switches or jumpers on the drive.
- You have removed the drive retainer clip on the side of the old drive and have it available for installation on the new drive.

To install a tape drive on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices, and disconnect the power cords and all external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
8. Set any jumpers or switches on the drive according to the documentation that comes with the drive.
9. Stand the server back up in its vertical position.
10. Remove the filler from the drive cage, if any is present.
11. Remove the drive retainer clip from the side of the drive cage of bay 1 or bay 2. Slide the drive retainer clip to the front to remove it from the drive cage; then, snap the drive retainer clip into the screw holes on the side of the drive.
12. Push the drive into the bay.

    Note: A tape drive can only be installed in bay 1 or bay 2

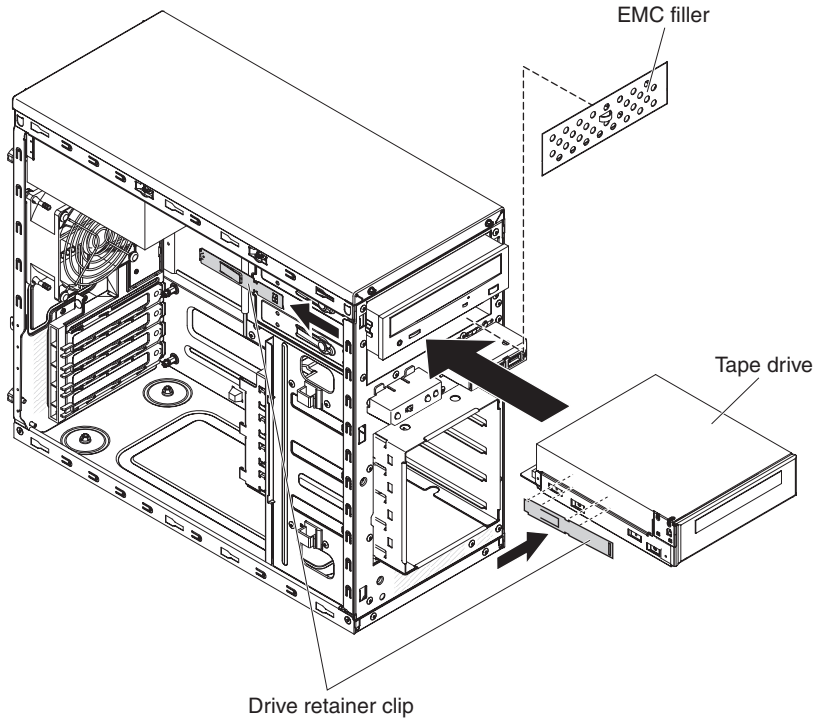


Figure 33. Tape drive installation for 4U server model with non-hot-swap power supplies

13. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

    Attention: Do not allow the server to fall over.

14. Connect one end of the applicable signal cable into the rear of the drive and make sure that the other end of this cable is connected into the applicable connector on the system board.
15. Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

To install a tape drive on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices, and disconnect the power cords and all external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the upper bezel (see "Removing the upper bezel" on page 41).
6. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
7. Set any jumpers or switches on the drive according to the documentation that comes with the drive.

8. Remove the filler from the drive cage, if any is present.
9. Slide the drive retainer clip to the front to remove it from the drive cage of bay 2; then, snap the drive retainer clip into the screw holes on the side of the drive.

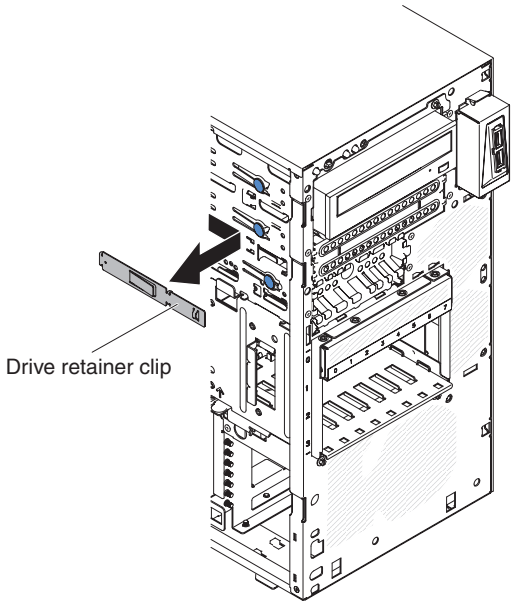


Figure 34. Drive retainer clip installation for 5U server model with hot-swap power supplies

10. Push the drive into the bay.

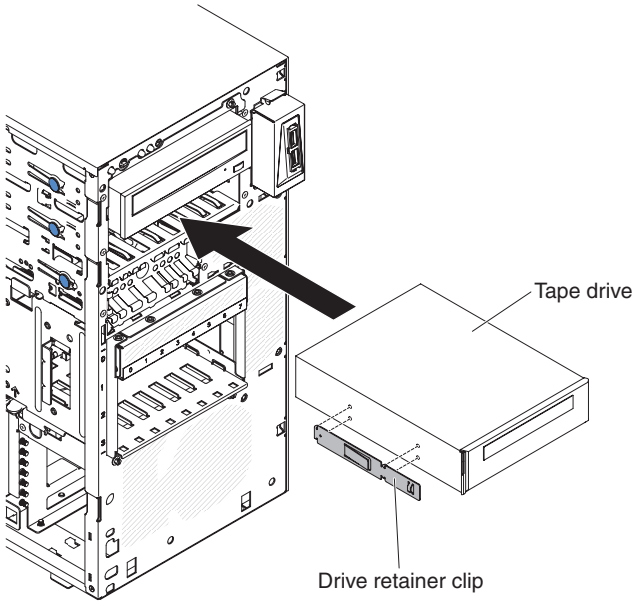


Figure 35. Tape drive installation for 5U server model with hot-swap power supplies

11. Connect one end of the applicable signal cable into the rear of the drive and make sure that the other end of this cable is connected into the applicable connector on the system board.
12. Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).

13. Connect the power cable to the rear of the drive. The connectors are keyed and can be inserted only one way.

Attention: If no tape drive is installed, it is important to reinstall the filler back to the bay.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing a simple-swap hard disk drive

This procedure applies only to 4U server models with non-hot-swap power supplies.

The 4U server model with non-hot-swap power supplies supports up to four 3.5-inch simple-swap SATA hard disk drives, which are accessible from the front of the server.

Note: Only 3TB or below hard disk drive options are supported by the 4U server model with non-hot-swap power supplies .

You must disconnect all power from the server before you remove or install simple-swap drives. Before you install a simple-swap SATA hard disk drive, read the following information:

Install the drives starting from the top bay to the bottom bay (bay 3, 4, 5, and then 6). The following tables list the IDs of the hard disk drives:

Table 8. IDs of simple-swap drives

Drive bay	HDD ID
3	0
4	1
5	2
6	3

- The simple-swap SATA hard disk drives connect to the SATA 0 through SATA 3 connectors on the system board as follows:
  - System board end cable connector 0 connects to the SATA 0 connector on the system board.
  - System board end cable connector 1 connects to the SATA 1 connector on the system board.
  - System board end cable connector 2 connects to the SATA 2 connector on the system board.
  - System board end cable connector 3 connects to the SATA 3 connector on the system board.
-
  - Hard disk drive 0 connects to the SATA 0 connector on the system board.
  - Hard disk drive 1 connects to the SATA 1 connector on the system board.
  - Hard disk drive 2 connects to the SATA 2 connector on the system board.
  - Hard disk drive 3 connects to the SATA 3 connector on the system board.

Note: Under RAID mode:

1. In uEFI setup menu:

- Drive 0 indicates hard disk drive 0.
- Drive 1 indicates hard disk drive 1.
- Drive 2 indicates hard disk drive 2.
- Drive 3 indicates hard disk drive 3.

2. In MegaRAID Storage Manager utility:
   - Slot 0 indicates hard disk drive 0.
   - Slot 1 indicates hard disk drive 1.
   - Slot 2 indicates hard disk drive 2.
   - Slot 3 indicates hard disk drive 3.

Attention: Simple-swap hard disk drives are not hot-swappable. Disconnect all power from the server before you remove or install a simple-swap hard disk drive

Note: If you installed a ServeRAID adapter in the server, connect the other end of the SATA signal cable to the connector on the ServeRAID adapter.

To install a simple-swap SATA hard disk drive on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices and disconnect all external cables and power cords.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
5. Align the drive assembly with the guide rails in the bay (the connector end of the drive goes in first).
6. Grasp the black drive handle and slide the blue release latch to the right; then, carefully slide the drive assembly into the drive bay until it stops, and release the latch.

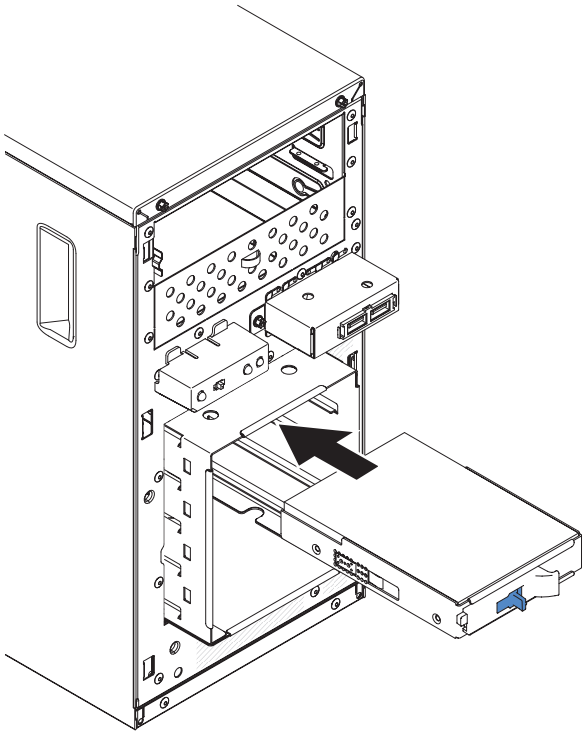


Figure 36. Simple-swap hard disk drive installation for 4U server model with non-hot-swap power supplies

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing a hot-swap hard disk drive

This procedure applies only to the 5U server model with hot-swap power supplies.

If you are replacing a drive, make sure that:

- The hot-swap drives must be either all SAS hard disk drives or all SATA hard disk drives; the two types cannot be combined.
- Inspect the drive tray for signs of damage.
- To maintain proper system cooling, do not operate the server for more than 10 minutes without at least one hard disk drive installed in the drive bay.
- You do not have to turn off the server to install hot-swap drives in the hot-swap drive bays.

To install a hot-swap hard disk drive on the 5U server model that have hot-swap power supplies, complete the following steps.

The following illustration shows the installation of a 2.5" hot swap hard disk into a 5U server model with hot-swap power supplies.

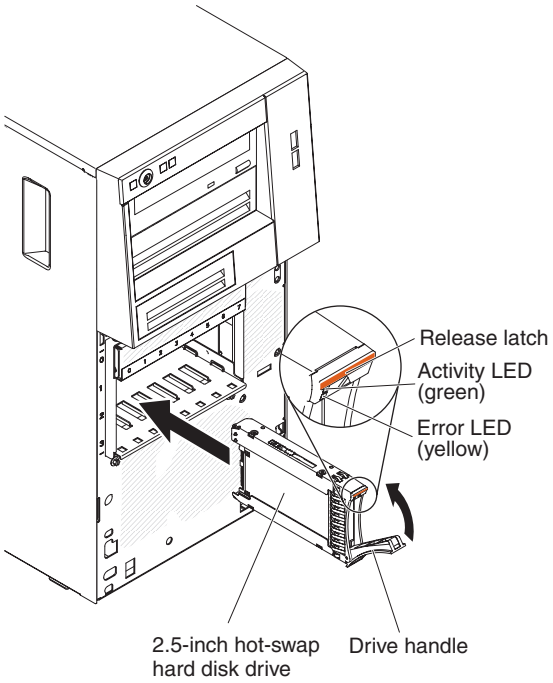


Figure 37. 2.5" hot swap hard disk drive installation for 5U server model with hot-swap power supplies

The following illustration shows the installation of a 3.5" hot swap hard disk into a 5U server model with hot-swap power supplies.

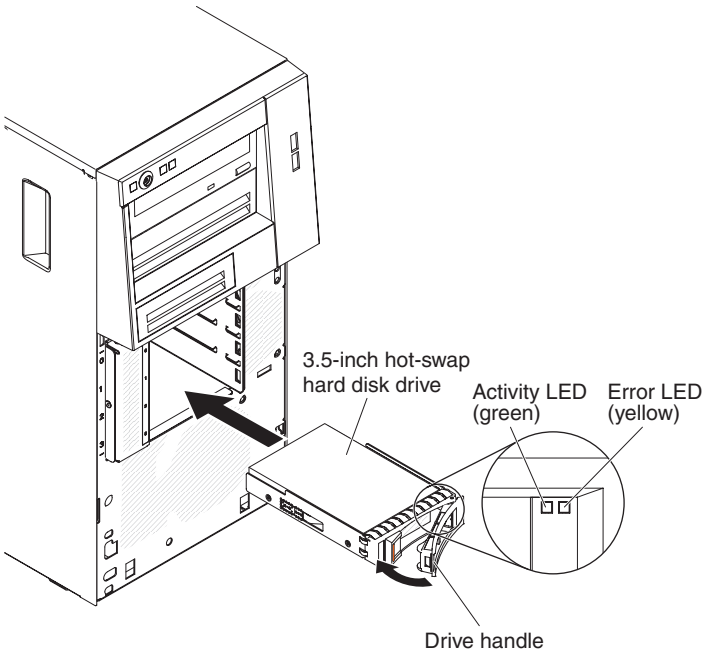


Figure 38. 3.5" hot swap hard disk drive installation for 5U server model with hot-swap power supplies

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.

2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. Make sure that the drive tray handle is in the open position.
4. Align the drive assembly with the guide rails in the bay; then, carefully slide the drive assembly into the drive bay until the drive stops.
5. Rotate the drive tray handle to the closed position.
6. Check the hard disk drive status indicator to make sure that the hard disk drive is operating correctly. (You might have to restart the server for the drive to be recognized.) If the yellow hard disk drive status LED for a drive is lit continuously, it indicates that the drive is faulty and must be replaced. If the green hard disk drive activity LED is flashing, this indicates that the drive is being accessed.

   Note: If the server is configured for RAID operation using a ServeRAID controller, you might have to reconfigure the disk arrays after you replace hard disk drives. See the ServeRAID documentation for additional information about RAID operation and complete instructions for using ServeRAID Manager.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing an adapter

Use this information to install an adapter

Attention: When installing the Intel x520 Dual Port 10GbE SFP+ adapter (option part number is 49Y7960), the maximum number that can be installed in the server is two.

For the locations of the expansion slots and connectors, please see "System-board internal connectors" on page 30.

To install a replacement adapter on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Check the instructions that come with the adapter for any requirements, restrictions, or cabling instructions. It might be easier to route cables before you install the adapter.
3. Follow the instructions that come with the adapter to set jumpers or switches, if any.
4. Touch the static-protective package that contains the adapter to any unpainted metal surface on the server. Then, remove the adapter from the static-protective package. Avoid touching the components and gold-edge connectors on the adapter.
5. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
6. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
7. Remove the side cover (see "Removing the side cover" on page 36).

8. Remove the air baffle (see “Removing the air baffle” on page 38).
9. Follow the cabling instructions, if any, that come with the adapter. Route the adapter cables before you install the adapter.
10. Follow the instructions that come with the adapter to set jumpers or switches, if any.
11. Lift the end of the rear adapter retention bracket till the tab disengages the hole on the chassis.
12. Rotate the rear adapter retention bracket upward to remove it from the chassis.

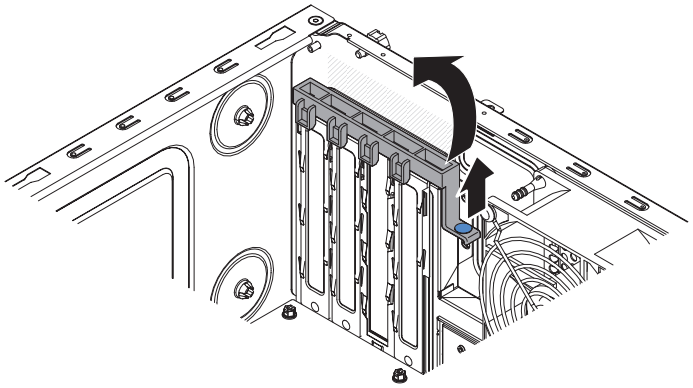


Figure 39. Rear adapter retention bracket removal for 4U server model with non-hot-swap power supplies

13. Remove the expansion-slot cover by unscrewing the screw that secures it to the chassis. Store the expansion-slot cover and screw in a safe place for future use.

    Note: Expansion-slot covers must be installed on all vacant slots. This maintains the electronic emissions standards of the server and ensures proper ventilation of server components.
14. Carefully grasp the adapter by the top edge or upper corners, and align it with the expansion slot guides; then, press the adapter *firmly* into the expansion slot. Make sure that the adapter is correctly seated in the expansion slot before you turn on the server. Incomplete installation of an adapter might damage the system board or the adapter.

    Attention: Make sure that the adapter is correctly seated in the expansion slot before you turn on the server. Incomplete installation of an adapter might damage the system board or the adapter.

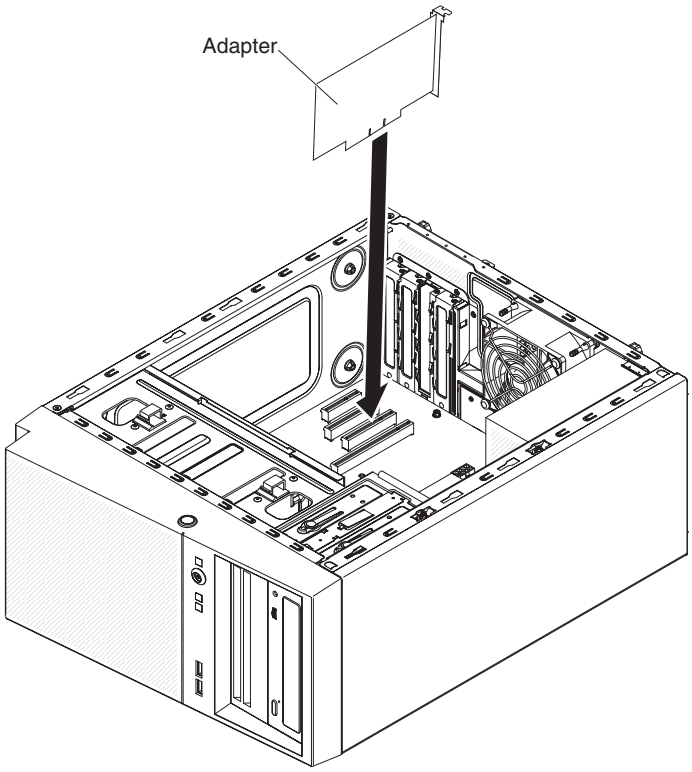


Figure 40. Adapter installation for 4U server model with non-hot-swap power supplies

15. Position the rear adapter retention bracket so that the hole in one of the hinge points is aligned with the hinge pin on the chassis; then, place the hinge pin through the hole on the chassis.

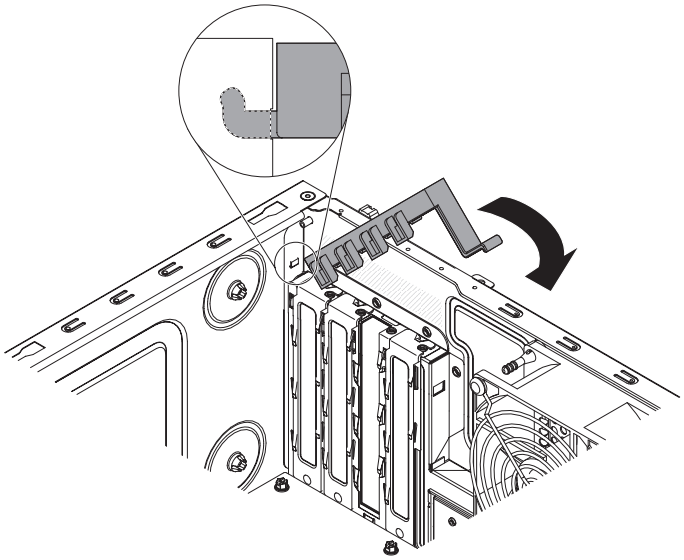


Figure 41. Rear adapter retention bracket installation for 4U server model with non-hot-swap power supplies

16. Rotate the rear adapter retention bracket into place so that the hole in the opposite hinge point snaps into place over the hinge pin on the chassis.

17. Connect any required cables to the adapter. Route the cables so that they do not block the flow of air from the system fan.
18. Install the air baffle (see “Replacing the air baffle” on page 176).

If you have other devices to install, do so now. Otherwise, go to “Completing the installation” on page 79.

To install a an adapter on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Check the instructions that come with the adapter for any requirements, restrictions, or cabling instructions. It might be easier to route cables before you install the adapter.
3. Follow the instructions that come with the adapter to set jumpers or switches, if any.
4. Touch the static-protective package that contains the adapter to any unpainted metal surface on the server. Then, remove the adapter from the static-protective package. Avoid touching the components and gold-edge connectors on the adapter.
5. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
6. Unlock and remove the side cover (see “Removing the side cover” on page 36).
7. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
8. Rotate the rear adapter-retention bracket to the open (unlocked) position.
9. Remove the expansion-slot cover by unscrewing the screw that secures it to the chassis. Store the expansion-slot cover and screw in a safe place for future use.

   Note: Expansion-slot covers must be installed on all vacant slots. This maintains the electronic emissions standards of the server and ensures proper ventilation of server components.
10. Carefully grasp the adapter by the top edge or upper corner, and move the adapter directly from the static-protective package to the expansion slot. Align the adapter with the expansion slot guides; then, press the adapter firmly into the expansion slot.
11. Connect the required cables to the adapter. Route cables so that they do not block the air flow from the fan.
12. Position the rear adapter retention bracket so that the hole in one of the hinge points is aligned with the hinge pin on the chassis; then, place the hinge pin through the hole on the chassis.

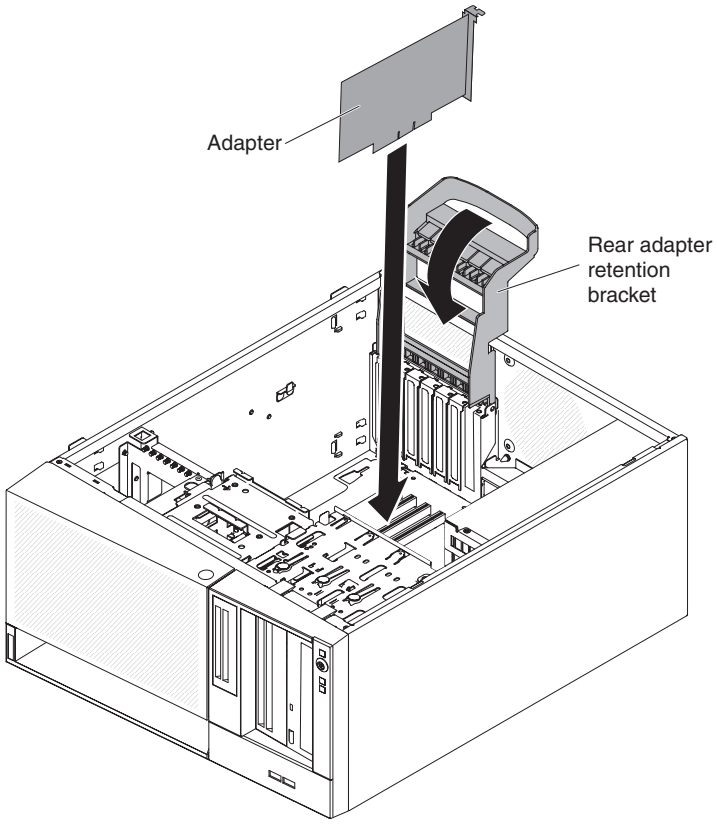


Figure 42. Adapter installation for 5U server model with hot-swap power supplies

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing a microprocessor and heat sink

Use this information to install a microprocessor and heat sink

To install the microprocessor and heat sink on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Touch the static-protective package that contains the microprocessor to any unpainted metal surface on the server. Then, remove the microprocessor from the package.
7. Remove the protective cover, tape, or label from the surface of the microprocessor socket, if any is present.

8. Rotate the release lever on the microprocessor socket to the fully open position.

   Attention: Make sure that the release lever on the microprocessor socket is in the fully open position before you insert the microprocessor in the socket. Failure to do so might result in permanent damage to the microprocessor, microprocessor socket, and system board.

9. Carefully grasp the microprocessor and place the microprocessor into the microprocessor socket.

   Note: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:

   - The microprocessor has two notches that are keyed to two tabs on the sides of the socket.
   - A triangle-shaped indicator on one corner of the microprocessor points to a 45-degree angle on the system board.
   - Do not use excessive force when you press the microprocessor into the socket.

10. Close the microprocessor bracket frame; then, close the microprocessor retention latch and lock it securely in place.

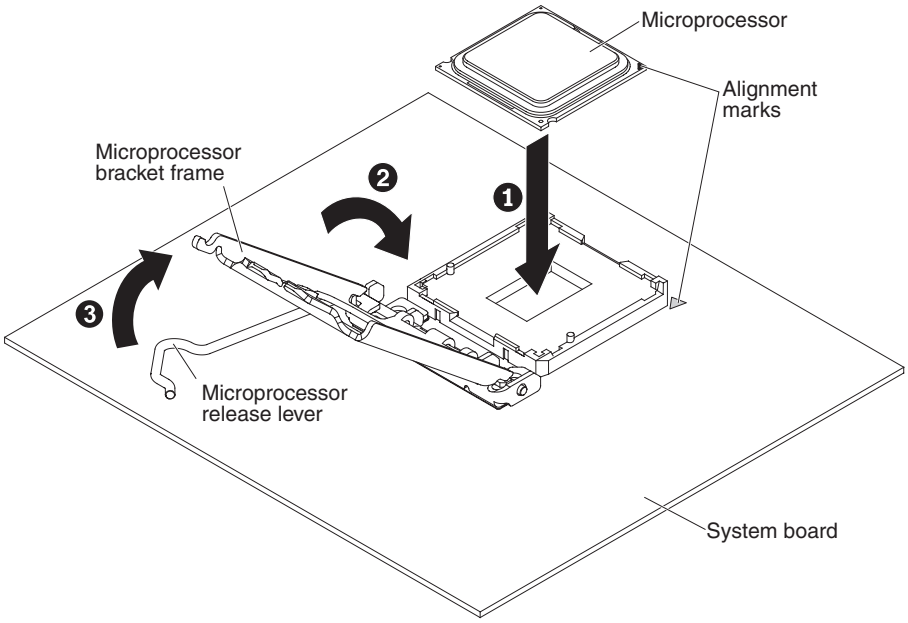


Figure 43. Microprocessor bracket frame and retention latch engagement for 4U server models with non-hot-swap power supplies

11. Install the heat sink:

Attention: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:

a. Align the screw holes on the heat sink with the holes on the system board.
b. Tighten the screws with a screwdriver, alternating among the screws until they are tight. If possible, each screw should be rotated two full rotations at a time. Repeat until the screws are tight. Do not overtighten the screws by using excessive force.

   Important: Do not touch the thermal material on the bottom of the heat sink. Touching the thermal material will contaminate it. If the thermal material on the microprocessor or heat sink becomes contaminated, contact your service technician.

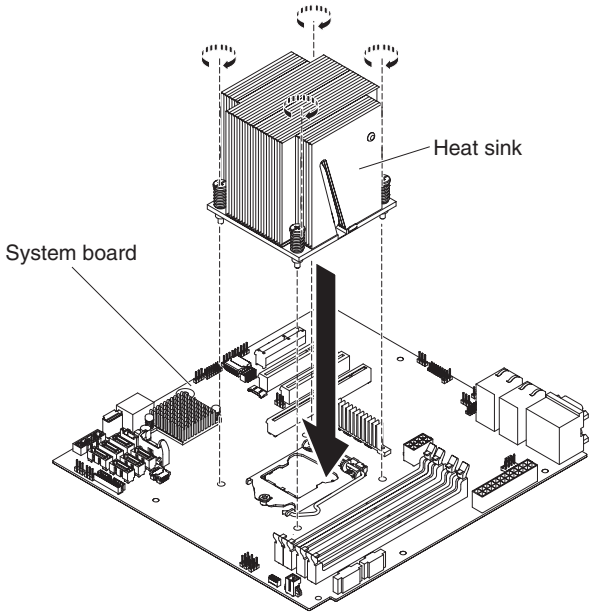


Figure 44. Heat sink installation for 4U server models with non-hot-swap power supplies

12. Reconnect any cables that you disconnected during the removal of the old microprocessor.
13. Secure the SATA signal cables with the retention-clips.
14. Install the air baffle (see "Replacing the air baffle" on page 176).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

To install the microprocessor and heat sink on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).

4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Touch the static-protective package that contains the microprocessor to any unpainted metal surface on the server. Then, remove the microprocessor from the package.
6. Remove the protective cover, tape, or label from the surface of the microprocessor socket, if any is present.
7. Rotate the release lever on the microprocessor socket to the fully open position.

   Attention: Make sure that the release lever on the microprocessor socket is in the fully open position before you insert the microprocessor in the socket. Failure to do so might result in permanent damage to the microprocessor, microprocessor socket, and system board.
8. Carefully grasp the microprocessor and place the microprocessor into the microprocessor socket.

   Note: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:
   - The microprocessor has two notches that are keyed to two tabs on the sides of the socket.
   - A triangle-shaped indicator on one corner of the microprocessor points to a 45-degree angle on the system board.
   - Do not use excessive force when you press the microprocessor into the socket.
9. Close the microprocessor bracket frame; then, close the microprocessor retention latch and lock it securely in place.

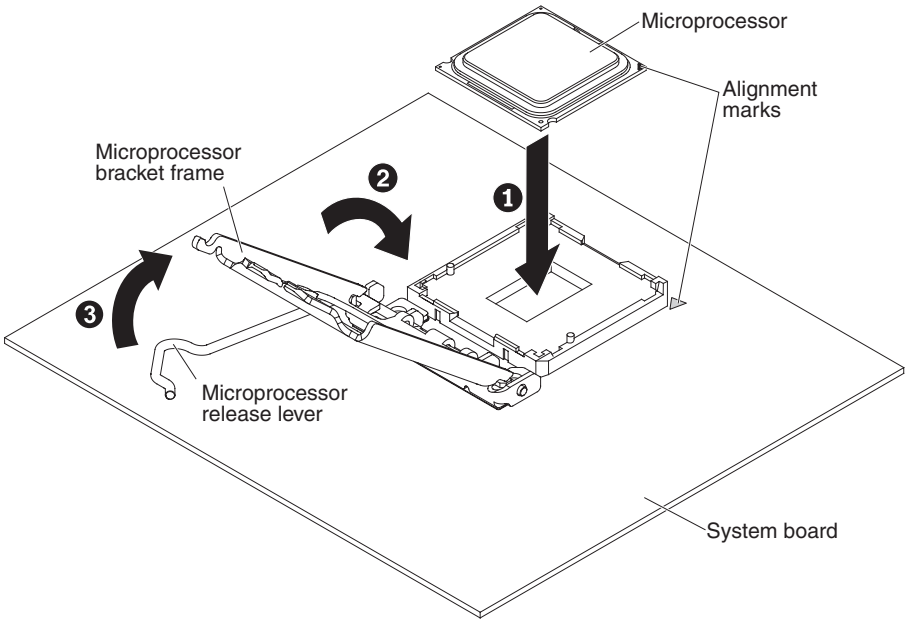


Figure 45. Microprocessor bracket frame and retention latch engagement for 5U server models with hot-swap power supplies

10. Install the heat sink:

Attention: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:

a. Align the screw holes on the heat sink with the holes on the system board.
b. Tighten the screws with a screwdriver, alternating among the screws until they are tight. If possible, each screw should be rotated two full rotations at a time. Repeat until the screws are tight. Do not overtighten the screws by using excessive force.

Important: Do not touch the thermal material on the bottom of the heat sink. Touching the thermal material will contaminate it. If the thermal material on the microprocessor or heat sink becomes contaminated, contact your service technician.

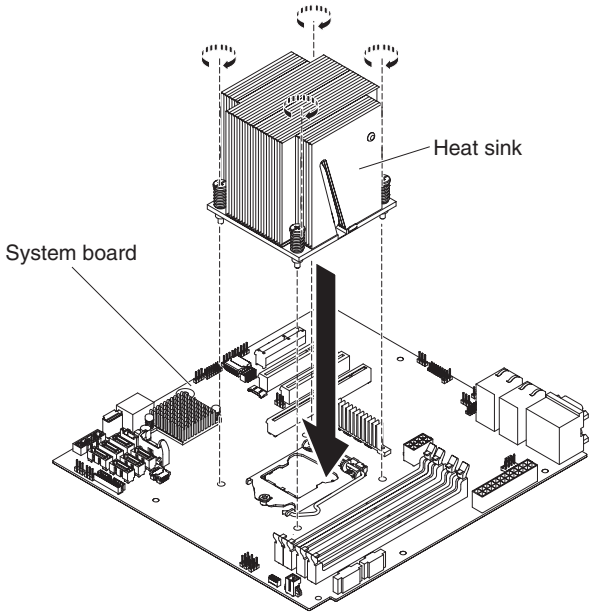


Figure 46. Heat sink installation for 5U server models with hot-swap power supplies

11. Reconnect any cables that you disconnected during the removal of the old microprocessor.
12. Rotate the rear adapter-retention bracket to the closed (locked) position.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Thermal grease

The thermal grease must be replaced whenever the heat sink has been removed from the top of the microprocessor and is going to be reused or when debris is found in the grease. Use this information to replace damaged or contaminated thermal grease on the microprocessor and heat sink.

When you are installing the heat sink on the same microprocessor that is was removed from, make sure that the following requirements are met:

- The thermal grease on the heat sink and microprocessor is not contaminated.
- Additional thermal grease is not added to the existing thermal grease on the heat sink and microprocessor.

Notes:

- Read the safety information in "Safety" on page v.
- Read the "Installation guidelines" on page 33.
- Read "Handling static-sensitive devices" on page 36.

To replace damaged or contaminated thermal grease on the microprocessor and heat sink, complete the following steps:

1. Place the heat sink on a clean work surface.
2. Remove the cleaning pad from its package and unfold it completely.
3. Use the cleaning pad to wipe the thermal grease from the bottom of the heat sink.

   Note: Make sure that all of the thermal grease is removed.
4. Use a clean area of the cleaning pad to wipe the thermal grease from the microprocessor; then, dispose of the cleaning pad after all of the thermal grease is removed.
5. Use the thermal-grease syringe to place 9 uniformly spaced dots of 0.02 mL each on the top of the microprocessor. The outermost dots must be within approximately 5 mm of the edge of the microprocessor; this is to ensure uniform distribution of the grease.

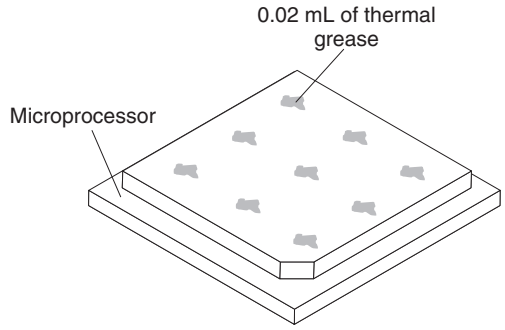


Figure 47. Thermal grease distribution

Note: If the grease is properly applied, approximately half of the grease will remain in the syringe.

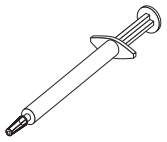


Figure 48. Syringe

6. Install the heat sink onto the microprocessor as described in "Replacing the microprocessor and heat sink" on page 295.

Installing the non-hot-swap power supply

This procedure applies only to 4U server models with non-hot-swap power supplies.

Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

To install a non-hot-swap power supply on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the non-hot-swap power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.
3. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Remove the heat sink (see "Removing the microprocessor and heat sink" on page 291).
8. Position the power supply in the chassis so that the screw holes in the power supply are aligned with the corresponding holes in the rear of the chassis.

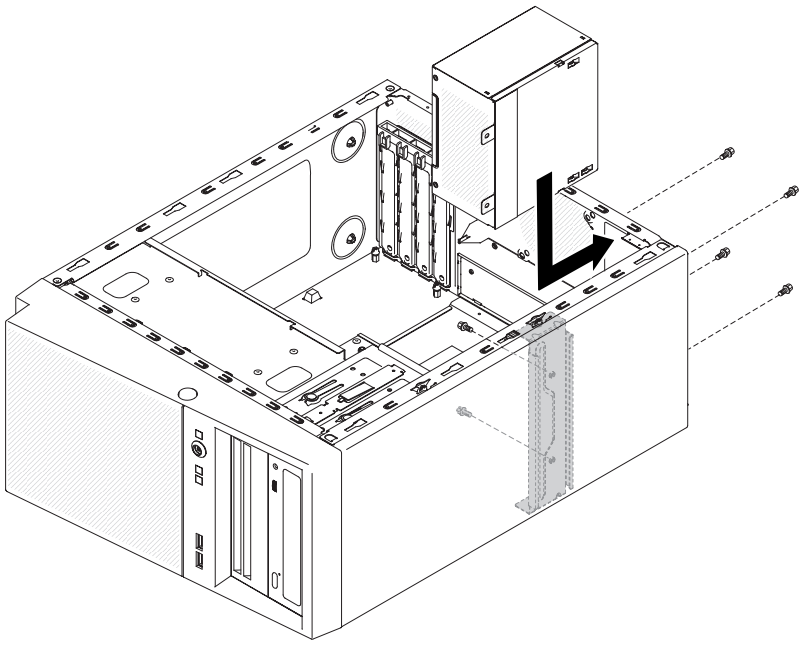


Figure 49. Non-hot-swap power supply alignment with chassis for 4U server models with non-hot-swap power supplies

Note: Make sure the top and the bottom of the power supply align with the upper and lower tabs on the opening.

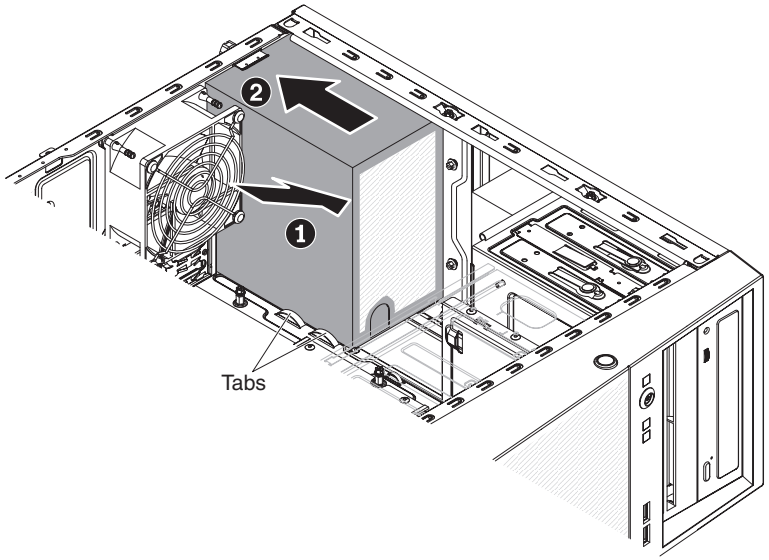


Figure 50. Non-hot-swap power supply installation for 4U server models with non-hot-swap power supplies

9. Install the screws that secure the power supply to the chassis.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing the hot-swap power supply

This procedure applies only to the 5U server model with hot-swap power supplies.

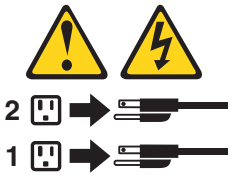
The following items describe the type of power supply that the server supports and other information that you must consider when you install a power supply:

- To confirm that the server supports the power supply that you are installing, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.
- The server comes standard with one 430-watt hot-swap power supply. The input voltage is 110 V ac or 220 V ac auto-sensing.
- These power supplies are designed for parallel operation. In the event of a power-supply failure, the redundant power supply continues to power the system. The server supports a maximum of two power supplies.
- The server can run fully configured with one power supply. For redundancy support, you must install the second hot-swap power supply.

Note: You cannot mix high-efficiency and non-high-efficiency power supplies in the server.

Statement 5

CAUTION:
The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

Attention: During normal operation, each power-supply bay must contain either a power supply or power-supply filler for proper cooling.

To install a hot-swap power supply on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the hot-swap power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.
3. Place the power supply into the bay guides.
4. Using the handle, push the power supply toward the front of the chassis until it locks into place.

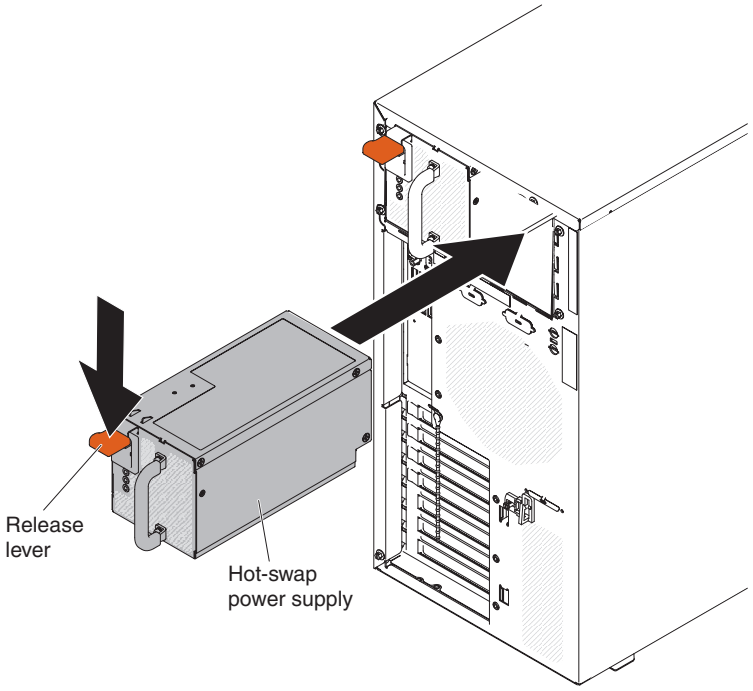


Figure 51. Hot-swap power supply installation for 5U server model with hot-swap power supplies

5. Connect one end of the power cord into the connector on the back of the power supply and connect the other end of the power cord into a properly grounded electrical outlet.
6. Make sure that both the ac and dc power LEDs on the rear of the power supply are lit, indicating that the power supply is operating correctly.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing the thermal solution fan kit

Use this information to install the thermal solution fan kit

Attention:

1. To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.
2. When you install a second adapter in the adapter slots on the system board, you must install the Lenovo Thermal Solution Fan kit option to ensure proper cooling and airflow to the system. For 4U server models with non-hot-swap power supplies, the part number is 46W9177. For 5U server models with hot-swap power supplies, the part number is 00Y8200.

To install the thermal solution fan kit on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Follow any special handling and installation instructions that come with the thermal solution fan kit.
7. Insert the thermal solution fan kit:
   a. Grasp the system fan by the blue point and lower it into the server, making sure it latches on to the chassis.
   b. Connect the fan cable to the system board (see "System-board internal connectors" on page 30).

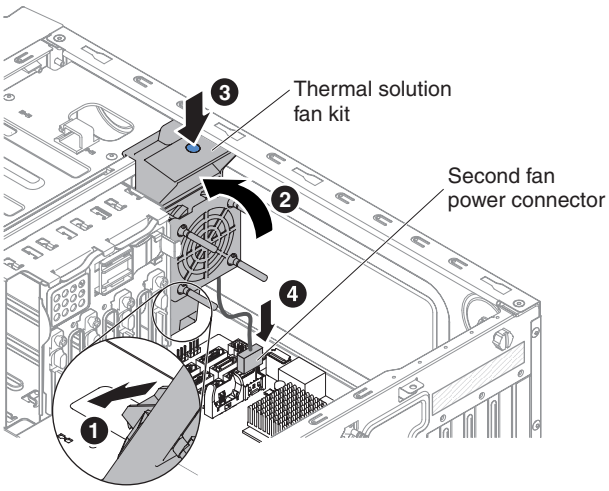


Figure 52. Thermal solution fan kit installation for 4U server model with non-hot-swap power supplies

8. If you have other devices to install, do so now. Otherwise, go to “Completing the installation” on page 79.

To install the thermal solution fan kit on 5U server models with hot-swap power supplies, complete the following steps. For the 4U server model with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Insert the thermal solution fan kit:

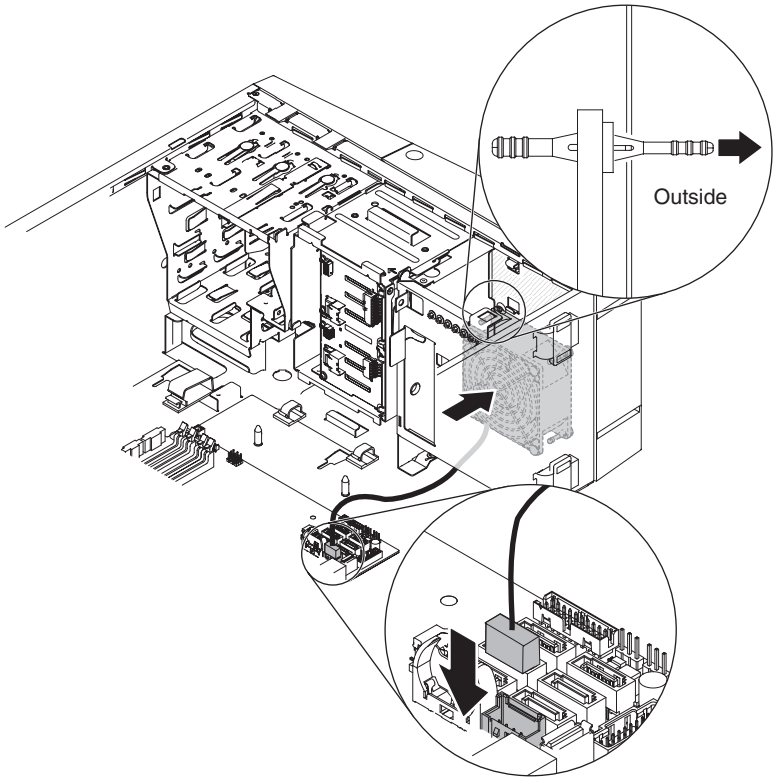


Figure 53. Thermal solution fan kit installation for 5U server model with hot-swap power supplies

   a. Position the fan so that the grommets protrude through the holes in the chassis; then, use needle-nosed pliers to pull the grommets through the holes from outside the chassis.
   b. Connect the fan cable into the system board (see “System-board internal connectors” on page 30).
6. If you have other devices to install, do so now. Otherwise, go to “Completing the installation” on page 79.

Installing the battery holder into 5U server model

Use this information to install the battery holder into 5U server model

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the battery holder into 5U server models with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Insert the battery holder into the bracket.

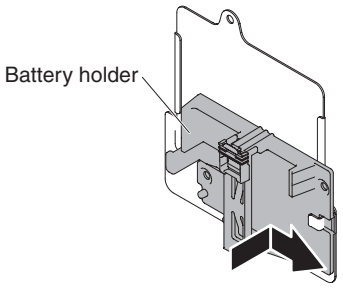


Figure 54. Battery holder insertion into bracket for 5U server models with hot-swap power supplies

6. Tighten the screw to secure the battery holder and bracket to the chassis.

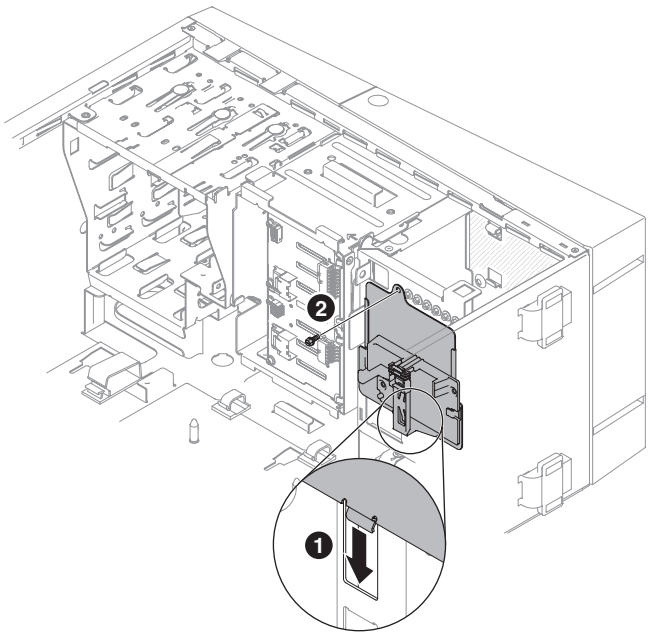


Figure 55. Securing battery holder to chassis for 5U server models with hot-swap power supplies

7. If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

Installing the operating temperature enhancement kit

Use this information to install the operating temperature enhancement kit

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the operating temperature enhancement kit on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Insert the thermal sensor board into the thermal sensor holder. Attach the holder onto the server and make sure the cabling goes through the hole as shown in the illustration.

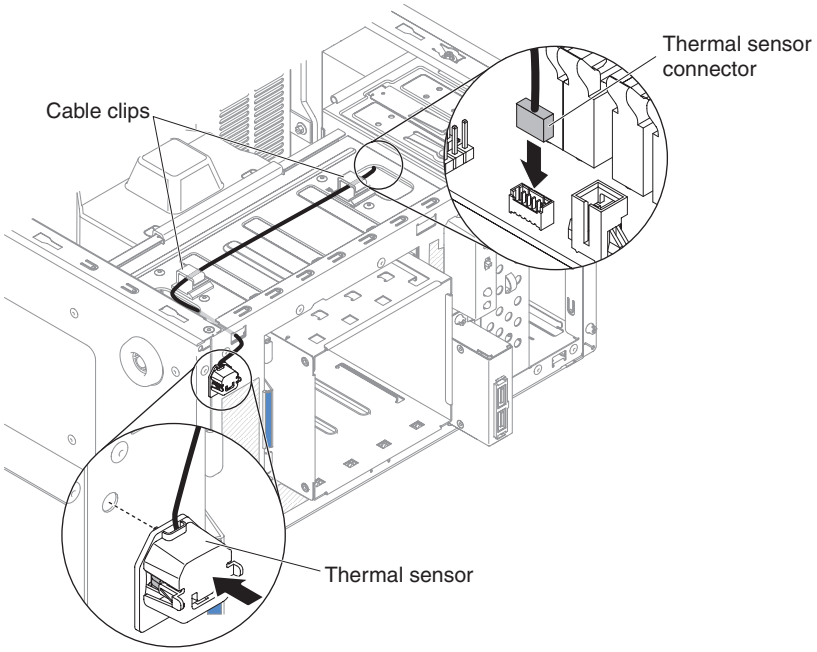


Figure 56. Thermal sensor installation for 4U server models with non-hot-swap power supplies

7. Connect the thermal sensor connector to the system board and remember to close the cable clips to secure the cable.

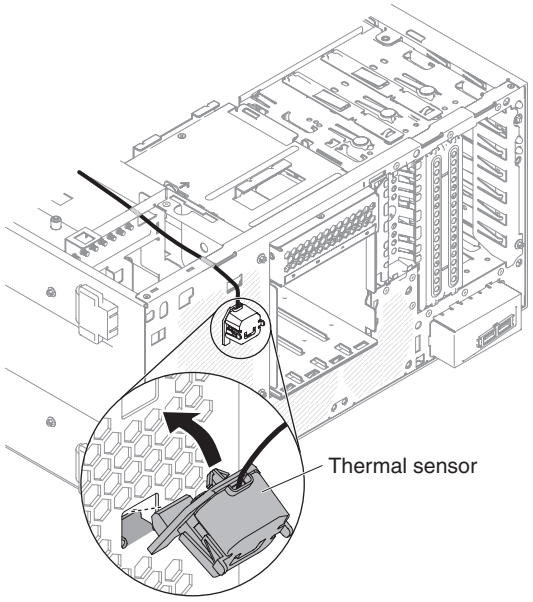


Figure 57. Installing thermal sensor connector to system board for 4U server model with non-hot-swap power supplies

8. If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 79.

To install the operating temperature enhancement kit on 5U server models with hot-swap power supplies, complete the following steps. For the 4U server model with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Remove the lower bezel (see “Removing the lower bezel” on page 41).
5. Remove the upper bezel (see “Removing the upper bezel” on page 41).
6. Insert the thermal sensor board into the thermal sensor holder. Attach the holder onto the server by fitting it onto the hook. Make sure the cabling goes through the respective holes and cable clips, as shown in the illustration.

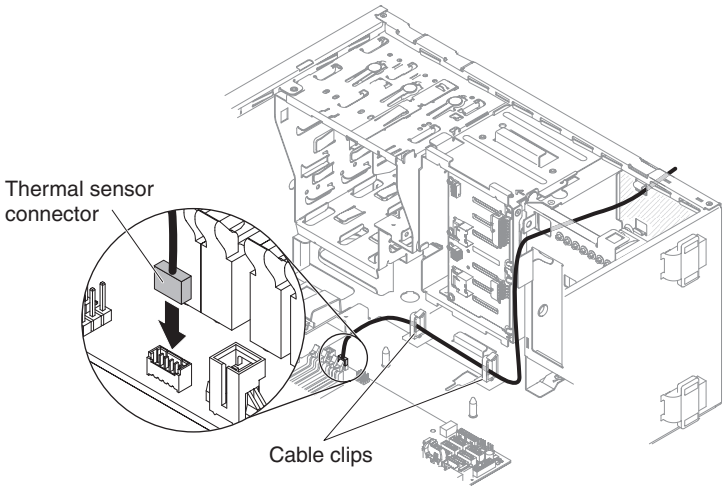


Figure 58. Thermal sensor board installation for 5U server model with hot-swap power supplies

7. Connect the thermal sensor connector to the system board.
8. If you have other devices to install, do so now. Otherwise, go to “Completing the installation.”

Completing the installation

Use this information to complete the installation.

About this task

To complete the installation, complete the following steps:

Procedure

1. If you removed the air baffle, reinstall it (see “Replacing the bezel” on page 80).
2. If you removed the air baffle, reinstall it (see “Replacing the lower bezel” on page 80).
3. If you removed the air baffle, reinstall it (see “Replacing the upper bezel” on page 81).
4. If you removed the air baffle, reinstall it (see “Replacing the air baffle” on page 82).
5. If you removed the side cover, reinstall it (see “Replacing the side cover” on page 84).

6. Reconnect the cables and power cords (see “Connecting the cables” on page 86).
7. Update the server configuration (see “Updating the server configuration” on page 87).
8. Start the server. Confirm that it starts correctly and recognizes the newly installed devices, and make sure that no error LEDs are lit.
9. (Business Partners only) Complete the additional steps in “Instructions for Business Partners” on page 27.

Replacing the bezel

This procedure applies only to 4U server models with non-hot-swap power supplies.

To install the bezel on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Insert the three tabs on the bezel into the corresponding holes in the front of the server.
3. Rotate the bezel to the server until it locks securely into place.

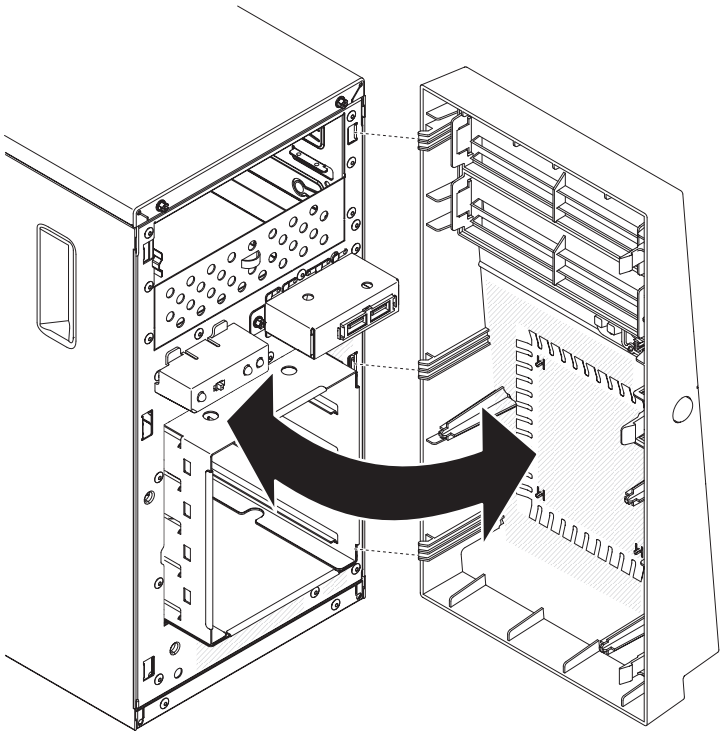


Figure 59. Bezel installation for 4U server model with non-hot-swap power supplies

Replacing the lower bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the lower bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Insert the two bottom tabs on the lower bezel into the corresponding holes in the front of the chassis.

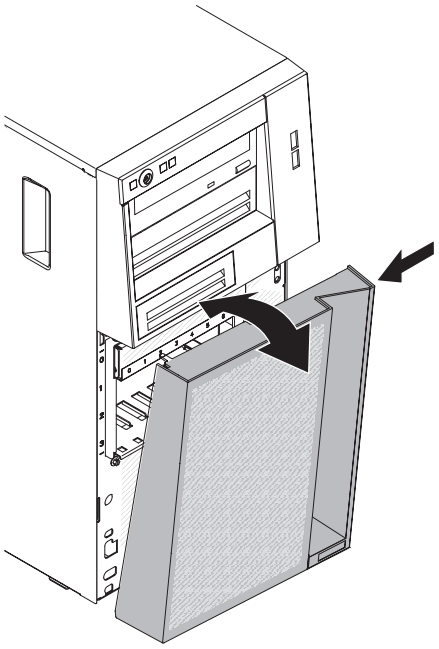


Figure 60. Lower bezel installation for 5U server model with hot-swap power supplies

3. Rotate the top of the lower bezel up to the chassis; then, press the blue-colored release tab on the right side of the lower bezel and completely close the lower bezel until it locks securely into place.

Replacing the upper bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the upper bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Insert the two tabs on the right-side of the upper bezel into the corresponding holes on the right side of the chassis.

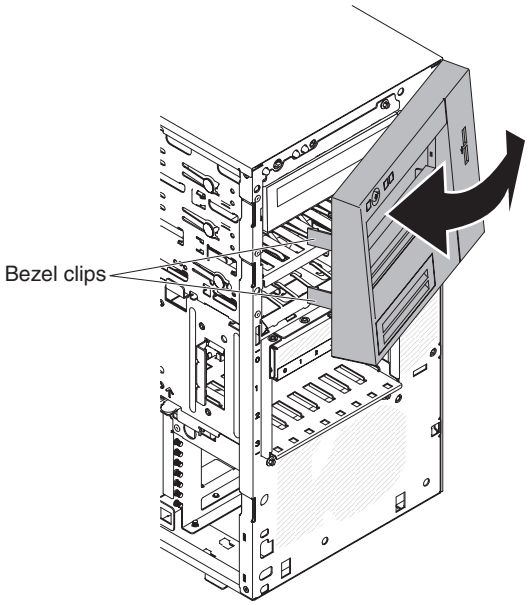


Figure 61. Upper bezel installation for 5U server model with hot-swap power supplies

3. Rotate the upper bezel to the left side of the chassis until the bezel clips are aligned with the corresponding indentations on the left side of the chassis and snap them into place.

Replacing the air baffle

This procedure applies only to 4U server models with non-hot-swap power supplies.

To install the air baffle into 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Align the tabs on the air baffle with the slots on the chassis.
3. Lower the air baffle into the server.

   Attention:

   - Make note of the microprocessor power cable routing, as the cable may interfere with the air baffle installation.

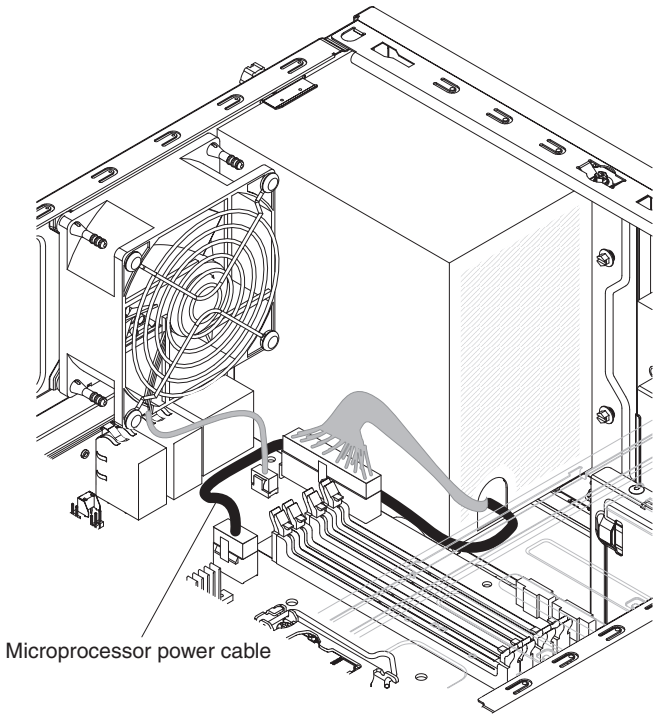


Figure 62. Microprocessor power cable routing when installing air baffle for 4U server model with non-hot-swap power supplies

- Make sure that the tabs on the air baffle are inserted into the holes on the chassis and no cables are not caught or pinched.
- For proper cooling and airflow, reinstall the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

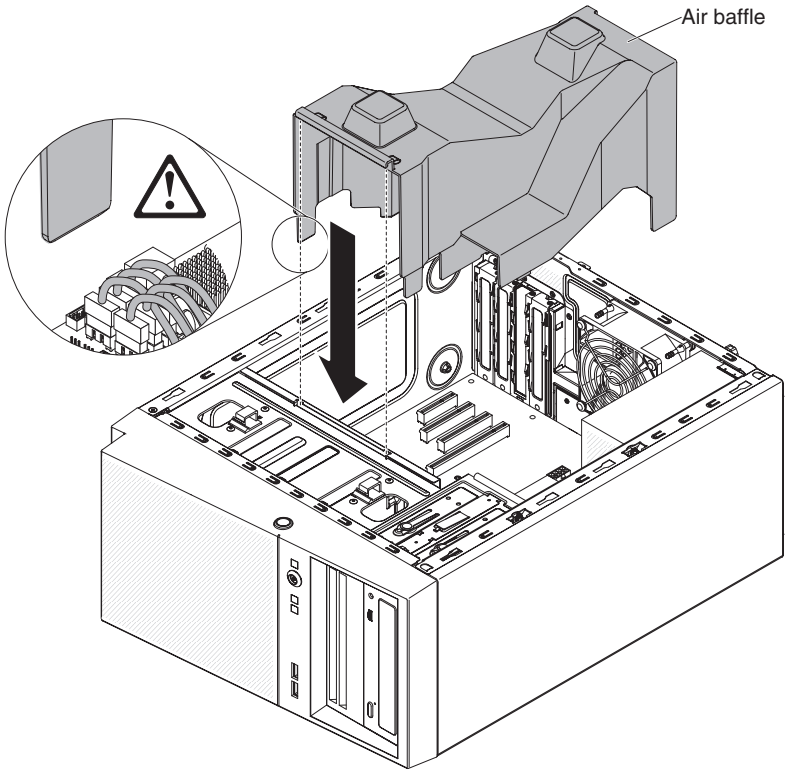


Figure 63. Air baffle installation for 4U server model with non-hot-swap power supplies

Replacing the side cover

Use this information to replace the side cover.

Attention: For proper cooling and airflow, replace the side cover before turning on the server. Operating the server for extended periods of time (more than 30 minutes) with the side cover removed might damage server components.

For 4U server models with non-hot-swap power supplies, complete the following steps to remove the side cover. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Press on the side cover and push from the rear side of the side cover until it locks securely into place.

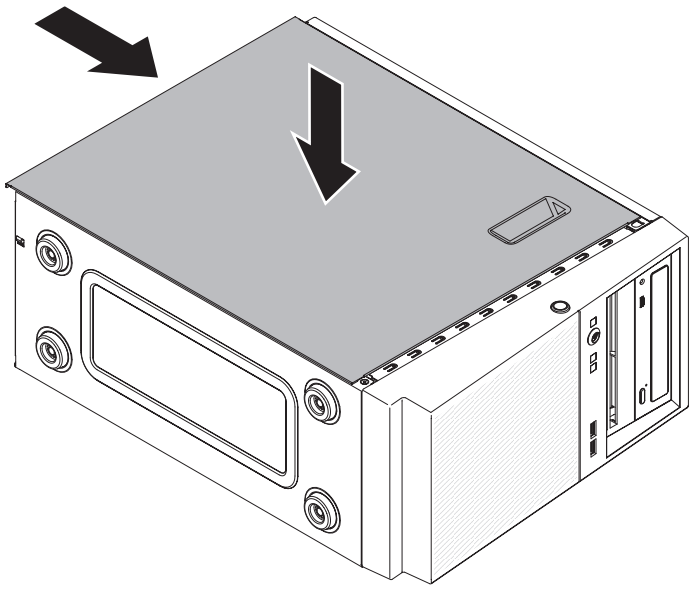


Figure 64. Side cover installation for 4U server model with non-hot-swap power supplies

5. Secure the side cover in place with the two chassis screws on the rear of the side cover.

For the 5U server model with hot-swap power supplies, complete the following steps in order to remove the side cover. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

Attention: The cover lock must be in the unlocked (opened) position before you install the side cover.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
3. If you removed the upper and lower bezels, reinstall them before you replace the side cover (see "Replacing the lower bezel" on page 181 and "Replacing the upper bezel" on page 183).
4. Position the lip at the bottom edge of the side cover on the ledge at the bottom of the chassis; then, rotate the cover up to the chassis. Press down on the cover release latch and push the cover into the chassis until it latches securely into place.

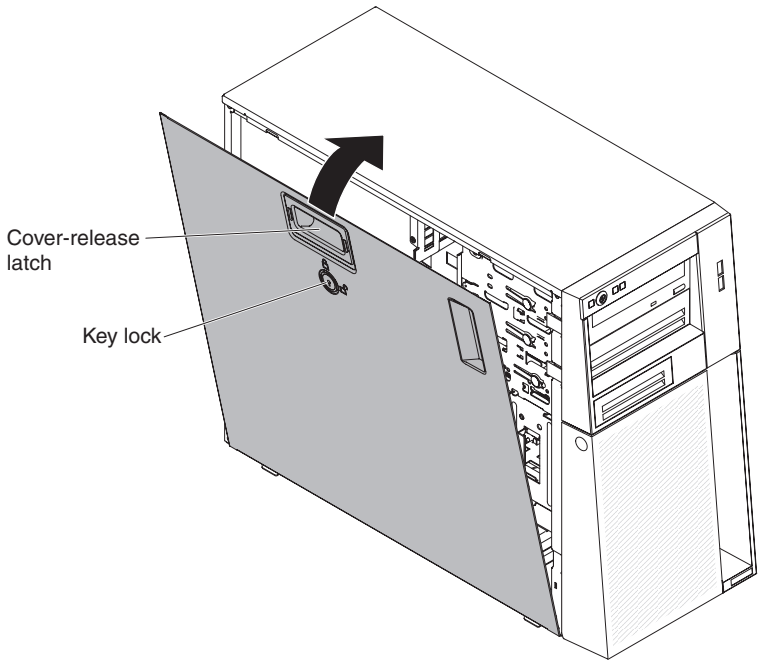


Figure 65. Side cover installation for 5U server model with hot-swap power supplies

5. Lock the side cover.

Connecting the cables

Use this information to connect the cables.

Attention: To prevent damage to equipment, connect the power cords last.

If the server cables and connector panel have color-coded connections, match the color of the cable end with the color of the connector. For example, match a blue cable end with a blue panel connector, a red cable end with a red connector, and so on.

The following illustration shows the input/output (I/O) connectors on the rear of the rear of 4U server models with non-hot-swap power supplies.

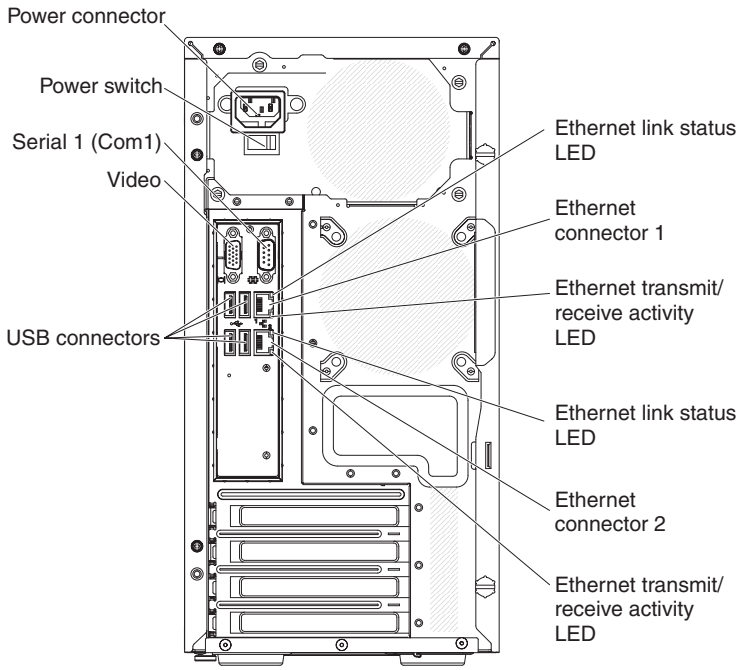


Figure 66. Input/output (I/O) connectors on the rear of 4U server models with non-hot-swap power supplies

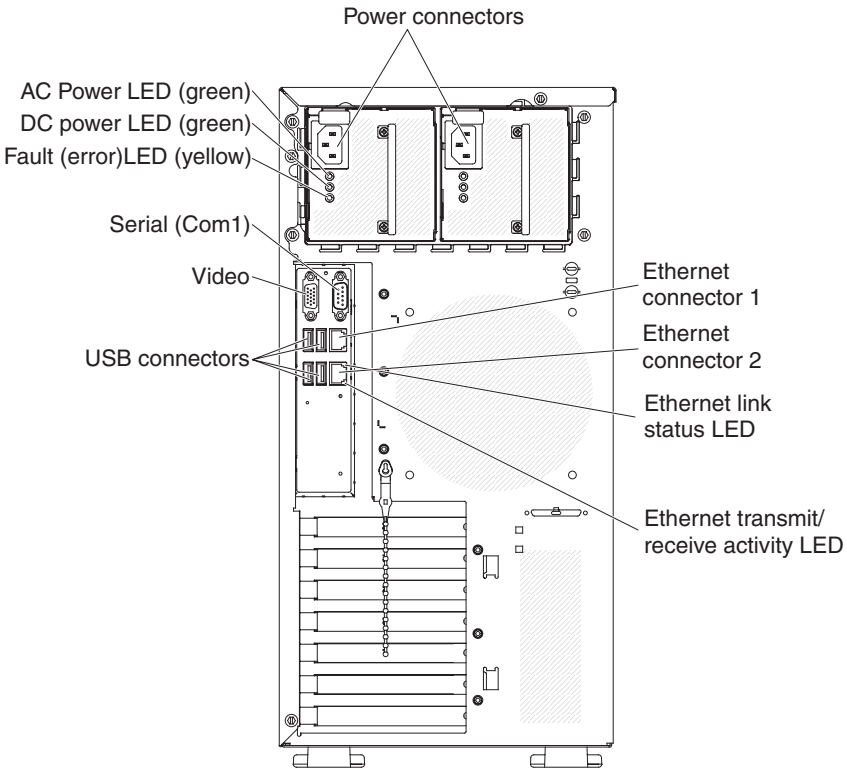


Figure 67. Input/output (I/O) connectors on the rear of 5U server models with hot-swap power supplies

Updating the server configuration

Use this information to update the server configuration.

When you start the server for the first time after you add or remove a device, you might receive a message that the configuration has changed. The Setup utility starts automatically so that you can save the new configuration settings.

Some optional devices have device drivers that you must install. For information about installing device drivers, see the documentation that comes with each device.

If the server has an optional RAID adapter and you have installed or removed a hard disk drive, see the documentation that comes with the RAID adapter for information about reconfiguring the disk arrays.

For information about configuring the integrated Gigabit Ethernet controller, see "Configuring the Gigabit Ethernet controller" on page 104.

Connecting external devices

Use this information to connect external devices

If you install a supported optional adapter, you can attach external devices to the server.

To attach an external device, complete the following steps:

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices.
3. Follow the instructions that come with the device to prepare it for installation and to connect it to the server.

Note: If you are attaching an external device, see the documentation that comes with the device for information about cabling.

Installing the server in a rack

Use this information to install the server in a rack

To convert the server from a tower model to a rack model, you must use a Tower-to-Rack Kit. You can then install the server in a rack cabinet. To order a Tower-to-Rack Kit for the server, contact your Lenovo marketing representative or authorized reseller.

Note:

1. It is not necessary to remove the following items from the tower when installing the system in a rack cabinet.
   - Front bezel
   - DVD-ROM drive
   - Tape drive
   - Front USB connector assembly
   - Operator information panel assembly
2. After installing the system in a rack cabinet, the distance between the EIA bracket and lower bezel will be roughly 67 mm. In light of this distance, please make sure your rack cabinet door can fully close before you begin to install the system in the rack cabinet.

Chapter 3. Configuration information and instructions

This chapter provides information about updating the firmware and using the configuration utilities.

Updating the firmware

Use this information to update the system firmware.

Important:

1. Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
2. Before you update the firmware, be sure to back up any data that is stored in the Trusted Platform Module (TPM), in case any of the TPM characteristics are changed by the new firmware. For instructions, see your encryption software documentation.
3. Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

You can install code updates that are packaged as an Update*Xpress* System Pack or Update*Xpress* CD image. An Update*Xpress* System Pack contains an integration-tested bundle of online firmware and device-driver updates for your server. Use Update*Xpress* System Pack Installer to acquire and apply Update*Xpress* System Packs and individual firmware and device-driver updates. For additional information and to download the Update*Xpress* System Pack Installer, go to the ToolsCenter for System x and BladeCenter at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-CENTER and click **UpdateXpress System Pack Installer**.

When you click an update, an information page is displayed, including a list of the problems that the update fixes. Review this list for your specific problem; however, even if your problem is not listed, installing the update might solve the problem.

Be sure to separately install any listed critical updates that have release dates that are later than the release date of the Update*Xpress* System Pack or Update*Xpress* image.

The firmware for the server is periodically updated and is available for download on the Lenovo website. To check for the latest level of firmware, such as the UEFI firmware, device drivers, and integrated management module (IMM) firmware, go to http://www.ibm.com/support/fixcentral.

Download the latest firmware for the server; then, install the firmware, using the instructions that are included with the downloaded files.

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When you replace a device in the server, you might have to update the firmware that is stored in memory on the device or restore the pre-existing firmware from a CD or DVD image.

The following list indicates where the firmware is stored:

- UEFI firmware is stored in ROM on the system board.
- IMM2 firmware is stored in ROM on the system board.
- Ethernet firmware is stored in ROM on the Ethernet controller and on the system board.
- ServeRAID firmware is stored in ROM on the system board and the RAID adapter (if one is installed).
- SAS/SATA firmware is stored in ROM on the SAS/SATA controller on the system board.

Configuring the server

The following configuration programs come with the server:

- **Setup utility**

  The Setup utility is part of the UEFI firmware. Use it to perform configuration tasks such as changing interrupt request (IRQ) settings, changing the startup-device sequence, setting the date and time, and setting passwords. For information about using this program, see "Using the Setup utility" on page 93.

- **Boot Manager program**

  The Boot Manager is part of the UEFI firmware. Use it to override the startup sequence that is set in the Setup utility and temporarily assign a device to be first in the startup sequence. For more information about using this program, see "Using the Boot Manager" on page 99.

- **Lenovo *ServerGuide Setup and Installation* CD**

  The ServerGuide program provides software-setup tools and installation tools that are designed for the server. Use this CD during the installation of the server to configure basic hardware features, such as an integrated SAS/SATA controller with RAID capabilities, and to simplify the installation of your operating system. For information about using this CD, see "Using the ServerGuide Setup and Installation CD" on page 92.

- **Integrated management module**

  Use the integrated management module II (IMM2) for configuration, to update the firmware and sensor data record/field replaceable unit (SDR/FRU) data, and to remotely manage a network. For information about using the IMM, see "Using the Integrated Management Module II (IMM2)" on page 100 and the *Integrated Management Module II User's Guide* at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

- **VMware ESXi embedded hypervisor**

  An optional USB flash device with VMware ESXi embedded hypervisor software is available for purchase. Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. The USB embedded hypervisor flash device can be installed in USB connectors 3 and 4 on the system board. For more information about using the embedded hypervisor, see "Using the embedded hypervisor" on page 103.

- **Remote presence capability and blue-screen capture**

  The remote presence and blue-screen capture features are integrated functions of the integrated management module (IMM2). The remote presence feature provides the following functions:

– Remotely viewing video with graphics resolutions up to 1600 x 1200 at 75 Hz, regardless of the system state
– Remotely accessing the server, using the keyboard and mouse from a remote client
– Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
– Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture feature to assist in determining the cause of the hang condition. For more information, see "Using the remote presence and blue-screen capture features" on page 101.

- **Ethernet controller configuration**

  For information about configuring the Ethernet controller, see "Configuring the Gigabit Ethernet controller" on page 104.

- **Features on Demand software Ethernet software**

  The server provides Features on Demand software Ethernet support. You can purchase a Features on Demand software upgrade key for Fibre Channel over Ethernet (FCoE) and iSCSI storage protocols. For more information, see "Enabling Features on Demand Ethernet software" on page 105.

- **Features on Demand software RAID software**

  The server provides Features on Demand software RAID support. You can purchase a Features on Demand software upgrade key for RAID. For more information, see "Enabling Features on Demand RAID software" on page 105.

- **Advanced Settings Utility (ASU) program**

  Use this program as an alternative to the Setup utility for modifying UEFI settings and IMM settings. Use the ASU program online or out of band to modify UEFI settings from the command line without the need to restart the server to run the Setup utility. For more information about using this program, see "Advanced Settings Utility program" on page 105.

- **Configuring RAID arrays**

  For information about configuring RAID arrays, see "Configuring RAID arrays" on page 105.

  The following table lists the different server configurations and the applications that are available for configuring and managing RAID arrays.

Table 9. Server configuration and applications for configuring and managing RAID arrays

Server configuration	RAID array configuration (before operating system is installed)	RAID array management (after operating system is installed)
ServeRAID-M1115 adapter	MegaRAID BIOS Configuration Utility (press Ctrl+H to start), pre-boot CLI (press Ctrl+P to start), ServerGuide, HII	MegaRAID Storage Manager (MSM), MegaCLI (Command Line Interface), and Lenovo Director
ServeRAID-M5110 adapter	MegaRAID BIOS Configuration Utility (press Ctrl+H to start), pre-boot CLI (press Ctrl+P to start), ServerGuide, HII	MegaRAID Storage Manager (MSM), MegaCLI, and Lenovo Director

Table 9. Server configuration and applications for configuring and managing RAID arrays (continued)

Server configuration	RAID array configuration (before operating system is installed)	RAID array management (after operating system is installed)
ServeRAID-M5120 adapter	MegaRAID BIOS Configuration Utility (press Ctrl+H to start), pre-boot CLI (press Ctrl+P to start), ServerGuide, HII	MegaRAID Storage Manager (MSM), MegaCLI, and Lenovo Director

Notes:

1. For more information about the Human Interface Infrastructure (HII) and SAS2IRCU, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5088601.
2. For more information about the MegaRAID, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5073015.

Using the ServerGuide Setup and Installation CD

Use this information as an overview for using the ServerGuide Setup and Installation CD.

The *ServerGuide Setup and Installation* CD provides software setup tools and installation tools that are designed for your server. The ServerGuide program detects the server model and optional hardware devices that are installed and uses that information during setup to configure the hardware. The ServerGuide simplifies the operating-system installations by providing updated device drivers and, in some cases, installing them automatically.

You can download a free image of the *ServerGuide Setup and Installation CD* from http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-GUIDE.

In addition to the *ServerGuide Setup and Installation* CD, you must have your operating-system CD to install the operating system.

ServerGuide features

This information provides an overview of the ServerGuide features.

Features and functions can vary slightly with different versions of the ServerGuide program. To learn more about the version that you have, start the *ServerGuide Setup and Installation* CD and view the online overview. Not all features are supported on all server models.

The ServerGuide program has the following features:

- An easy-to-use interface
- Diskette-free setup, and configuration programs that are based on detected hardware
- Device drivers that are provided for the server model and detected hardware
- Operating-system partition size and file-system type that are selectable during setup

The ServerGuide program performs the following tasks:

- Sets system date and time

- Detects installed hardware options and provides updated device drivers for most adapters and devices
- Provides diskette-free installation for supported Windows operating systems
- Includes an online readme file with links to tips for your hardware and operating-system installation

Setup and configuration overview

Use this information for the ServerGuide setup and configuration.

When you use the *ServerGuide Setup and Installation* CD, you do not need setup diskettes. You can use the CD to configure any supported Lenovo server model. The setup program provides a list of tasks that are required to set up your server model. On a server with a ServeRAID adapter or SAS/SATA controller with RAID capabilities, you can run the SAS/SATA RAID configuration program to create logical drives.

Note: Features and functions can vary slightly with different versions of the ServerGuide program.

Typical operating-system installation

This section details the ServerGuide typical operating-system installation.

The ServerGuide program can reduce the time it takes to install an operating system. It provides the device drivers that are required for your hardware and for the operating system that you are installing. This section describes a typical ServerGuide operating-system installation.

Note: Features and functions can vary slightly with different versions of the ServerGuide program.

1. After you have completed the setup process, the operating-system installation program starts. (You will need your operating-system CD to complete the installation.)
2. The ServerGuide program stores information about the server model, service processor, hard disk drive controllers, and network adapters. Then, the program checks the CD for newer device drivers. This information is stored and then passed to the operating-system installation program.
3. The ServerGuide program presents operating-system partition options that are based on your operating-system selection and the installed hard disk drives.
4. The ServerGuide program prompts you to insert your operating-system CD and restart the server. At this point, the installation program for the operating system takes control to complete the installation.

Installing your operating system without using ServerGuide

Use this information to install the operating system on the server without using ServerGuide.

If you have already configured the server hardware and you are not using the ServerGuide program to install your operating system, you can download operating-system installation instructions for the server from http://www.lenovo.com/support.

Using the Setup utility

Use these instructions to start the Setup utility.

Use the Unified Extensible Firmware Interface (UEFI) Setup Utility program to perform the following tasks:

- View configuration information
- View and change assignments for devices and I/O ports
- Set the date and time
- Set and change passwords
- Set the startup characteristics of the server and the order of startup devices
- Set and change settings for advanced hardware features
- View, set, and change settings for power-management features
- View and clear error logs
- Change interrupt request (IRQ) settings
- Resolve configuration conflicts

Starting the Setup utility

Use this information to start up the Setup utility.

About this task

To start the Setup utility, complete the following steps:

Procedure

1. Turn on the server.

   Note: Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.
2. When the prompt **<F1> Setup** is displayed, press F1. If you have set an administrator password, you must type the administrator password to access the full Setup utility menu. If you do not type the administrator password, a limited Setup utility menu is available.
3. Select settings to view or change.

Setup utility menu choices

Use the Setup utility main menu to view and configure server configuration data and settings.

The following choices are on the Setup utility main menu for the UEFI. Depending on the version of the firmware, some menu choices might differ slightly from these descriptions.

- **System Information**

  Select this choice to view information about the server. When you make changes through other choices in the Setup utility, some of those changes are reflected in the system information; you cannot change settings directly in the system information. This choice is on the full Setup utility menu only.

  – **System Summary**

    Select this choice to view configuration information, including the ID, speed, and cache size of the microprocessors, machine type and model of the server, the serial number, the system UUID, and the amount of installed memory. When you make configuration changes through other options in the Setup utility, the changes are reflected in the system summary; you cannot change settings directly in the system summary.

  – **Product Data**

Select this choice to view the system-board identifier, the revision level or issue date of the firmware, the integrated management module and diagnostics code, and the version and date.

This choice is on the full Setup utility menu only.

- **System Settings**

  Select this choice to view or change the server component settings.

  – **Adapters and UEFI Drivers**

    Select this choice to view information about the UEFI 1.10 and UEFI 2.0 compliant adapters and drivers installed in the server.

  – **Processors**

    Select this choice to view or change the processor settings.

  – **Memory**

    Select this choice to view or change the memory settings.

  – **Devices and I/O Ports**

    Select this choice to view or change assignments for devices and input/output (I/O) ports. You can configure the serial ports, configure remote console redirection, enable or disable integrated Ethernet controllers, the SAS/SATA controllers, SATA optical drive channels, PCI slots, and video controller. If you disable a device, it cannot be configured, and the operating system will not be able to detect it (this is equivalent to disconnecting the device).

  – **Power**

    Select this choice to view or change power capping to control consumption, processors, and performance states.

  – **Operating Modes**

    Select this choice to view or change the operating profile (performance and power utilization).

  – **Legacy Support**

    Select this choice to view or set legacy support.

    - **Force Legacy Video on Boot**

      Select this choice to force INT video support, if the operating system does not support UEFI video output standards.

    - **Rehook INT 19h**

      Select this choice to enable or disable devices from taking control of the boot process. The default is **Disable**.

    - **Legacy Thunk Support**

      Select this choice to enable or disable UEFI to interact with PCI mass storage devices that are non-UEFI compliant. The default is **Enable**.

    - **Infinite Boot Retry**

      Select this choice to enable or disable UEFI to infinitely retry the legacy boot order. The default is **Disable**.

    - **BBS Boot**

      Select this choice to enable or disable legacy boot in BBS manner. The default is **Enable**.

  – **System Security**

    Select this choice to view or configure Trusted Platform Module (TPM) support.

  – **Integrated Management Module**

Select this choice to view or change the settings for the integrated management module.

- **Power Restore Policy**

  Select this choice to set the mode of operation after the power lost.

- **Commands on USB Interface**

  Select this choice to enable or disable the Ethernet over USB interface on IMM. The default is **Enable**.

- **Network Configuration**

  Select this choice to view the system management network interface port, the IMM MAC address, the current IMM IP address, and host name; define the static IMM IP address, subnet mask, and gateway address, specify whether to use the static IP address or have DHCP assign the IMM2 IP address, save the network changes, and reset the IMM.

- **Reset IMM to Defaults**

  Select this choice to view or reset IMM to the default settings.

- **Reset IMM**

  Select this choice to reset IMM.

– **Recovery**

Select this choice to view or change the system recovery parameters.

- **POST Attempts**

  Select this choice to view or change the number of attempts to POST.

  • **POST Attempts Limit**

    Select this choice to view or change the Nx boot failure parameters.

- **System Recovery**

  Select this choice to view or change system recovery settings.

  • **POST Watchdog Timer**

    Select this choice to view or enable the POST watchdog timer.

  • **POST Watchdog Timer Value**

    Select this choice to view or set the POST loader watchdog timer value.

  • **Reboot System on NMI**

    Select this choice to enable or disable restarting the system whenever a nonmaskable interrupt (NMI) occurs. **Enable** is the default.

  • **Halt on Severe Error**

    Select this choice to enable or disable the system from booting into OS, displaying the POST event viewer whenever a severe error was detected. **Disable** is the default.

– **Storage**

Select this choice to view or change the storage device settings.

– **Network**

Select this choice to view or change the network device options, such as iSCSI.

– **Drive Health**

Select this choice to view the status of the controllers installed in the blade server.

• **Date and Time**

Select this choice to set the date and time in the server, in 24-hour format (*hour*:*minute*:*second*).

This choice is on the full Setup utility menu only.

- **Start Options**

  Select this choice to view or change the start options, including the startup sequence, keyboard NumLock state, PXE boot option, and PCI device boot priority. Changes in the startup options take effect when you start the server.

  The startup sequence specifies the order in which the server checks devices to find a boot record. The server starts from the first boot record that it finds. If the server has Wake on LAN hardware and software and the operating system supports Wake on LAN functions, you can specify a startup sequence for the Wake on LAN functions. For example, you can define a startup sequence that checks for a disc in the CD-RW/DVD drive, then checks the hard disk drive, and then checks a network adapter.

  This choice is on the full Setup utility menu only.

- **Boot Manager**

  Select this choice to view, add, delete, or change the device boot priority, boot from a file, select a one-time boot, or reset the boot order to the default setting.

- **System Event Logs**

  Select this choice to enter the System Event Manager, where you can view the POST event log and the system-event log. You can use the arrow keys to move between pages in the error log. This choice is on the full Setup utility menu only.

  The POST event log contains the most recent error codes and messages that were generated during POST.

  The system-event log contains POST and system management interrupt (SMI) events and all events that are generated by the baseboard management controller that is embedded in the integrated management module (IMM).

  Important: If the system-error LED on the front of the server is lit but there are no other error indications, clear the system-event log. Also, after you complete a repair or correct an error, clear the system-event log to turn off the system-error LED on the front of the server.

  – **POST Event Viewer**

    Select this choice to enter the POST event viewer to view the POST error messages.

  – **System Event Log**

    Select this choice to view the system event log.

  – **Clear System Event Log**

    Select this choice to clear the system event log.

- **User Security**

  Select this choice to set, change, or clear passwords. See “Passwords” on page 98 for more information.

  This choice is on the full and limited Setup utility menu.

  – **Set Power-on Password**

    Select this choice to set or change a power-on password. See “Power-on password” on page 98 for more information.

  – **Clear Power-on Password**

    Select this choice to clear a power-on password. See “Power-on password” on page 98 for more information.

  – **Set Administrator Password**

    Select this choice to set or change an administrator password. An administrator password is intended to be used by a system administrator; it

limits access to the full Setup utility menu. If an administrator password is set, the full Setup utility menu is available only if you type the administrator password at the password prompt. See “Administrator password” on page 99 for more information.

  - **Clear Administrator Password**

    Select this choice to clear an administrator password. See “Administrator password” on page 99 for more information.

- **Save Settings**

  Select this choice to save the changes that you have made in the settings.

- **Restore Settings**

  Select this choice to cancel the changes that you have made in the settings and restore the previous settings.

- **Load Default Settings**

  Select this choice to cancel the changes that you have made in the settings and restore the factory settings.

- **Exit Setup**

  Select this choice to exit from the Setup utility. If you have not saved the changes that you have made in the settings, you are asked whether you want to save the changes or exit without saving them.

Passwords

From the **User Security** menu choice, you can set, change, and delete a power-on password and an administrator password.

The **User Security** menu choice is on the full Setup utility menu only.

If you set only a power-on password, you must type the power-on password to complete the system startup and to have access to the full Setup utility menu.

An administrator password is intended to be used by a system administrator; it limits access to the full Setup utility menu. If you set only an administrator password, you do not have to type a password to complete the system startup, but you must type the administrator password to access the Setup utility menu.

If you set a power-on password for a user and an administrator password for a system administrator, you must type the power-on password to complete the system startup. A system administrator who types the administrator password has access to the full Setup utility menu; the system administrator can give the user authority to set, change, and delete the power-on password. A user who types the power-on password has access to only the limited Setup utility menu; the user can set, change, and delete the power-on password, if the system administrator has given the user that authority.

Power-on password:

If a power-on password is set, when you turn on the server, you must type the power-on password to complete the system startup. You can use any combination of 6 - 20 printable ASCII characters for the password.

When a power-on password is set, you can enable the Unattended Start mode, in which the keyboard and mouse remain locked but the operating system can start. You can unlock the keyboard and mouse by typing the power-on password.

If you forget the power-on password, you can regain access to the server in any of the following ways:

- If an administrator password is set, type the administrator password at the password prompt. Start the Setup utility and reset the power-on password.

  Attention: If you set an administrator password and then forget it, there is no way to change, override, or remove it. You must replace the system board.
- Remove the battery from the server, wait 30 seconds, and then reinstall it.

Administrator password:

If an administrator password is set, you must type the administrator password for access to the full Setup utility menu. You can use any combination of 6 to 20 printable ASCII characters for the password.

Attention: If you set an administrator password and then forget it, there is no way to change, override, or remove it. You must replace the system board.

Using the Boot Manager

Use this information for the Boot Manager.

About this task

The Boot Manager program is a built-in, menu-driven configuration utility program that you can use to temporarily redefine the first startup device without changing settings in the Setup utility.

To use the Boot Manager program, complete the following steps:

Procedure

1. Turn off the server.
2. Restart the server.
3. When the prompt `<F12> Select Boot Device` is displayed, press `F12`.
4. Use the Up arrow and Down arrow keys to select an item from the menu and press Enter.

Results

The next time the server starts, it returns to the startup sequence that is set in the Setup utility.

Starting the backup server firmware

Use this information to start the backup server firmware.

The system board contains a backup copy area for the server firmware. This is a secondary copy of the server firmware that you update only during the process of updating the server firmware. If the primary copy of the server firmware becomes damaged, use this backup copy.

To force the server to start from the backup copy, turn off the server; then, change the position of the UEFI boot backup switch (change switch 1 of the SW4 to the on position) to enable the UEFI recovery mode.

Use the backup copy of the server firmware until the primary copy is restored. After the primary copy is restored, turn off the server; then, change back the position of the UEFI boot backup switch (change switch 1 of the SW4 to the off position).

The Update*Xpress* System Pack Installer

The Update*Xpress* System Pack Installer detects supported and installed device drivers and firmware in the server and installs available updates.

For additional information and to download the Update*Xpress* System Pack Installer, go to the ToolsCenter for System x and BladeCenter at http://publib.boulder.ibm.com/infocenter/toolsctr/v1r0/ and click **UpdateXpress System Pack Installer**.

Using the Integrated Management Module II (IMM2)

The Integrated Management Module II (IMM2) is a second generation of the functions that were formerly provided by the baseboard management controller hardware. It combines service processor functions, video controller, and remote presence function in a single chip.

The IMM2 supports the following basic systems-management features:

- Alerts (in-band and out-of-band alerting, PET traps - IPMI style, SNMP, e-mail).
- Auto Boot Failure Recovery (ABR).
- Automatic microprocessor disable on failure and restart in a two-microprocessor configuration when one microprocessor signals an internal error. When one of the microprocessors fail, the server will disable the failing microprocessor and restart with the other microprocessor.
- Automatic Server Restart (ASR) when POST is not complete or the operating system hangs and the operating system watchdog timer times-out. The IMM2 might be configured to watch for the operating system watchdog timer and reboot the system after a timeout, if the ASR feature is enabled. Otherwise, the IMM2 allows the administrator to generate a nonmaskable interrupt (NMI) by pressing an NMI button on the light path diagnostics panel for an operating-system memory dump. ASR is supported by IPMI.
- A virtual media key, which enables remote presence support (remote video, remote keyboard/mouse, and remote storage).
- Boot sequence manipulation.
- Command-line interface.
- Configuration save and restore.
- DIMM error assistance. The Unified Extensible Firmware Interface (UEFI) disables a failing DIMM that is detected during POST, and the IMM2 lights the associated system error LED and the failing DIMM error LED.
- Environmental monitor with fan speed control for temperature, voltages, fan failure, power supply failure, and power backplane failure.
- Intelligent Platform Management Interface (IPMI) Specification V2.0 and Intelligent Platform Management Bus (IPMB) support.
- Invalid system configuration (CONFIG) LED support.
- Light path diagnostics LEDs indicators to report errors that occur with fans, power supplies, microprocessor, hard disk drives, and system errors.
- Local firmware code flash update
- Nonmaskable interrupt (NMI) detection and reporting.

- Operating-system failure blue screen capture.
- PCI configuration data.
- Power/reset control (power-on, hard and soft shutdown, hard and soft reset, schedule power control).
- Query power-supply input power.
- ROM-based IMM2 firmware flash updates.
- Serial over LAN (SOL).
- Serial port redirection over telnet or ssh.
- SMI handling
- System event log (SEL) - user readable event log.

The IMM2 also provides the following remote server management capabilities through the ipmitool management utility program:

- **Command-line interface (IPMI Shell)**

  The command-line interface provides direct access to server management functions through the IPMI 2.0 protocol. Use the command-line interface to issue commands to control the server power, view system information, and identify the server. You can also save one or more commands as a text file and run the file as a script.
- **Serial over LAN**

  Establish a Serial over LAN (SOL) connection to manage servers from a remote location. You can remotely view and change the UEFI settings, restart the server, identify the server, and perform other management functions. Any standard Telnet client application can access the SOL connection.

For more information about IMM2, see the *Integrated Management Module II User's Guide* at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

Using the remote presence and blue-screen capture features

The remote presence and blue-screen capture features are integrated functions of the integrated management module II (IMM2).

The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600 x 1200 at 75 Hz, regardless of the system state
- Remotely accessing the server, using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture to assist in determining the cause of the hang condition.

Obtaining the IMM host name

Use this information to obtain the IMM host name.

About this task

If you are logging on to the IMM for the first time after installation, the IMM defaults to DHCP. If a DHCP server is not available, the IMM uses a static IP address of 192.168.70.125. The default IPv4 host name is "IMM-" (plus the last 12 characters on the IMM MAC address). The default host name also comes on the IMM network access tag that comes attached to the power supply on the rear of the server. The IMM network access tag provides the default host name of the IMM and does not require you to start the server.

The IPv6 link-local address (LLA) is derived from the IMM default host name. The IMM LLA is on the IMM network access tag is on the power supply on the rear of the server. To derive the link-local address, complete the following steps:

Procedure

1. Take the last 12 characters on the IMM MAC address (for example, 5CF3FC5EAAD0).
2. Separate the number into pairs of hexadecimal characters (for example, 5C:F3:FC:5E:AA:D0).
3. Separate the first six and last six hexadecimal characters.
4. Add "FF" and "FE" in the middle of the 12 characters (for example, 5C F3 FC FF FE 5E AA D0).
5. Convert the first pair of hexadecimal characters to binary (for example, 5=0101, C=1100, which results in 01011100 F3 FC FF FE 5E AA D0).
6. Flip the 7th binary character from left (0 to 1 or 1 to 0), which results in 01011110 F3 FF FE 5E AA D0.
7. Convert the binary back to hexadecimal (for example, 5E F3FCFFFE5EAAD0).

Obtaining the IP address for the IMM

Use this information to obtain the IP address for the IMM.

About this task

To access the web interface to use the remote presence feature, you need the IP address or host name of the IMM. You can obtain the IMM IP address through the Setup utility and you can obtain the IMM host name from the IMM network access tag. The server comes with a default IP address for the IMM of 192.168.70.125.

To obtain the IP address, complete the following steps:

Procedure

1. Turn off the server.

   Note: Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.
2. When the prompt `<F1> Setup` is displayed, press `F1`. (This prompt is displayed on the screen for only a few seconds. You must press `F1` quickly.) If you have set both a power-on password and an administrator password, you must type the administrator password to access the full Setup utility menu.
3. From the Setup utility main menu, select **System Settings**.
4. On the next screen, select **Integrated Management Module**.
5. On the next screen, select **Network Configuration**.
6. Find the IP address and write it down.

7. Exit from the Setup utility.

Logging on to the web interface

Use this information to log on to the web interface.

About this task

To log on to the IMM web interface, complete the following steps:

Procedure

1. On a system that is connected to the server, open a web browser. In the **Address** or **URL** field, type the IP address or host name of the IMM to which you want to connect.

   Note: If you are logging on to the IMM for the first time after installation, the IMM defaults to DHCP. If a DHCP host is not available, the IMM assigns a static IP address of 192.168.70.125. The IMM network access tag provides the default host name of the IMM and does not require you to start the server.
2. On the Login page, type the user name and password. If you are using the IMM for the first time, you can obtain the user name and password from your system administrator. All login attempts are documented in the system-event log.

   Note: The IMM is set initially with a user name of USERID and password of PASSW0RD (with a zero, not a the letter O). You have read/write access. You must change the default password the first time you log on.
3. Click **Log in** to start the session. The System Status and Health page provides a quick view of the system status.

Results

Note: If you boot to the operating system while in the IMM GUI and the message "Booting OS or in unsupported OS" is displayed under **System Status** > **System State**, disable Windows 2008 firewall or type the following command in the Windows 2008 console. This might also affect blue-screen capture features.

```
netsh firewall set icmpsetting type=8 mode=ENABLE
```

By default, the icmp packet is blocked by Windows firewall. The IMM GUI will then change to "OS booted" status after you change the setting as indicated above in both the Web and CLI interfaces.

Using the embedded hypervisor

The VMware ESXi embedded hypervisor software is available on the optional Lenovo USB flash device with embedded hypervisor.

About this task

The USB flash device can be installed in USB connectors on the system board (see "System-board internal connectors" on page 30 for the location of the connectors). Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. The USB flash device is required to activate the hypervisor functions.

To start using the embedded hypervisor functions, you must add the USB flash device to the startup sequence in the Setup utility.

To add the USB flash device to the startup sequence, complete the following steps:

Procedure

1. Turn on the server.

   Note: Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.
2. When the prompt `<F1> Setup` is displayed, press `F1`.
3. From the Setup utility main menu, select **Boot Manager**.
4. Select **Add Boot Option**; then, select **Generic Boot Option** > **Embedded Hypervisor**. Press Enter, and then select Esc.
5. Select **Change Boot Order** > **Change the order**. Use the Up arrow and Down Arrow keys to select **Embedded Hypervisor** and use the plus (+) and minus (-) keys to move Embedded Hypervisor in the boot order. When **Embedded Hypervisor** is in the correct location in the boot order, press Enter. Select **Commit Changes** and press Enter.
6. Select **Save Settings** and then select **Exit Setup**.

Results

If the embedded hypervisor flash device image becomes corrupt, you can download the image from http://www-03.ibm.com/systems/x/os/vmware/esxi/.

For additional information and instructions, see VMware vSphere 4.1 Documentation at http://www.vmware.com/support/pubs/vs_pages/vsp_pubs_esxi41_e_vc41.html or the *VMware vSphere Installation and Setup Guide* at http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-installation-setup-guide.pdf.

Configuring the Gigabit Ethernet controller

Use this information to configure the Ethernet controller.

The Ethernet controllers are integrated on the system board. They provide an interface for connecting to a 10 Mbps, 100 Mbps, or 1 Gbps network and provide full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the network. If the Ethernet ports in the server support auto-negotiation, the controllers detect the data-transfer rate (10BASE-T, 100BASE-TX, or 1000BASE-T) and duplex mode (full-duplex or half-duplex) of the network and automatically operate at that rate and mode.

By default the server has enabled Ethernet 1 and Ethernet 2. Ethernet 3 and Ethernet 4 can be enabled by the Features on Demand (FoD). Please note that the server may need to be restarted to activate the feature. Meanwhile, when switching from dedicated mode (Ethernet 2) to shared mode (Ethernet 1), followed by the activation of Ethernet 3 and Ethernet 4 via the Features on Demand (FoD) or vice versa, remember to first unplug and subsequently plug back the power cable or cables to the server (power cycle). For more information on Features on Demand (FoD), including instructions for automating the activation and installation of the activation key by using ToolsCenter or Lenovo Director, see the Lenovo System x Features on Demand User's Guide at/http://www.ibm.com/systems/x/fod/ under the Help section.

You do not have to set any jumpers or configure the controllers. However, you must install a device driver to enable the operating system to address the controllers. For device drivers and information about configuring the Ethernet controllers or to find updated information about configuring the controllers, see http://www.lenovo.com/support.

Enabling Features on Demand Ethernet software

Use this information to enable Features on Demand Ethernet software.

You can activate the Features on Demand (FoD) software upgrade key for Fibre Channel over Ethernet (FCoE) and iSCSI storage protocols that is integrated in the Integrated Management Module II (IMM2). For more information and instructions for activating the Features on Demand Ethernet software key, see the *Lenovo Features on Demand User's Guide*. To download the document, go to /http://www.ibm.com/systems/x/fod/, log in, and click **Help**.

Enabling Features on Demand RAID software

Use this information to enable Features on Demand RAID software.

You can activate the Features on Demand (FoD) software upgrade key for RAID that is integrated in the integrated management module. For more information and instructions for activating the Features on Demand RAID software key, see the *Lenovo Features on Demand User's Guide*. To download the document, go to /http://www.ibm.com/systems/x/fod/, log in, and click **Help**.

Configuring RAID arrays

Use the Setup utility to configure RAID arrays.

About this task

The specific procedure for configuring arrays depends on the RAID controller that you are using. For details, see the documentation for your RAID controller. To access the utility for your RAID controller, complete the following steps:

Procedure

1. Turn on the server.

   Note: Approximately 10 seconds after the server is connected to power, the power-control button becomes active.
2. When prompted, `<F1 Setup>` is displayed, press F1. If you have set an administrator password, you must type the administrator password to access the full Setup utility menu. If you do not type the administrator password, a limited Setup utility menu is available.
3. Select **System Settings** > **Storage**.
4. Press Enter to refresh the list of device drivers.
5. Select the device driver for your RAID controller and press Enter.
6. Follow the instructions in the documentation for your RAID controller.

Advanced Settings Utility program

The Advanced Settings Utility (ASU) program is an alternative to the Setup utility for modifying UEFI settings.

Use the ASU program online or out of band to modify UEFI settings from the command line without the need to restart the system to access the Setup utility.

You can also use the ASU program to configure the optional remote presence features or other IMM2 settings. The remote presence features provide enhanced systems-management capabilities.

In addition, the ASU program provides IMM LAN over USB interface configuration through the command-line interface.

Use the command-line interface to issue setup commands. You can save any of the settings as a file and run the file as a script. The ASU program supports scripting environments through a batch-processing mode.

For more information and to download the ASU program, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-ASU.

Updating Systems Director

Use this information to update the Systems Director.

About this task

If you plan to use Systems Director to manage the server, you must check for the latest applicable Systems Director updates and interim fixes.

Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

Installing a newer version

About this task

To locate and install a newer version of Systems Director, complete the following steps:

Procedure

1. Check for the latest version of Systems Director:
   a. Go to .
   b. If a newer version of Systems Director than what comes with the server is shown in the drop-down list, follow the instructions on the web page to download the latest version.
2. Install the Systems Director program.

Installing updates with your management server is connected to the Internet

About this task

If your management server is connected to the Internet, to locate and install updates and interim fixes, complete the following steps:

Procedure

1. Make sure that you have run the Discovery and Inventory collection tasks.
2. On the Welcome page of the Systems Director web interface, click **View updates**.
3. Click **Check for updates**. The available updates are displayed in a table.

4. Select the updates that you want to install, and click Install to start the installation wizard.

Installing updates with your management server is not connected to the Internet

About this task

If your management server is not connected to the Internet, to locate and install updates and interim fixes, complete the following steps:

Procedure

1. Make sure that you have run the Discovery and Inventory collection tasks.
2. On a system that is connected to the Internet, go to http://www.ibm.com/support/fixcentral.
3. From the **Product family** list, select **Systems Director**.
4. From the **Product** list, select **Systems Director**.
5. From the **Installed version** list, select the latest version, and click**Continue**.
6. Download the available updates.
7. Copy the downloaded files to the management server.
8. On the management server, on the Welcome page of the Systems Director web interface, click the **Manage** tab, and click **Update Manager**.
9. Click **Import updates** and specify the location of the downloaded files that you copied to the management server.
10. Return to the Welcome page of the Web interface, and click **View updates**.
11. Select the updates that you want to install, and click **Install** to start the installation wizard.

Updating the Universal Unique Identifier (UUID)

The Universal Unique Identifier (UUID) must be updated when the system board is replaced. Use the Advanced Settings Utility to update the UUID in the UEFI-based server.

About this task

The ASU is an online tool that supports several operating systems. Make sure that you download the version for your operating system. You can download the ASU from the Lenovo Web site. To download the ASU and update the UUID, complete the following steps.

Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

Procedure

1. Download the Advanced Settings Utility (ASU):
   a. Go to http://www.ibm.com/supportportal.
   b. Click on the **Downloads** tab at the top of the panel.
   c. Under **ToolsCenter**, select **View ToolsCenter downloads**.
   d. Select **Advanced Settings Utility (ASU)**.
   e. Scroll down and click on the link and download the ASU version for your operating system.

2. ASU sets the UUID in the Integrated Management Module (IMM). Select one of the following methods to access the Integrated Management Module (IMM) to set the UUID:
   - Online from the target system (LAN or keyboard console style (KCS) access)
   - Remote access to the target system (LAN based)
   - Bootable media containing ASU (LAN or KCS, depending upon the bootable media)
3. Copy and unpack the ASU package, which also includes other required files, to the server. Make sure that you unpack the ASU and the required files to the same directory. In addition to the application executable (asu or asu64), the following files are required:
   - For Windows based operating systems:
     - *ibm_rndis_server_os.inf*
     - *device.cat*
   - For Linux based operating systems:
     - *cdc_interface.sh*
4. After you install ASU, use the following command syntax to set the UUID: `asu set SYSTEM_PROD_DATA.SysInfoUUID <uuid_value> [access_method]`

   Where:

   <uuid_value>
   Up to 16-byte hexadecimal value assigned by you.

   [access_method]
   The access method that you selected to use from the following methods:

   - Online authenticated LAN access, type the command:

     `[host <imm_internal_ip>] [user <imm_user_id>][password <imm_password>]`

     Where:

     imm_internal_ip
     The IMM internal LAN/USB IP address. The default value is 169.254.95.118.

     imm_user_id
     The IMM `account` (1 of 12 accounts). The default value is USERID.

     imm_password
     The IMM account password (1 of 12 accounts). The default value is PASSW0RD (with a zero 0 not an O).

     Note: If you do not specify any of these parameters, ASU will use the default values. When the default values are used and ASU is unable to access the IMM using the online authenticated LAN access method, ASU will automatically use the unauthenticated KCS access method.

     The following commands are examples of using the userid and password default values and not using the default values:

     Example that does not use the userid and password default values:
     `asu set SYSTEM_PROD_DATA.SYsInfoUUID <uuid_value> --user <user_id> --password <password>`
     Example that does use the userid and password default values:
     `asu set SYSTEM_PROD_DATA.SysInfoUUID <uuid_value>`
   - Online KCS access (unauthenticated and user restricted):

You do not need to specify a value for *access_method* when you use this access method.

Example:
```
asu set SYSTEM_PROD_DATA.SysInfoUUID <uuid_value>
```
The KCS access method uses the IPMI/KCS interface. This method requires that the IPMI driver be installed. Some operating systems have the IPMI driver installed by default. ASU provides the corresponding mapping layer. See the *Advanced Settings Utility Users Guide* for more details. You can access the ASU Users Guide from the Lenovo website.

Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

a. Go to http://www.lenovo.com/support.
b. Click on the **Downloads** tab at the top of the panel.
c. Under **ToolsCenter**, select **View ToolsCenter downloads**.
d. Select **Advanced Settings Utility (ASU)**.
e. Scroll down and click on the link and download the ASU version for your operating system. Scroll down and look under **Online Help** to download the *Advanced Settings Utility Users Guide*.

- Remote LAN access, type the command:

  Note: When using the remote LAN access method to access IMM using the LAN from a client, the *host* and the *imm_external_ip* address are required parameters.

  ```
  host <imm_external_ip> [user <imm_user_id>][password <imm_password>]
  ```
  Where:

  imm_external_ip
  The external IMM LAN IP address. There is no default value. This parameter is required.

  imm_user_id
  The IMM account (1 of 12 accounts). The default value is USERID.

  imm_password
  The IMM account password (1 of 12 accounts). The default value is PASSW0RD (with a zero 0 not an O).

  The following commands are examples of using the userid and password default values and not using the default values:

  Example that does not use the userid and password default values:
  ```
  asu set SYSTEM_PROD_DATA.SYsInfoUUID <uuid_value> --host <imm_ip>
  --user <user_id> --password <password>
  ```

  Example that does use the userid and password default values:
  ```
  asu set SYSTEM_PROD_DATA.SysInfoUUID <uuid_value> --host <imm_ip>
  ```

- Bootable media:

  You can also build a bootable media using the applications available through the ToolsCenter website at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-CENTER. From the **ToolsCenter** page, scroll down for the available tools.

5. Restart the server.

Updating the DMI/SMBIOS data

Use this information to update the DMI/SMBIOS data.

About this task

The Desktop Management Interface (DMI) must be updated when the system board is replaced. Use the Advanced Settings Utility to update the DMI in the UEFI-based server. The ASU is an online tool that supports several operating systems. Make sure that you download the version for your operating system. You can download the ASU from the Lenovo website. To download the ASU and update the DMI, complete the following steps.

Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

Procedure

1. Download the Advanced Settings Utility (ASU):
   a. Go to http://www.ibm.com/supportportal.
   b. Click on the **Downloads** tab at the top of the panel.
   c. Under **ToolsCenter**, select **View ToolsCenter downloads**.
   d. Select **Advanced Settings Utility (ASU)**.
   e. Scroll down and click on the link and download the ASU version for your operating system.
2. ASU sets the DMI in the Integrated Management Module (IMM). Select one of the following methods to access the Integrated Management Module (IMM) to set the DMI:
   - Online from the target system (LAN or keyboard console style (KCS) access)
   - Remote access to the target system (LAN based)
   - Bootable media containing ASU (LAN or KCS, depending upon the bootable media)
3. Copy and unpack the ASU package, which also includes other required files, to the server. Make sure that you unpack the ASU and the required files to the same directory. In addition to the application executable (asu or asu64), the following files are required:
   - For Windows based operating systems:
     – *ibm_rndis_server_os.inf*
     – *device.cat*
   - For Linux based operating systems:
     – *cdc_interface.sh*
4. After you install ASU, Type the following commands to set the DMI:

   ```
   asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model> [access_method]
   asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n> [access_method]
   asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag> [access_method]
   ```

   Where:

   <m/t_model>
   The server machine type and model number. Type `mtm xxxxyyy`, where *xxxx* is the machine type and *yyy* is the server model number.

   <s/n> The serial number on the server. Type `sn zzzzzzz`, where *zzzzzzz* is the serial number.

<asset_method>
The server asset tag number. Type `asset aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa`, where *aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa* is the asset tag number.

[access_method]
The access method that you select to use from the following methods:

- Online authenticated LAN access, type the command:

  `[host <imm_internal_ip>] [user <imm_user_id>][password <imm_password>]`

  Where:

  imm_internal_ip
  The IMM internal LAN/USB IP address. The default value is 169.254.95.118.

  imm_user_id
  The IMM `account` (1 of 12 accounts). The default value is USERID.

  imm_password
  The IMM account password (1 of 12 accounts). The default value is PASSW0RD (with a zero 0 not an O).

  Note: If you do not specify any of these parameters, ASU will use the default values. When the default values are used and ASU is unable to access the IMM using the online authenticated LAN access method, ASU will automatically use the unauthenticated KCS access method.

  The following commands are examples of using the userid and password default values and not using the default values:

  Examples that do not use the userid and password default values:

  ```
  asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model>
  --user <imm_user_id> --password <imm_password>
  asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n> --user <imm_user_id>
  --password <imm_password>
  asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag>
  --user <imm_user_id> --password <imm_password>
  ```

  Examples that do use the userid and password default values:

  ```
  asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model>
  asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n>
  asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag>
  ```

- Online KCS access (unauthenticated and user restricted):

  You do not need to specify a value for *access_method* when you use this access method.

  The KCS access method uses the IPMI/KCS interface. This method requires that the IPMI driver be installed. Some operating systems have the IPMI driver installed by default. ASU provides the corresponding mapping layer. To download the *Advanced Settings Utility Users Guide*, complete the following steps:

  Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

  a. Go to http://www.lenovo.com/support.
  b. Click on the **Downloads** tab at the top of the panel.
  c. Under **ToolsCenter**, select **View ToolsCenter downloads**.

d. Select **Advanced Settings Utility (ASU)**.
e. Scroll down and click on the link and download the ASU version for your operating system. Scroll down and look under **Online Help** to download the *Advanced Settings Utility Users Guide*.

- The following commands are examples of using the userid and password default values and not using the default values:

  Examples that do not use the userid and password default values:
  ```
  asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model>
  asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n>
  asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag>
  ```
- Remote LAN access, type the command:

  Note: When using the remote LAN access method to access IMM using the LAN from a client, the *host* and the *imm_external_ip* address are required parameters.

  ```
  host <imm_external_ip> [user <imm_user_id>][password <imm_password>]
  ```

  Where:

  imm_external_ip
  The external IMM LAN IP address. There is no default value. This parameter is required.

  imm_user_id
  The IMM account (1 of 12 accounts). The default value is USERID.

  imm_password
  The IMM account password (1 of 12 accounts). The default value is PASSW0RD (with a zero 0 not an O).

  The following commands are examples of using the userid and password default values and not using the default values:

  Examples that do not use the userid and password default values:
  ```
  asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model> --host <imm_ip>
  --user <imm_user_id> --password <imm_password>
  asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n> --host <imm_ip>
  --user <imm_user_id> --password <imm_password>
  asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag> --host <imm_ip>
  --user <imm_user_id> --password <imm_password>
  ```

  Examples that do use the userid and password default values:
  ```
  asu set SYSTEM_PROD_DATA.SysInfoProdName <m/t_model> --host <imm_ip>
  asu set SYSTEM_PROD_DATA.SysInfoSerialNum <s/n> --host <imm_ip>
  asu set SYSTEM_PROD_DATA.SysEncloseAssetTag <asset_tag> --host <imm_ip>
  ```
- Bootable media:

  You can also build a bootable media using the applications available through the ToolsCenter website at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-CENTER. From the **ToolsCenter** page, scroll down for the available tools.

5. Restart the server.

Chapter 4. Troubleshooting

This chapter describes the diagnostic tools and troubleshooting information that are available to help you solve problems that might occur in the server.

If you cannot diagnose and correct a problem by using the information in this chapter, see Appendix D, "Getting help and technical assistance," on page 493 for more information.

Start here

You can solve many problems without outside assistance by following the troubleshooting procedures in this documentation and on the World Wide Web.

This document describes the diagnostic tests that you can perform, troubleshooting procedures, and explanations of error messages and error codes. The documentation that comes with your operating system and software also contains troubleshooting information.

Diagnosing a problem

Before you contact IBM or an approved warranty service provider, follow these procedures in the order in which they are presented to diagnose a problem with your server.

Procedure

1. **Return the server to the condition it was in before the problem occurred.** If any hardware, software, or firmware was changed before the problem occurred, if possible, reverse those changes. This might include any of the following items:
   - Hardware components
   - Device drivers and firmware
   - System software
   - UEFI firmware
   - System input power or network connections
2. **View the light path diagnostics LEDs and event logs.** The server is designed for ease of diagnosis of hardware and software problems.
   - **Light path diagnostics LEDs:** See "Light path diagnostics" on page 119 for information about using light path diagnostics LEDs.
   - **Event logs:** See "Event logs" on page 126 for information about notification events and diagnosis.
   - **Software or operating-system error codes:** See the documentation for the software or operating system for information about a specific error code. See the manufacturer's website for documentation.
3. **Run IBM Dynamic System Analysis (DSA) and collect system data.** Run Dynamic System Analysis (DSA) to collect information about the hardware, firmware, software, and operating system. Have this information available when you contact IBM or an approved warranty service provider. For instructions for running DSA, see the *Dynamic System Analysis Installation and User's Guide*.

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To download the latest version of DSA code and the *Dynamic System Analysis Installation and User's Guide*, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-DSA.

4. **Check for and apply code updates.** Fixes or workarounds for many problems might be available in updated UEFI firmware, device firmware, or device drivers. To display a list of available updates for the server, go to http://www.ibm.com/support/fixcentral.

   Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

   Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

   a. **Install UpdateXpress system updates.** You can install code updates that are packaged as an UpdateXpress System Pack or UpdateXpress CD image. An UpdateXpress System Pack contains an integration-tested bundle of online firmware and device-driver updates for your server. In addition, you can use IBM ToolsCenter Bootable Media Creator to create bootable media that is suitable for applying firmware updates and running preboot diagnostics. For more information about UpdateXpress System Packs, see http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-XPRESS and "Updating the firmware" on page 89. For more information about the Bootable Media Creator, see http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-BOMC.

      Be sure to separately install any listed critical updates that have release dates that are later than the release date of the UpdateXpress System Pack or UpdateXpress image (see step 4b).

   b. **Install manual system updates.**

      1) **Determine the existing code levels.**

         In DSA, click **Firmware/VPD** to view system firmware levels, or click **Software** to view operating-system levels.

      2) **Download and install updates of code that is not at the latest level.**

         To display a list of available updates for the server, go to http://www.ibm.com/support/fixcentral.

         When you click an update, an information page is displayed, including a list of the problems that the update fixes. Review this list for your specific problem; however, even if your problem is not listed, installing the update might solve the problem.

5. **Check for and correct an incorrect configuration.** If the server is incorrectly configured, a system function can fail to work when you enable it; if you make an incorrect change to the server configuration, a system function that has been enabled can stop working.

   a. **Make sure that all installed hardware and software are supported.** See http://www.ibm.com/systems/info/x86servers/serverproven/compat/us to verify that the server supports the installed operating system, optional devices, and software levels. If any hardware or software component is not supported, uninstall it to determine whether it is causing the problem. You

must remove nonsupported hardware before you contact IBM or an approved warranty service provider for support.

b. **Make sure that the server, operating system, and software are installed and configured correctly.** Many configuration problems are caused by loose power or signal cables or incorrectly seated adapters. You might be able to solve the problem by turning off the server, reconnecting cables, reseating adapters, and turning the server back on. For information about performing the checkout procedure, see "About the checkout procedure" on page 116. For information about configuring the server, see Chapter 3, "Configuration information and instructions," on page 89.

6. **See controller and management software documentation.** If the problem is associated with a specific function (for example, if a RAID hard disk drive is marked offline in the RAID array), see the documentation for the associated controller and management or controlling software to verify that the controller is correctly configured.

   Problem determination information is available for many devices such as RAID and network adapters.

   For problems with operating systems or IBM software or devices, go to http://www.ibm.com/supportportal.

7. **Check for troubleshooting procedures and RETAIN tips.** Troubleshooting procedures and RETAIN tips document known problems and suggested solutions. To search for troubleshooting procedures and RETAIN tips, go to http://www.ibm.com/supportportal.

8. **Use the troubleshooting tables.** See "Troubleshooting by symptom" on page 132 to find a solution to a problem that has identifiable symptoms.

   A single problem might cause multiple symptoms. Follow the troubleshooting procedure for the most obvious symptom. If that procedure does not diagnose the problem, use the procedure for another symptom, if possible.

   If the problem remains, contact IBM or an approved warranty service provider for assistance with additional problem determination and possible hardware replacement. To open an online service request, go to http://www.ibm.com/support/entry/portal/Open_service_request. Be prepared to provide information about any error codes and collected data.

Undocumented problems

If you have completed the diagnostic procedure and the problem remains, the problem might not have been previously identified by IBM. After you have verified that all code is at the latest level, all hardware and software configurations are valid, and no light path diagnostics LEDs or log entries indicate a hardware component failure, contact IBM or an approved warranty service provider for assistance.

To open an online service request, go to http://www.ibm.com/support/entry/portal/Open_service_request. Be prepared to provide information about any error codes and collected data and the problem determination procedures that you have used.

Service bulletins

Lenovo continually updates the support website with the latest tips and techniques that you can use to solve problem that you might have with the Lenovo System x3100 M5 server.

To find service bulletins that are available for theLenovo System x3100 M5 server, go to http://www.lenovo.com/support and search for 5457, and retain.

Checkout procedure

The checkout procedure is the sequence of tasks that you should follow to diagnose a problem in the server.

About the checkout procedure

Before you perform the checkout procedure for diagnosing hardware problems, review the following information.

- Read the safety information that begins on page "Safety" on page v.
- Dynamic System Analysis (DSA) provides the primary methods of testing the major components of the server, such as the system board, Ethernet controller, keyboard, mouse (pointing device), serial ports, and hard disk drives. You can also use them to test some external devices. If you are not sure whether a problem is caused by the hardware or by the software, you can use the diagnostic programs to confirm that the hardware is working correctly.
- When you run DSA, a single problem might cause more than one error message. When this happens, correct the cause of the first error message. The other error messages usually will not occur the next time you run DSA.

  Exception: If multiple error codes or light path diagnostics LEDs indicate a microprocessor error, the error might be in the microprocessor or in the microprocessor socket. See "Microprocessor problems" on page 141 for information about diagnosing microprocessor problems.
- Before you run DSA, you must determine whether the failing server is part of a shared hard disk drive cluster (two or more servers sharing external storage devices). If it is part of a cluster, you can run all diagnostic programs except the ones that test the storage unit (that is, a hard disk drive in the storage unit) or the storage adapter that is attached to the storage unit. The failing server might be part of a cluster if any of the following conditions is true:
  - You have identified the failing server as part of a cluster (two or more servers sharing external storage devices).
  - One or more external storage units are attached to the failing server and at least one of the attached storage units is also attached to another server or unidentifiable device.
  - One or more servers are located near the failing server.

  Important: If the server is part of a shared hard disk drive cluster, run one test at a time. Do not run any suite of tests, such as "quick" or "normal" tests, because this might enable the hard disk drive diagnostic tests.
- If the server is halted and a POST error code is displayed, see Appendix B, "UEFI/POST diagnostic codes," on page 417. If the server is halted and no error message is displayed, see "Troubleshooting by symptom" on page 132 and "Solving undetermined problems" on page 150.
- For information about power-supply problems, see "Solving power problems" on page 149, "Power problems" on page 145, and "Power-supply LEDs" on page 122.
- For intermittent problems, check the event log; see "Event logs" on page 126 andAppendix C, "DSA diagnostic test results," on page 427.

Performing the checkout procedure

Use this information to perform the checkout procedure.

About this task

To perform the checkout procedure, complete the following steps:

Procedure

1. Is the server part of a cluster?
   - **No:** Go to step 2.
   - **Yes:** Shut down all failing servers that are related to the cluster. Go to step 2.
2. Complete the following steps:
   a. Check the power supply LEDs (see "Power-supply LEDs" on page 122).
   b. Turn off the server and all external devices.
   c. Check all internal and external devices for compatibility at http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.
   d. Check all cables and power cords.
   e. Set all display controls to the middle positions.
   f. Turn on all external devices.
   g. Turn on the server. If the server does not start, see "Troubleshooting by symptom" on page 132.
   h. Check the system-error LED on the front information panel. If it is lit, check the light path diagnostics LEDs (see "Light path diagnostics" on page 119).
   i. Check for the following results:
      - Successful completion of POST (see "POST" on page 129 for more information).
      - Successful completion of startup, which is indicated by a readable display of the operating-system desktop.
3. Is there a readable image on the monitor screen?
   - **No:** Find the failure symptom in "Troubleshooting by symptom" on page 132; if necessary, see"Solving undetermined problems" on page 150.
   - **Yes:** Run DSA (see "Running DSA Preboot diagnostic programs" on page 130).
     – If DSA reports an error, follow the instructions in Appendix C, "DSA diagnostic test results," on page 427.
     – If DSA does not report an error but you still suspect a problem, see "Solving undetermined problems" on page 150.

Diagnostic tools

The following tools are available to help you diagnose and solve hardware-related problems.

- **Event logs**

  The event logs list the error codes and messages that are generated when an error is detected for the subsystems IMM2, POST, DSA, and the server baseboard management controller. See "Event logs" on page 126 for more information.
- **Troubleshooting tables**

These tables list problem symptoms and actions to correct the problems.

- **Integrated management module II**

  The integrated management module II (IMM2) combines service processor functions, video controller, and remote presence and blue-screen capture features in a single chip. The IMM provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you diagnose the problem, records the error in the IMM event log, and alerts you to the problem. Optionally, the IMM also provides a virtual presence capability for remote server management capabilities. The IMM provides remote server management through the following industry-standard interfaces:

  – Intelligent Platform Management Protocol (IPMI) version 2.0
  – Simple Network Management Protocol (SNMP) version 3
  – Common Information Model (CIM)
  – Web browser

  For more information about the integrated management module II (IMM2), see "Using the Integrated Management Module II (IMM2)" on page 100, Appendix A, "Integrated management module II (IMM2) error messages," on page 317, and the *Integrated Management Module II User's Guide* at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

- **Dynamic System Analysis**

  Two editions of Dynamic System Analysis (DSA) are available for diagnosing problems, DSA Portable and DSA Preboot:

  – DSA Portable

    DSA Portable collects and analyzes system information to aid in diagnosing server problems. DSA Portable runs on the server operating system and collects the following information about the server:

    - Drive health information
    - Event logs for ServeRAID controllers and service processors
    - Installed hardware, including PCI and USB information
    - Installed applications and hot fixes
    - Kernel modules
    - Light path diagnostics status
    - Microprocessor, input/out hub, and UEFI error logs
    - Network interfaces and settings
    - RAID controller configuration
    - Service processor (integrated management module) status and configuration
    - System configuration
    - Vital product data, firmware, and UEFI configuration

    DSA Portable creates a DSA log, which is a chronologically ordered merge of the system-event log (as the IPMI event log), the integrated management module (IMM) event log (as the ASM event log), and the operating-system event logs. You can send the DSA log as a file to Lenovo Support (when requested by Lenovo Support) or view the information as a text file or HTML file.

Note: Use the latest available version of DSA to make sure you are using the most recent configuration data. For documentation and download information for DSA, see http://www.ibm.com/systems/management.

For additional information, see "Dynamic System Analysis" on page 129 and Appendix C, "DSA diagnostic test results," on page 427.

– DSA Preboot

DSA Preboot diagnostic program is stored in the integrated USB memory on the server. DSA Preboot collects and analyzes system information to aid in diagnosing server problems, as well as offering a rich set of diagnostic tests of the major components of the server. DSA Preboot collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Installed hardware, including PCI and USB information
- Light path diagnostics status
- Microprocessor, input/output hub, and UEFI error logs
- Network interfaces and settings
- RAID controller configuration
- Service processor (integrated management module) status and configuration
- System configuration
- Vital product data, firmware, and UEFI configuration

DSA Preboot also provides diagnostics for the following system components (when they are installed):

1. Emulex network adapter
2. IMM I2C bus
3. Light path diagnostics panel
4. Memory modules
5. Microprocessors
6. Optical devices (CD or DVD)
7. SAS or SATA drives

See "Running DSA Preboot diagnostic programs" on page 130 for more information on running the DSA Preboot program on the server.

- **Troubleshooting by symptom**

  These tables list problem symptoms and actions to correct the problems. See "Troubleshooting by symptom" on page 132 for more information.

Light path diagnostics

The Light path diagnostics is a system of LEDs that leads you to the failed component. When an error occurs, LEDs are lit along the path of the light path diagnostics , then on the failed component. By viewing the LEDs in a particular order, you can often identify the source of the error.

When LEDs are lit to indicate an error, they remain lit when the server is turned off, provided that the server is still connected to power and the power supply is operating correctly.

Before you work inside the server to view light path diagnostics LEDs, read the safety information “Safety” on page v and “Handling static-sensitive devices” on page 36.

If an error occurs, view the LEDs on the light path diagnostics on the front of the server.

- If the check log LED is lit, it indicates that an error or multiple errors have occurred. The sources of the errors cannot be isolated or concluded by observing the light path diagnostics LEDs directly. A further investigation into IMM event log or system-error log might be required.

The following illustration shows the light path diagnostics on the front of the server.

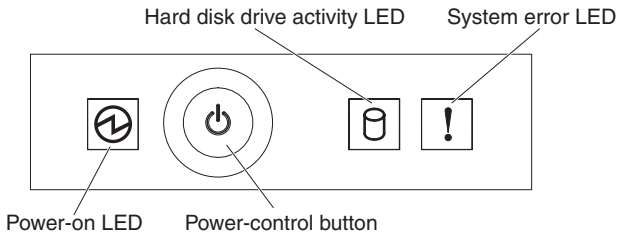

Figure 68. Light path diagnostics

- **Power control button and power-on LED:**

  Press this button to turn the server on and off manually. The states of the power-on LED are as follows:

  – **Off:** AC power is not present, or the power supply or the LED itself has failed.
  – **Flashing rapidly (4 times per second):** The server is partially on, but not ready to be fully turned on. The power-control button is disabled. This will last approximately 1 to 3 minutes.
  – **Flashing slowly (once per second):** The server is ready to be turned on. You can press the power-control button to turn on the server.
  – **Lit:** The server is turned on.
- **Hard disk drive activity LEDs:**

  When this LED is flashing, it indicates that the associated hard disk drive is in use.
- **System-error LED:**

  When this yellow LED is lit, it indicates that a system error has occurred. An LED on the system board might also be lit to help isolate the error. See“Diagnostic tools” on page 117 for additional information.

Error LEDs

This section describes the Error LEDs on the system board and the suggested actions to correct the detected problems.

The illustration shows the system-board LEDs. The system board has error LEDs that will help to locate the source of the error. Run the diagnostic programs to find out the cause of the error (see “Dynamic System Analysis” on page 129).

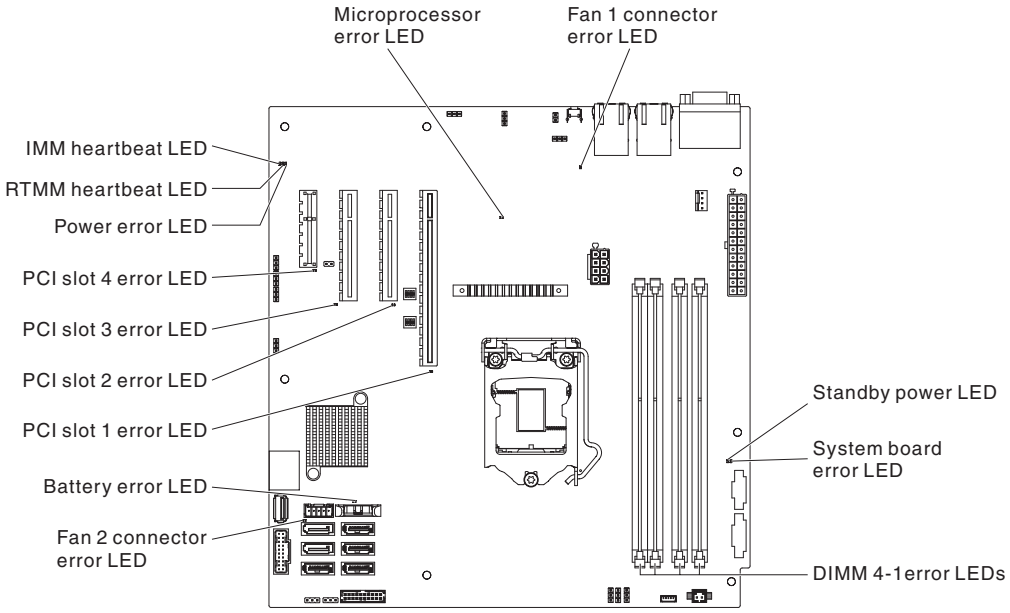

Figure 69. LED location on system board

The server is designed so that LEDs remain lit when the server is connected to an ac power source but is not turned on, provided that the power supply is operating correctly. This feature helps you to isolate the problem when the operating system is shut down.

Note: When you disconnect the power source from the server, you lose the ability to view the LEDs because the LEDs are not lit when the power source is removed. Before you disconnect the power source, make a note of which LEDs are lit, including the LEDs that are lit on the operation information panel and LEDs inside the server on the system board.

Many errors are first indicated by a lit system-error LED on the control-panel assembly of the server. If this LED is lit, one or more LEDs elsewhere in the server might also be lit and can direct you to the source of the error.

Before you work inside the server to view the LEDs, read the "Safety" on page v and "Handling static-sensitive devices" on page 36.

If an error occurs, view the server LEDs in the following order:

1. Check the control-panel assembly on the front of the server. If the system-error LED is lit, it indicates that an error has occurred.
2. Check the front and rear of the server to determine whether any component LEDs are lit.
3. Remove the server top cover and look inside the server for lit LEDs. Certain components inside the server have LEDs that will be lit to indicate the location of a problem. For example, a DIMM error will light the LED next to the failing DIMM on the system board.
4. Look at the system service label inside the top cover of the server, which gives an overview of internal components. This information can often provide enough information to correct the error.

The following table describes the LEDs on the system board and suggested actions to correct the detected problems.

Table 10. Suggested actions to correct the detected problem for each LED light

- **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.**
- **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.**
- **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**

LED	Description	Action
DIMM error LEDs	A memory DIMM has failed or is incorrectly installed.	1. Remove the DIMM that has the lit error LED. 2. Reseat the DIMM. 3. Replace the following components one at a time, in the order shown, restarting the server each time: a. DIMM b. (Trained technician only) System board
Microprocessor error LED	Microprocessor has failed, is missing, or has been incorrectly installed. **Note:** (Trained service technician only) Make sure that the microprocessor is installed in the correct sequence; see "Replacing the microprocessor and heat sink" on page 295.	1. Check the system-event log to determine the reason for the lit LED. 2. (Trained technician only) Reseat the failing microprocessor. 3. Replace the following components one at a time, in the order shown, restarting the server each time: a. (Trained technician only) Failing microprocessor b. (Trained technician only) System board
System-board error LED	System-board CPU VRD and/or power voltage regulators have failed.	(Trained technician only) Replace the system board.
IMM2 heartbeat LED	Indicates the status of the boot process of the IMM2. When the server is connected to power this LED flashes quickly to indicate that the IMM2 code is loading. When the loading is complete, the LED stops flashing briefly and then flashes slowly to indicate that the IMM2 if fully operational and you can press the power-control button to start the server.	If the LED does not begin flashing within 30 seconds of when the server is connected to power, complete the following steps: 1. (Trained technician only) Recover the firmware (see "Recovering the server firmware (UEFI update failure)" on page 153). 2. (Trained technician only) Replace the system board.
RTMM heartbeat LED	Power-on and power-off sequencing.	1. If the LED flashes at 1Hz, it is functioning properly and no action is necessary. 2. (Trained technician only) If the LED is not flashing, replace the system board.

Power-supply LEDs

This section describes the power-supply LEDs on the rear of the server and the suggested actions to correct the detected problems.

The following minimum configuration is required for the server to start:

- One microprocessor
- One 1 GB DIMM
- Power supply
- Power cord
- ServeRAID SAS/SATA adapter
- One cooling fan

The following illustrations show the LEDs and connectors on the rear of the respective 4U and 5U server models.

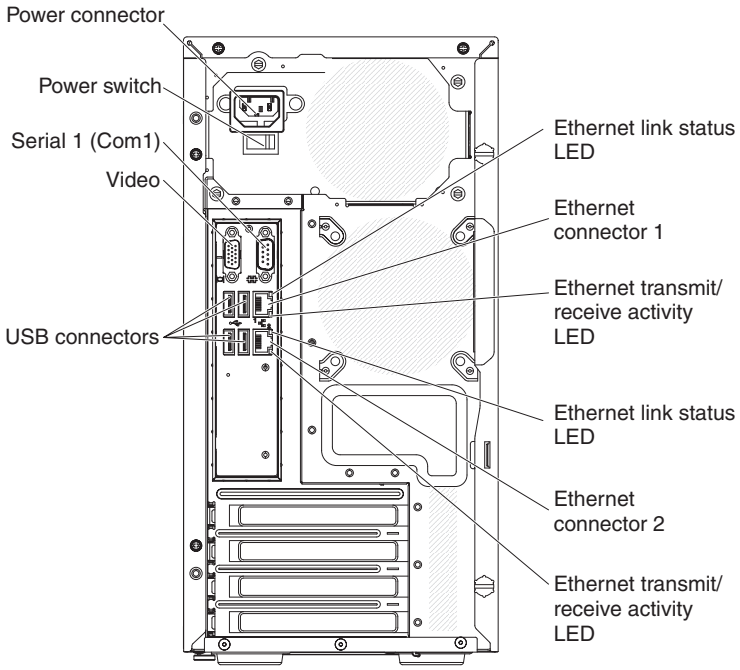

Figure 70. LEDs and connectors on the rear of the 4U server model with non-hot-swap power supplies (no power supply LEDs present)

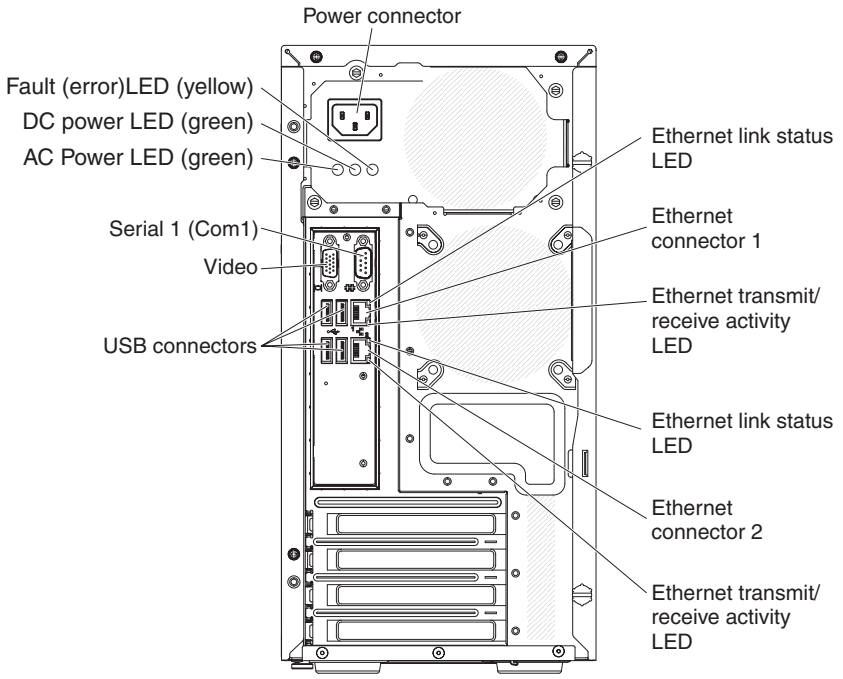

Figure 71. LEDs and connectors on the rear of the 4U server model with non-hot-swap power supplies (power supply LEDs present)

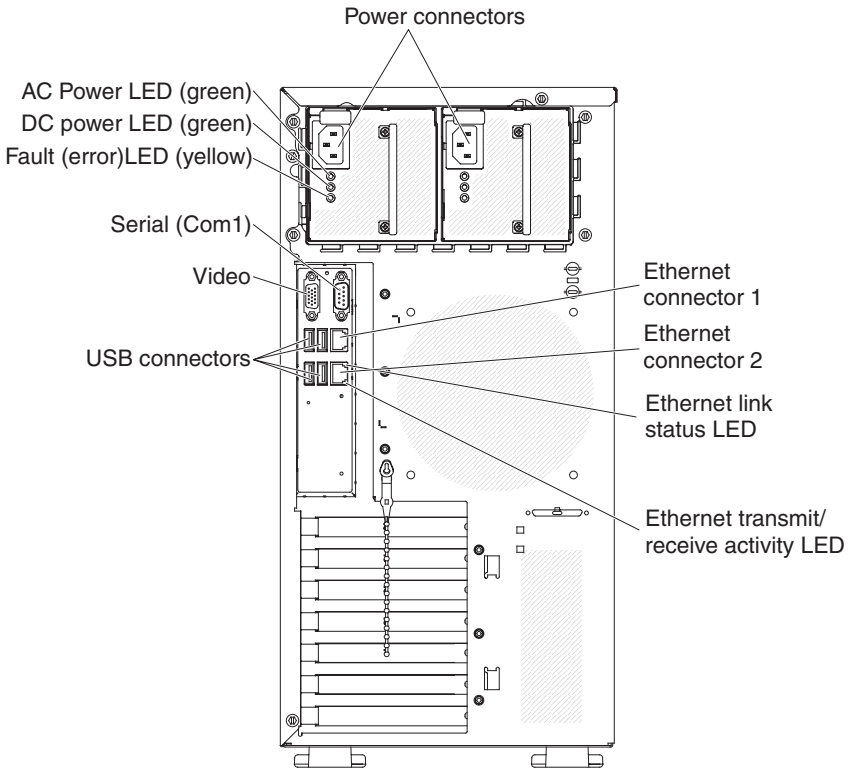

Figure 72. LEDs and connectors on the rear of the 5U server model with hot-swap power supplies

The following table describes the problems that are indicated by various combinations of the power-supply LEDs and suggested actions to correct the detected problems.

Table 11. Power-supply LEDs

AC Power-supply LEDs			Description	Action	Notes
AC	**DC**	**Error**			
On	On	Off	Normal operation		
Off	Off	Off	No ac power to the server or a problem with the ac power source.	1. Check the ac power to the server. 2. Make sure that the power cord is connected to a functioning power source. 3. Restart the server. If the error remains, check the power-supply LEDs. 4. If the problem remains, replace the power-supply.	This is a normal condition when no ac power is present.
On	Off	Off	Faulty system board or faulty power supply	1. Turn off the server and disconnect the power cord from the server; then, reconnect the power cord. 2. If the system board error (fault) LED is not lit, replace the power supply. 3. (Trained technician only) If the system board error LED is lit, replace the system board.	Typically indicates that a power supply is not fully seated. This is a normal condition before turning on the system.
On	Off or Flashing	On	Faulty power supply	Replace the power supply.	
On	On	Off	Normal operation		
On	On	On	Power supply is faulty but still operational	Replace the power supply.	

System pulse LEDs

This section describes the system pulse LEDs on the system board that monitors the system power-on and power-off and boot progress.

The following LEDs are on the system board and monitor the system power-on and power-off sequencing and boot progress (see "System-board LEDs" on page 33 for the location of these LEDs).

Table 12. System pulse LEDs

LED	Description	Action
RTMM heartbeat	Power-on and power-off sequencing.	1. If the LED blinks at 1Hz, it is functioning properly and no action is necessary. 2. If the LED is not blinking, (trained technician only) replace the system board.

Table 12. System pulse LEDs (continued)

LED	Description	Action
IMM2 heartbeat	IMM2 heartbeat boot process.	The following steps describe the different stages of the IMM2 heartbeat sequencing process. 1. When this LED is blinking fast (approximately 4Hz), this indicates, that the IMM2 code is in the loading process. 2. When this LED goes off momentarily, this indicates that the IMM2 code has loaded completely. 3. When this LED goes off momentarily and then starts blinking slowing (approximately 1Hz), this indicates that IMM2 is fully operational. You can now press the power-control button to power-on the server. 4. If this LED does not blink within 30 seconds of connecting a power source to the server, (trained technician only) replace the system board.

Event logs

Error codes and messages are displayed in POST event log, system-event log, integrated management module (IMM2) event log, and DSA event log.

- **POST event log:** This log contains the most recent error codes and messages that were generated during POST. You can view the contents of the POST event log from the Setup utility (see "Starting the Setup utility" on page 94). For more information about POST error codes, see Appendix B, "UEFI/POST diagnostic codes," on page 417.
- **System-event log:** This log contains POST and system management interrupt (SMI) events and all events that are generated by the baseboard management controller that is embedded in the integrated management module (IMM). You can view the contents of the system-event log through the Setup utility and through the Dynamic System Analysis (DSA) program (as IPMI event log).

  The system-event log is limited in size. When it is full, new entries will not overwrite existing entries; therefore, you must periodically clear the system-event log through the Setup utility. When you are troubleshooting an error, you might have to save and then clear the system-event log to make the most recent events available for analysis. For more information about the system-event log, see Appendix A, "Integrated management module II (IMM2) error messages," on page 317.

  Messages are listed on the left side of the screen, and details about the selected message are displayed on the right side of the screen. To move from one entry to the next, use the Up Arrow (↑) and Down Arrow (↓) keys.

  Some IMM sensors cause assertion events to be logged when their setpoints are reached. When a setpoint condition no longer exists, a corresponding deassertion event is logged. However, not all events are assertion-type events.
- **Integrated management module II (IMM2) event log:** This log contains a filtered subset of all IMM, POST, and system management interrupt (SMI) events. You can view the IMM event log through the IMM web interface. For more information, see "Logging on to the web interface" on page 103. You can also view the IMM event log through the Dynamic System Analysis (DSA)

program (as the ASM event log). For more information about IMM error messages, see Appendix A, “Integrated management module II (IMM2) error messages,” on page 317.

- **DSA event log:** This log is generated by the Dynamic System Analysis (DSA) program, and it is a chronologically ordered merge of the system-event log (as the IPMI event log), the IMM chassis-event log (as the ASM event log), and the operating-system event logs. You can view the DSA event log through the DSA program (see “Viewing event logs without restarting the server”). For more information about DSA and DSA messages, see “Dynamic System Analysis” on page 129 and Appendix C, “DSA diagnostic test results,” on page 427.

Viewing event logs through the Setup utility

Use this information to view the event logs through the Setup utility.

About this task

To view the POST event log or system-event log, complete the following steps:

Procedure

1. Turn on the server.
2. When the prompt **<F1> Setup** is displayed, press F1. If you have set both a power-on password and an administrator password, you must type the administrator password to view the event logs.
3. Select **System Event Logs** and use one of the following procedures:
   - To view the POST event log, select **POST Event Viewers**.
   - To view the system-event log, select **System Event Log**.

Viewing event logs without restarting the server

Use this information to view the event logs without restarting the server.

If the server is not hung and the IMM is connected to a network, methods are available for you to view one or more event logs without having to restart the server.

If you have installed Dynamic System Analysis (DSA) Portable, you can use it to view the system-event log (as the IPMI event log), or the IMM event log (as the ASM event log), the operating-system event logs, or the merged DSA log. You can also use DSA Preboot to view these logs, although you must restart the server to use DSA Preboot. To install DSA Portable or check for and download a later version of DSA Preboot CD image, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-DSA.

If IPMItool is installed in the server, you can use it to view the system-event log. Most recent versions of the Linux operating system come with a current version of IPMItool. For an overview of IPMI, go to http://www.ibm.com/developerworks/linux/blueprints/ and click **Using Intelligent Platform Management Interface (IPMI) on Lenovo Linux platforms**.

You can view the IMM event log through the **Event Log** link in the integrated management module II (IMM2) web interface. For more information, see “Logging on to the web interface” on page 103.

The following table describes the methods that you can use to view the event logs, depending on the condition of the server. The first three conditions generally do not require that you restart the server.

Table 13. Methods for viewing event logs

Condition	Action
The server is not hung and is connected to a network (using an operating system controlled network ports).	Use any of the following methods: • Run DSA Portable to view the diagnostic event log (requires IPMI driver) or create an output file that you can send to Lenovo service and support (using ftp or local copy). • Use IPMItool to view the system-event log (requires IPMI driver). • Use the web browser interface to the IMM2 to view the system-event log locally (requires RNDIS USB LAN driver).
The server is not hung and is not connected to a network (using an operating system controlled network ports).	• Run DSA Portable to view the diagnostic event log (requires IPMI driver) or create an output file that you can send to Lenovo service and support (using ftp or local copy). • Use IPMItool to view the system-event log (requires IPMI driver). • Use the web browser interface to the IMM2 to view the system-event log locally (requires RNDIS USB LAN driver).
The server is not hung and the integrated management module II (IMM2) is connected to a network.	In a web browser, type the IP address for the IMM2 and go to the **Event Log** page. For more information, see "Obtaining the IMM host name" on page 101 and "Logging on to the web interface" on page 103.
The server is hung, and no communication can be made with the IMM.	• If DSA Preboot is installed, restart the server and press F2 to start DSA Preboot and view the event logs (see "Running DSA Preboot diagnostic programs" on page 130 for more information). • Alternatively, you can restart the server and press F1 to start the Setup utility and view the POST event log or system-event log. For more information, see "Viewing event logs through the Setup utility" on page 127.

Clearing the event logs

Use this information to clear the event logs.

About this task

To clear the event logs, complete the following steps.

Note: The POST error log is automatically cleared each time the server is restarted.

Procedure

1. Turn on the server.
2. When the prompt **<F1> Setup** is displayed, press F1. If you have set both a power-on password and an administrator password, you must type the administrator password to view the event logs.
3. To clear the IMM system-event log, select **System Event Logs** > **Clear System Event Log**, then, press Enter twice.

POST

When you turn on the server, it performs a series of tests to check the operation of the server components and some optional devices in the server. This series of tests is called the power-on self-test, or POST.

Note: This server does not use beep codes for server status.

If a power-on password is set, you must type the password and press **Enter** (when you are prompted), for POST to run.

If POST detects a problem, an error message is displayed. See Appendix B, "UEFI/POST diagnostic codes," on page 417 for more information.

If POST detects a problem, an error message is sent to the POST event log, see "Event logs" on page 126 for more information.

Dynamic System Analysis

Dynamic System Analysis (DSA) collects and analyzes system information to aid in diagnosing server problems.

DSA collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Hardware inventory, including PCI and USB information
- Installed applications and hot fixes (available in DSA Portable only)
- Kernel modules (available in DSA Portable only)
- Light path diagnostics status
- Network interfaces and settings
- Performance data and details about processes that are running
- RAID controller configuration
- Service processor (integrated management module) status and configuration
- System configuration
- Vital product data and firmware information
- IMM2 configuration information
- IMM2 enviromentals information
- Option card driver and firmware information

For system-specific information about the action that you should take as a result of a message that DSA generates, see Appendix C, "DSA diagnostic test results," on page 427.

If you cannot find a problem by using DSA, see "Solving undetermined problems" on page 150 for information about testing the server.

Note: DSA Preboot might appear to be unresponsive when you start the program. This is normal operation while the program loads.

Make sure that the server has the latest version of the DSA code. To obtain DSA code and the *Dynamic System Analysis Installation and User's Guide*, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-DSA.

DSA editions

Two editions of Dynamic System Analysis are available.

- **DSA Portable**

  DSA Portable Edition runs within the operating system; you do not have to restart the server to run it. It is packaged as a self-extracting file that you download from the web. When you run the file, it self-extracts to a temporary folder and performs comprehensive collection of hardware and operating-system information. After it runs, it automatically deletes the temporary files and folder and leaves the results of the data collection and diagnostics on the server.

  If you are unable to start the server, use DSA Portable.

- **DSA Preboot**

  DSA Preboot runs outside of the operating system; you must restart the server to run it. It is provided in the flash memory on the server, or you can create a bootable media such as a CD, DVD, ISO, USB, or PXE using the ToolsCenter Bootable Media Creator (BoMC). For more details, see the BoMC *User Guide* at http://www.ibm.com/support/entry/portal/docdisplay?lndocid=LNVO-BOMC. In addition to the capabilities of the other editions of DSA, DSA Preboot includes diagnostic routines that would be disruptive to run within the operating-system environment (such as resetting devices and causing loss of network connectivity). It has a graphical user interface that you can use to specify which diagnostics to run and to view the diagnostic and data collection results.

  DSA Preboot provides diagnostics for the following system components, if they are installed:

  – Emulex network adapter
  – Optical devices (CD or DVD)
  – Tape drives (SCSI, SAS, or SATA)
  – Memory
  – Microprocessor
  – Checkpoint panel
  – I2C bus
  – SAS and SATA drives
  – LSI Controller
  – Broadcom network adapter
  – Fusion IO storage
  – Intel GPU
  – Nvidia GPU

  If you are able to restart the server or if you need comprehensive diagnostics, use DSA Preboot.

For more information and to download the utilities, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-DSA.

Running DSA Preboot diagnostic programs

Use this information to run the DSA Preboot diagnostic programs.

About this task

Note: The DSA memory test might take up to 30 minutes to run. If the problem is not a memory problem, skip the memory test.

To run the DSA Preboot diagnostic programs, complete the following steps:

Procedure

1. If the server is running, turn off the server and all attached devices.
2. Turn on all attached devices; then, turn on the server.
3. When the prompt **<F2> Diagnostics** is displayed, press F2.

   Note: The DSA Preboot diagnostic program might appear to be unresponsive for an unusual length of time when you start the program. This is normal operation while the program loads. The loading process may take up to 10 minutes.
4. Optionally, select **Quit to DSA** to exit from the stand-alone memory diagnostic program.

   Note: After you exit from the stand-alone memory diagnostic environment, you must restart the server to access the stand-alone memory diagnostic environment again.
5. Type **gui** to display the graphical user interface, or type **cmd** to display the DSA interactive menu.
6. Follow the instructions on the screen to select the diagnostic test to run.

Results

If the diagnostic programs do not detect any hardware errors but the problem remains during normal server operation, a software error might be the cause. If you suspect a software problem, see the information that comes with your software.

A single problem might cause more than one error message. When this happens, correct the cause of the first error message. The other error messages usually will not occur the next time you run the diagnostic programs.

If the server stops during testing and you cannot continue, restart the server and try running the DSA Preboot diagnostic programs again. If the problem remains, replace the component that was being tested when the server stopped.

Diagnostic text messages

Diagnostic text messages are displayed while the tests are running.

A diagnostic text message contains one of the following results:

Passed: The test was completed without any errors.

Failed: The test detected an error.

Aborted: The test could not proceed because of the server configuration

Additional information concerning test failures is available in the extended diagnostic results for each test.

Viewing the test log results and transferring the DSA collection

Use this information to view the test log results and transferring the DSA collection.

About this task

To view the test log for the results when the tests are completed, click the **Success** link in the Status column, if you are running the DSA graphical user interface, or type `:x` to exit the Execute Tests menu, if you are running the DSA interactive menu, or select **Diagnostic Event Log** in the graphical user interface. To transfer DSA Preboot collections to an external USB device, type the `copy` command in the DSA interactive menu.

Procedure

- If you are running the DSA graphical user interface (GUI), click the **Success** link in the Status column.
- If you are running the DSA interactive menu (CLI), type `:x` to exit the Execute Tests menu; then, select **completed tests** to view the results.

Results

You can also send the DSA error log to Lenovo support to aid in diagnosing the server problems.

Automated service request (call home)

Lenovo provides tools that can automatically collect and send data or call Lenovo Support when an error is detected.

These tools can help Lenovo Support speed up the process of diagnosing problems. The following sections provide information about the call home tools.

Electronic Service Agent

Electronic Service Agent monitors, tracks, and captures system hardware errors and hardware and software inventory information, and reports serviceable problems directly to Lenovo Support.

You can also choose to collect data manually. It uses minimal system resources, and can be downloaded from the Lenovo website. For more information and to download Electronic Service Agent, go to http://www-01.ibm.com/support/esa/.

Error messages

This section provides the list of error codes and messages for UEFI/POST, IMM2, and DSA that are generated when a problem is detected.

See Appendix B, “UEFI/POST diagnostic codes,” on page 417, Appendix A, “Integrated management module II (IMM2) error messages,” on page 317, and Appendix C, “DSA diagnostic test results,” on page 427 for more information.

Troubleshooting by symptom

Use the troubleshooting tables to find solutions to problems that have identifiable symptoms.

About this task

If you cannot find a solution to the problem in these tables, see Appendix C, “DSA diagnostic test results,” on page 427 for information about testing the server and

"Running DSA Preboot diagnostic programs" on page 130 for additional information about running DSA Preboot program. For additional information to help you solve problems, see "Start here" on page 113.

If you have just added new software or a new optional device and the server is not working, complete the following steps before you use the troubleshooting tables:

Procedure

1. Check the system-error LED on the front information panel; if it is lit, check the light path diagnostics LEDs (see "Light path diagnostics" on page 119).
2. Remove the software or device that you just added.
3. Run Dynamic System Analysis (DSA) to determine whether the server is running correctly (for information about using DSA, see Appendix C, "DSA diagnostic test results," on page 427).
4. Reinstall the new software or new device.

General problems

Table 14. General symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A cover latch is broken, an LED is not working, or a similar problem has occurred.	If the part is a CRU, replace it. If the part is a microprocessor or the system board, the part must be replaced by a trained technician.
The server is hung while the screen is on. Cannot start the Setup utility by pressing F1.	1. See "Nx-boot failure" on page 156 for more information. 2. See "Recovering the server firmware (UEFI update failure)" on page 153 for more information.

Hard disk drive problems

Table 15. Hard disk drive symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
Not all drives are recognized by the hard disk drive diagnostic tests.	Remove the drive that is indicated by the diagnostic tests; then, run the hard disk drive diagnostic tests again. If the remaining drives are recognized, replace the drive that you removed with a new one.
The server stops responding during the hard disk drive diagnostic test.	Remove the hard disk drive that was being tested when the server stopped responding, and run the diagnostic test again. If the hard disk drive diagnostic test runs successfully, replace the drive that you removed with a new one.

Table 15. Hard disk drive symptoms and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A hard disk drive was not detected while the operating system was being started.	Reseat all hard disk drives and cables; then, run the hard disk drive diagnostic tests again.
A hard disk drive passes the diagnostic Fixed Disk Test, but the problem remains.	Run the diagnostic SCSI Fixed Disk Test (see "Running DSA Preboot diagnostic programs" on page 130). **Note:** This test is not available on servers that have RAID arrays or servers that have SATA hard disk drives.
A hard disk drive has failed, and the associated yellow hard disk drive status LED is lit. (Hot-swap hard disk drives)	1. Re-configure the integrated SAS/SATA controller with RAID capabilities and the devices that are attached to it. 2. Run the DSA disk drive test (see "Dynamic System Analysis" on page 129). 3. If the drive fails the test, replace the drive.

Table 15. Hard disk drive symptoms and actions (continued)

- **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.**
- **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.**
- **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**

Symptom	Action
A newly installed hard disk drive is not recognized.	1. Observe the associated yellow hard disk drive status LED. If the LED is lit, it indicates a drive fault. 2. If the LED is lit, remove the drive from the bay, wait 45 seconds, and reinsert the drive, making sure that the drive assembly connects to the hard disk drive backplane. 3. Observe the associated green hard disk drive activity LED and the yellow status LED: • If the green activity LED is flashing and the yellow status LED is not lit, the drive is recognized by the controller and is working correctly. Run the DSA hard disk drive test to determine whether the drive is detected. • If the green activity LED is flashing and the yellow status LED is flashing slowly, the drive is recognized by the controller and is rebuilding. • If neither LED is lit or flashing, check the hard disk drive backplane (go to step 4). • If the green activity LED is flashing and the yellow status LED is lit, replace the drive. If the activity of the LEDs remains the same, go to step 4. If the activity of the LEDs changes, return to step 1. 4. Make sure that the hard disk drive backplane is correctly seated. When it is correctly seated, the drive assemblies correctly connect to the backplane without bowing or causing movement of the backplane. 5. Reseat the backplane power cable and repeat steps 1 through 3. 6. Reseat the backplane signal cable and repeat steps 1 through 3. 7. Reseat the backplane configuration cable and repeat steps 1 through 3. 8. Suspect the backplane signal cable or the backplane: • Replace the affected backplane signal cable. • Replace the affected backplane. 9. Run the DSA tests for the SAS/SATA adapter and hard disk drives (see"Dynamic System Analysis" on page 129). • If the adapter passes the test but the drives are not recognized, replace the backplane signal cable and run the tests again. • Replace the backplane. • If the adapter fails the test, disconnect the backplane signal cable from the adapter and run the tests again. • If the adapter fails the test, replace the adapter. 10. See "Problem determination tips" on page 151.
Multiple hard disk drives fail.	Make sure that the hard disk drive, SAS/SATA RAID adapter, and server device drivers and firmware are at the latest level. **Important:** Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
Multiple hard disk drives are offline.	1. Review the storage subsystem logs for indications of problems within the storage subsystem, such as backplane or cable problems. 2. See "Problem determination tips" on page 151.

Table 15. Hard disk drive symptoms and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A replacement hard disk drive does not rebuild.	1. Make sure that the hard disk drive is recognized by the adapter (the green hard disk drive activity LED is flashing). 2. Review the SAS/SATA RAID adapter documentation to determine the correct configuration parameters and settings.
A green hard disk drive activity LED does not accurately represent the actual state of the associated drive. (Hot-swap hard disk drives)	1. If the green hard disk drive activity LED does not flash when the drive is in use, run the DSA disk drive test (see "Dynamic System Analysis" on page 129). 2. Use one of the following procedures: • If the drive passes the test, replace the backplane. • If the drive fails the test, replace the drive.
An yellow hard disk drive status LED does not accurately represent the actual state of the associated drive. (Hot-swap hard disk drives)	1. If the yellow hard disk drive LED and the RAID adapter software do not indicate the same status for the drive, complete the following steps: a. Turn off the server. b. Reseat the SAS/SATA adapter. c. Reseat the backplane configuration cable, signal cable, and backplane power cable. d. Reseat the hard disk drive. e. Turn on the server and observe the activity of the hard disk drive LEDs. 2. See "Problem determination tips" on page 151.

CD/DVD drive problems

Table 16. CD/DVD drive's symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a Trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The optional DVD drive is not recognized.	1. Make sure that: • The SATA connector to which the DVD drive is attached (primary or secondary) is enabled in the Setup utility. • All cables and jumpers are installed correctly. • The correct device driver is installed for the DVD drive. 2. Run the DVD drive diagnostic programs. 3. Reseat the following components: a. DVD drive b. DVD drive cable 4. Replace the components listed in step 3 one at a time, in the order shown, restarting the server each time. 5. (Trained technician only) Replace the system board.
A CD or DVD is not working correctly.	1. Clean the CD or DVD. 2. Replace the CD or DVD with new CD or DVD media. 3. Run the DVD drive diagnostic programs. 4. Reseat the DVD drive. 5. Replace the DVD drive.
The DVD drive tray is not working.	1. Make sure that the server is turned on. 2. Insert the end of a straightened paper clip into the manual tray-release opening. 3. Reseat the DVD drive. 4. Replace the DVD drive.

Hypervisor problems

Table 17. Hypervisor's symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
If an optional embedded hypervisor flash device is not listed in the expected boot order, does not appear in the list of boot devices, or a similar problem has occurred.	1. Make sure that the optional embedded hypervisor flash device is selected on the boot manager `<F12> Select Boot Device` at startup. 2. Make sure that the embedded hypervisor flash device is seated in the connector correctly (see "Removing the USB embedded hypervisor flash device" on page 218 and "Replacing the USB embedded hypervisor flash device" on page 221). 3. See the documentation that comes with the optional embedded hypervisor flash device for setup and configuration information. 4. Make sure that other software works on the server.

Intermittent problems

Use this information to solve intermittent problems.

Table 18. Intermittent problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)," that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A problem occurs only occasionally and is difficult to diagnose.	1. Make sure that: • All cables and cords are connected securely to the rear of the server and attached devices. • When the server is turned on, air is flowing from the fan grille. If there is no airflow, the fan is not working. This can cause the server to overheat and shut down. 2. Check the system-error log or IMM event logs (see "Event logs" on page 126).
The server resets (restarts) occasionally.	1. If the reset occurs during POST and the POST watchdog timer is enabled (click **System Settings** > **Recovery** > **System Recovery** > **POST Watchdog Timer** in the Setup utility to see the POST watchdog setting), make sure that sufficient time is allowed in the watchdog timeout value (**POST Watchdog Timer**). If the server continues to reset during POST, see Appendix B, "UEFI/POST diagnostic codes," on page 417 and Appendix C, "DSA diagnostic test results," on page 427. 2. If neither condition applies, check the system-error log or IMM system-event log (see "Event logs" on page 126).

Keyboard, mouse, or USB-device problems

Table 19. Keyboard, mouse, or USB-device's symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
All or some keys on the keyboard do not work.	1. Make sure that: • The keyboard cable is securely connected. • The server and the monitor are turned on. 2. If you are using a USB keyboard, run the Setup utility and enable keyboardless operation. 3. If you are using a USB keyboard and it is connected to a USB hub, disconnect the keyboard from the hub and connect it directly to the server. 4. Replace the keyboard.
The mouse or USB-device does not work.	1. Make sure that: • The mouse or USB device cable is securely connected to the server. • The mouse or USB device drivers are installed correctly. • The server and the monitor are turned on. • The mouse option is enabled in the Setup utility. 2. If you are using a USB mouse or USB device and it is connected to a USB hub, disconnect the mouse or USB device from the hub and connect it directly to the server. 3. Replace the mouse or USB-device.

Memory problems

Table 20. Memory problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The amount of system memory that is displayed is less than the amount of installed physical memory.	**Note:** Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server. 1. Make sure that: • No error LEDs are lit on the operator information panel. • No DIMM error LEDs are lit on the system board. • Memory mirrored channel does not account for the discrepancy. • The memory modules are seated correctly. • You have installed the correct type of memory. • If you changed the memory, you updated the memory configuration in the Setup utility. • All banks of memory are enabled. The server might have automatically disabled a memory bank when it detected a problem, or a memory bank might have been manually disabled. • There is no memory mismatch when the server is at the minimum memory configuration. 2. Reseat the DIMMs, and then restart the server. 3. Check the POST error log: • If a DIMM was disabled by a systems-management interrupt (SMI), replace the DIMM. • If a DIMM was disabled by the user or by POST, reseat the DIMM; then, run the Setup utility and enable the DIMM. 4. Check that all DIMMs are initialized in the Setup utility; then, run memory diagnostics (see "Running DSA Preboot diagnostic programs" on page 130). 5. Reverse the DIMMs between the channels (of the same microprocessor), and then restart the server. If the problem is related to a DIMM, replace the failing DIMM. 6. Re-enable all DIMMs using the Setup utility, and then restart the server. 7. (Trained technician only) Install the failing DIMM into a DIMM connector for microprocessor 2 (if installed) to verify that the problem is not the microprocessor or the DIMM connector. 8. (Trained technician only) Replace the system board.

Table 20. Memory problems and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
Multiple DIMMs in a channel are identified as failing.	**Note:** Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server. 1. Reseat the DIMMs; then, restart the server. 2. Remove the highest-numbered DIMM of those that are identified and replace it with an identical known good DIMM; then, restart the server. Repeat as necessary. If the failures continue after all identified DIMMs are replaced, go to step 4. 3. Return the removed DIMMs, one at a time, to their original connectors, restarting the server after each DIMM, until a DIMM fails. Replace each failing DIMM with an identical known good DIMM, restarting the server after each DIMM replacement. Repeat step 3 until you have tested all removed DIMMs. 4. Replace the highest-numbered DIMM of those identified; then, restart the server. Repeat as necessary. 5. Reverse the DIMMs between the channels (of the same microprocessor), and then restart the server. If the problem is related to a DIMM, replace the failing DIMM. 6. (Trained technician only) Install the failing DIMM into a DIMM connector for microprocessor 2 (if installed) to verify that the problem is not the microprocessor or the DIMM connector. 7. (Trained technician only) Replace the system board.

Microprocessor problems

Table 21. Microprocessor's symptoms and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The server goes directly to the POST Event Viewer when it is turned on.	1. Correct any errors that are indicated by the light path diagnostics LEDs (see "Light path diagnostics" on page 119). 2. Make sure that the server supports all the microprocessors and that the microprocessors match in speed and cache size. To view the microprocessor information, run the Setup utility and select **System Information** > **System Summary** > **Processor Details**. 3. (Trained technician only) Make sure that microprocessor 1 is seated correctly. 4. (Trained technician only) Remove microprocessor 2 and restart the server. 5. Replace the following components one at a time, in the order shown, restarting the server each time: a. (Trained technician only) Microprocessor b. (Trained technician only) System board

Monitor problems

Some Lenovo monitors have their own self-tests. If you suspect a problem with your monitor, see the documentation that comes with the monitor for instructions for testing and adjusting the monitor. If you cannot diagnose the problem, call for service.

Table 22. Monitor and video's symptoms and actions

- **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.**
- **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.**
- **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**

Symptom	Action
Testing the monitor.	1. Make sure that the monitor cables are firmly connected. 2. Try using a different monitor on the server, or try using the monitor that is being tested on a different server. 3. Run the diagnostic programs. If the monitor passes the diagnostic programs, the problem might be a video device driver. 4. (Trained technician only) Replace the system board.
The screen is blank.	1. If the server is attached to a KVM switch, bypass the KVM switch to eliminate it as a possible cause of the problem: connect the monitor cable directly to the correct connector on the rear of the server. 2. The IMM2 remote presence function is disabled if you install an optional video adapter. To use the IMM2 remote presence function, remove the optional video adapter. 3. If the server installed with the graphical adapters while turning on the server, the Lenovo logo displays on the screen after approximately 3 minutes. This is normal operation while the system loads. 4. Make sure that: • The server is turned on. If there is no power to the server, see "Power problems" on page 145. • The monitor cables are connected correctly. • The monitor is turned on and the brightness and contrast controls are adjusted correctly. 5. Make sure that the correct server is controlling the monitor, if applicable. 6. Make sure that damaged server firmware is not affecting the video; see "Updating the firmware" on page 89. 7. Observe the checkpoint LEDs on the system board; if the codes are changing, go to step 6. 8. Replace the following components one at a time, in the order shown, restarting the server each time: a. Monitor b. Video adapter (if one is installed) c. (Trained technician only) System board. 9. See "Solving undetermined problems" on page 150.

Table 22. Monitor and video's symptoms and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The monitor works when you turn on the server, but the screen goes blank when you start some application programs.	1. Make sure that: • The application program is not setting a display mode that is higher than the capability of the monitor. • You installed the necessary device drivers for the application. 2. Run video diagnostics (see "Running DSA Preboot diagnostic programs" on page 130). • If the server passes the video diagnostics, the video is good; see "Solving undetermined problems" on page 150. • (Trained technician only) If the server fails the video diagnostics, replace the system board.
The monitor has screen jitter, or the screen image is wavy, unreadable, rolling, or distorted.	1. If the monitor self-tests show that the monitor is working correctly, consider the location of the monitor. Magnetic fields around other devices (such as transformers, appliances, fluorescents, and other monitors) can cause screen jitter or wavy, unreadable, rolling, or distorted screen images. If this happens, turn off the monitor. **Attention:** Moving a color monitor while it is turned on might cause screen discoloration. Move the device and the monitor at least 305 mm (12 in.) apart, and turn on the monitor. **Notes:** a. To prevent diskette drive read/write errors, make sure that the distance between the monitor and any external diskette drive is at least 76 mm (3 in.). b. Non-Lenovo monitor cables might cause unpredictable problems. 2. Reseat the monitor cable. 3. Replace the components listed in step 2 one at a time, in the order shown, restarting the server each time: a. Monitor cable b. Video adapter (if one is installed) c. Monitor d. (Trained technician only) System board.
Wrong characters appear on the screen.	1. If the wrong language is displayed, update the server firmware to the latest level (see "Updating the firmware" on page 89) with the correct language. 2. Reseat the monitor cable. 3. Replace the components listed in step 2 one at a time, in the order shown, restarting the server each time: a. Monitor cable b. Video adapter (if one is installed) c. Monitor d. (Trained technician only) System board.

Network connection problems

Table 23. Network connection problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
Log in failed by using LDAP account with SSL enabled.	1. Make sure the license key is valid. 2. Generate a new license key and log in again.

Optional-device problems

Table 24. Optional-device problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
An optional device that was just installed does not work.	1. Make sure that: • The device is designed for the server (see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us). • You followed the installation instructions that came with the device and the device is installed correctly. • You have not loosened any other installed devices or cables. • You updated the configuration information in the Setup utility. Whenever memory or any other device is changed, you must update the configuration. 2. Reseat the device that you just installed. 3. Replace the device that you just installed.
An optional device that worked previously does not work now.	1. Make sure that all of the cable connections for the device are secure. 2. If the device comes with test instructions, use those instructions to test the device. 3. Reseat the failing device. 4. Replace the failing device.

Power problems

Table 25. Power problems and actions

- **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.**
- **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.**
- **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**

Symptom	Action
The power-control button does not work, and the reset button does not work (the server does not start). **Note:** The power-control button will not function until approximately 5 to 10 seconds after the server has been connected to power.	1. Make sure that the power-control button is working correctly: a. Disconnect the server power cords. b. Reconnect the power cords. c. (Trained technician only) Reseat the operator information panel cable, and then repeat steps 1a and 1b. • (Trained technician only) If the server starts, reseat the operator information panel. If the problem remains, replace the operator information panel. • If the server does not start, bypass the power-control button by using the force power-on jumper (see "System-board switches and jumpers" on page 31). If the server starts, reseat the operator information panel. If the problem remains, replace the operator information panel. 2. Make sure that the reset button is working correctly: • Disconnect the server power cord. • Reconnect the power cord. 3. Make sure that : a. The power cords are correctly connected to the server and to a working electrical outlet. b. The type of memory that is installed is correct. c. The DIMM is fully seated. d. The LEDs on the power supply do not indicate a problem. e. The microprocessors are installed in the correct sequence. 4. Reseat the following components: a. DIMMs b. (Trained technician only) Power switch connector c. (Trained technician only) Power backplane 5. Replace the following components one at a time, in the order shown, restarting the server each time: a. DIMMs b. (Trained technician only) Power switch connector c. (Trained technician only) Power backplane d. (Trained technician only) System board 6. If you just installed an optional device, remove it, and restart the server. If the server now starts, you might have installed more devices than the power supply supports. 7. See "Power-supply LEDs" on page 122. 8. See "Solving undetermined problems" on page 150.

Table 25. Power problems and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The server does not turn off.	1. Determine whether you are using an Advanced Configuration and Power Interface (ACPI) or a non-ACPI operating system. If you are using a non-ACPI operating system, complete the following steps: a. Press Ctrl+Alt+Delete. b. Turn off the server by pressing the power-control button for 5 seconds. c. Restart the server. d. If the server fails POST and the power-control button does not work, disconnect the power cord for 5 seconds; then, reconnect the power cord and restart the server. 2. If the problem remains or if you are using an ACPI-aware operating system, suspect the system board.
The server unexpectedly shuts down, and the LEDs on the operator information panel are not lit.	See "Solving undetermined problems" on page 150.

Serial port problems

Table 26. Serial port problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The number of serial ports that are identified by the operating system is less than the number of installed serial ports.	1. Make sure that: • Each port is assigned a unique address in the Setup utility and none of the serial ports is disabled. • The serial-port adapter (if one is present) is seated correctly. 2. Reseat the serial port adapter. 3. Replace the serial port adapter.

Table 26. Serial port problems and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A serial device does not work.	1. Make sure that: • The device is compatible with the server. • The serial port is enabled and is assigned a unique address. • The device is connected to the correct connector. 2. Reseat the following components: a. Failing serial device b. Serial cable 3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Failing serial device b. Serial cable c. (Trained technician only) System board

ServerGuide problems

Table 27. ServerGuide problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The *ServerGuide Setup and Installation* CD will not start.	1. Make sure that the server supports the ServerGuide program and has a startable (bootable) DVD drive. 2. If the startup (boot) sequence settings have been changed, make sure that the DVD drive is first in the startup sequence. 3. If more than one DVD drive is installed, make sure that only one drive is set as the primary drive. Start the CD from the primary drive.
The ServeRAID Manager program cannot view all installed drives, or the operating system cannot be installed.	1. Make sure that the hard disk drive is connected correctly. 2. Make sure that the SAS hard disk drive cables are securely connected.
The operating-system installation program continuously loops.	Make more space available on the hard disk.
The ServerGuide program will not start the operating-system CD.	Make sure that the operating-system CD is supported by the ServerGuide program. For a list of supported operating-system versions, go to http://www.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-GUIDE, click the link for your ServerGuide version, and scroll down to the list of supported Microsoft Windows operating systems.

Table 27. ServerGuide problems and actions (continued)

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
The operating system cannot be installed; the option is not available.	Make sure that the server supports the operating system. If it does, either no logical drive is defined (SCSI RAID servers), or the ServerGuide System Partition is not present. Run the ServerGuide program and make sure that setup is complete.

Software problems

Table 28. Software problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
You suspect a software problem.	1. To determine whether the problem is caused by the software, make sure that: • The server has the minimum memory that is needed to use the software. For memory requirements, see the information that comes with the software. If you have just installed an adapter or memory, the server might have a memory-address conflict. • The software is designed to operate on the server. • Other software works on the server. • The software works on another server. 2. If you received any error messages when using the software, see the information that comes with the software for a description of the messages and suggested solutions to the problem. 3. Contact the software vendor.

Universal Serial Bus (USB) port problems

Table 29. Universal Serial Bus (USB) port problems and actions

• **Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.** • **If an action step is preceded by "(Trained technician only)", that step must be performed only by a trained technician.** • **Go to the Lenovo support website at http://www.lenovo.com/support to check for technical information, hints, tips, and new device drivers or to submit a request for information.**	
Symptom	**Action**
A USB device does not work.	1. Make sure that: • The correct USB device driver is installed. • The operating system supports USB devices. 2. Make sure that the USB configuration options are set correctly in the Setup utility (see "Using the Setup utility" on page 93 for more information). 3. If you are using a USB hub, disconnect the USB device from the hub and connect it directly to the server.

Solving power problems

Use this information to solve power problems.

About this task

Power problems can be difficult to solve. For example, a short circuit can exist anywhere on any of the power distribution buses. Usually, a short circuit will cause the power subsystem to shut down because of an overcurrent condition. To diagnose a power problem, use the following general procedure:

Procedure

1. Turn off the server and disconnect all power cords.
2. Check for loose cables in the power subsystem. Also check for short circuits, for example, if a loose screw is causing a short circuit on a circuit board.
3. Check the lit LEDs on the light path diagnostics (see "Light path diagnostics" on page 119).
4. Remove the adapters and disconnect the cables and power cords to all internal and external devices until the server is at the minimum configuration that is required for the server to start (see "Solving undetermined problems" on page 150).
5. Reconnect all ac power cords and turn on the server. If the server starts successfully, reseat the adapters and devices one at a time until the problem is isolated.

What to do next

If the server does not start from the minimum configuration, see "Power-supply LEDs" on page 122 to replace the components in the minimum configuration one at a time until the problem is isolated.

Solving Ethernet controller problems

Use this information to solve the Ethernet controller problems.

About this task

The method that you use to test the Ethernet controller depends on which operating system you are using. See the operating-system documentation for information about Ethernet controllers, and see the Ethernet controller device-driver readme file.

Try the following procedures:

Procedure

1. Make sure that the correct device drivers, which come with the server are installed and that they are at the latest level.
2. Make sure that the Ethernet cable is installed correctly.
   - The cable must be securely attached at all connections. If the cable is attached but the problem remains, try a different cable.
   - If you set the Ethernet controller to operate at 100 Mbps, you must use Category 5 cabling.
   - If you directly connect two servers (without a hub), or if you are not using a hub with X ports, use a crossover cable. To determine whether a hub has an X port, check the port label. If the label contains an X, the hub has an X port.
3. Determine whether the hub supports auto-negotiation. If it does not, try configuring the integrated Ethernet controller manually to match the speed and duplex mode of the hub.
4. Check the Ethernet controller LEDs on the rear panel of the server. These LEDs indicate whether there is a problem with the connector, cable, or hub.
   - The Ethernet link status LED is lit when the Ethernet controller receives a link pulse from the hub. If the LED is off, there might be a defective connector or cable or a problem with the hub.
   - The Ethernet transmit/receive activity LED is lit when the Ethernet controller sends or receives data over the Ethernet network. If the Ethernet transmit/receive activity is off, make sure that the hub and network are operating and that the correct device drivers are installed.
5. Check the LAN activity LED on the rear of the server. The LAN activity LED is lit when data is active on the Ethernet network. If the LAN activity LED is off, make sure that the hub and network are operating and that the correct device drivers are installed.
6. Check for operating-system-specific causes of the problem.
7. Make sure that the device drivers on the client and server are using the same protocol.
8.

What to do next

If the Ethernet controller still cannot connect to the network but the hardware appears to be working, the network administrator must investigate other possible causes of the error.

Solving undetermined problems

If Dynamic System Analysis (DSA) cannot diagnose the failure or if the server is inoperative, use the information in this section to solve the undetermined problems.

About this task

If you suspect that a software problem is causing failures (continuous or intermittent), see “Software problems” on page 148.

Corrupted data in CMOS memory or corrupted UEFI firmware can cause undetermined problems. To reset the CMOS data, use the CMOS clear jumper (JP1) to clear the CMOS memory and override the power-on password; see “System-board internal connectors” on page 30 for more information. If you suspect that the UEFI firmware is corrupted, see “Recovering the server firmware (UEFI update failure)” on page 153.

If the power supplies are working correctly, complete the following steps:

Procedure

1. Turn off the server.
2. Make sure that the server is cabled correctly.
3. Remove or disconnect the following devices, one at a time, until you find the failure. Turn on the server and reconfigure it each time.
   - Any external devices.
   - Surge-suppressor device (on the server).
   - Printer, mouse, and non-Lenovo devices.
   - Each adapter.
   - Hard disk drives.

   Note: The minimum configuration required for the server to start is one microprocessor and one 2 GB DIMM.
4. Turn on the server. If the problem remains, suspect the following components in the following order:
   a. Power supply
   b. Memory
   c. Microprocessor
   d. System board

What to do next

If the problem is solved when you remove an adapter from the server but the problem recurs when you reinstall the same adapter, suspect the adapter; if the problem recurs when you replace the adapter with a different one, suspect the riser card.

If you suspect a networking problem and the server passes all the system tests, suspect a network cabling problem that is external to the server.

Problem determination tips

Because of the variety of hardware and software combinations that can encounter, use the following information to assist you in problem determination. If possible, have this information available when requesting assistance from Lenovo.

If possible, have this information available when requesting assistance from Lenovo.

The model number and serial number are on the ID label on the front of the server, as shown in the following illustrations for the respective 4U and 5U server models.

Note: The illustrations in this document might differ slightly from your hardware.

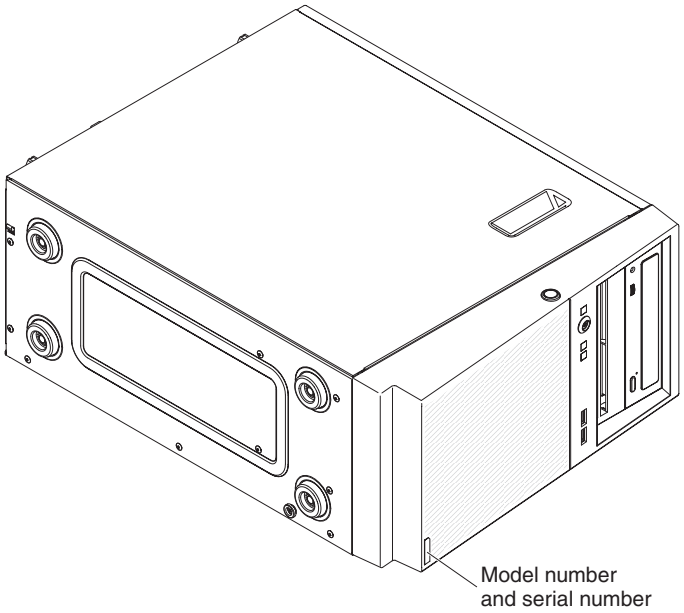

Figure 73. ID label of the 4U server model with non-hot-swap power supplies

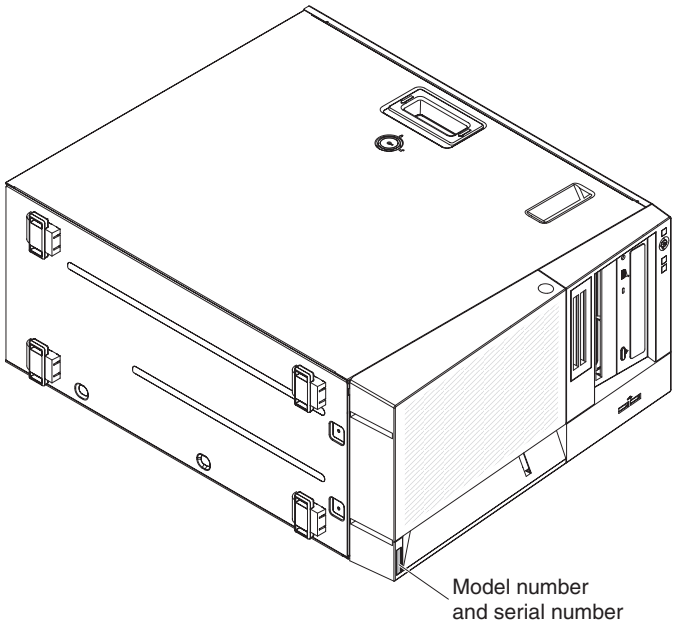

Figure 74. ID label of the 5U server model with non-hot-swap power supplies

- Machine type and model
- Microprocessor or hard disk drive upgrades
- Failure symptom
  - Does the server fail the diagnostic tests?

  - What occurs? When? Where?
  - Does the failure occur on a single server or on multiple servers?
  - Is the failure repeatable?
  - Has this configuration ever worked?
  - What changes, if any, were made before the configuration failed?
  - Is this the original reported failure?
- Diagnostic program type and version level
- Hardware configuration (print screen of the system summary)
- UEFI firmware level
- IMM firmware level
- Operating system software

You can solve some problems by comparing the configuration and software setups between working and nonworking servers. When you compare servers to each other for diagnostic purposes, consider them identical only if all the following factors are exactly the same in all the servers:

- Machine type and model
- UEFI firmware level
- IMM firmware level
- Adapters and attachments, in the same locations
- Address jumpers, terminators, and cabling
- Software versions and levels
- Diagnostic program type and version level
- Configuration option settings
- Operating-system control-file setup

See Appendix D, "Getting help and technical assistance," on page 493 for information about calling Lenovo for service.

Recovering the server firmware (UEFI update failure)

Use this information to recover the server firmware.

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

If the server firmware has become corrupted, such as from a power failure during an update, you can recover the server firmware in the following way:

- **In-band method:** Recover server firmware, using either the boot block jumper (Automated Boot Recovery) and a server Firmware Update Package Service Pack.
- **Out-of-band method:** Use the IMM web interface to update the firmware, using the latest server firmware update package.

Note: You can obtain a server update package from one of the following sources:

- Download the server firmware update from the World Wide Web.
- Contact your Lenovo service representative.

To download the server firmware update package from the World Wide Web, go to http://www.lenovo.com/support.

The flash memory of the server consists of a primary bank and a backup bank. You must maintain a bootable UEFI firmware image in the backup bank. If the server firmware in the primary bank becomes corrupted, you can either manually boot the backup bank with the UEFI boot backup jumper (JP2), or in the case of image corruption, this will occur automatically with the Automated Boot Recovery function.

In-band manual recovery method

This section details the in-band manual recovery method.

About this task

To recover the server firmware and restore the server operation to the primary bank, complete the following steps:

Procedure

1. Read the safety information that begins on “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server, and disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Locate the UEFI boot backup jumper on the system board.

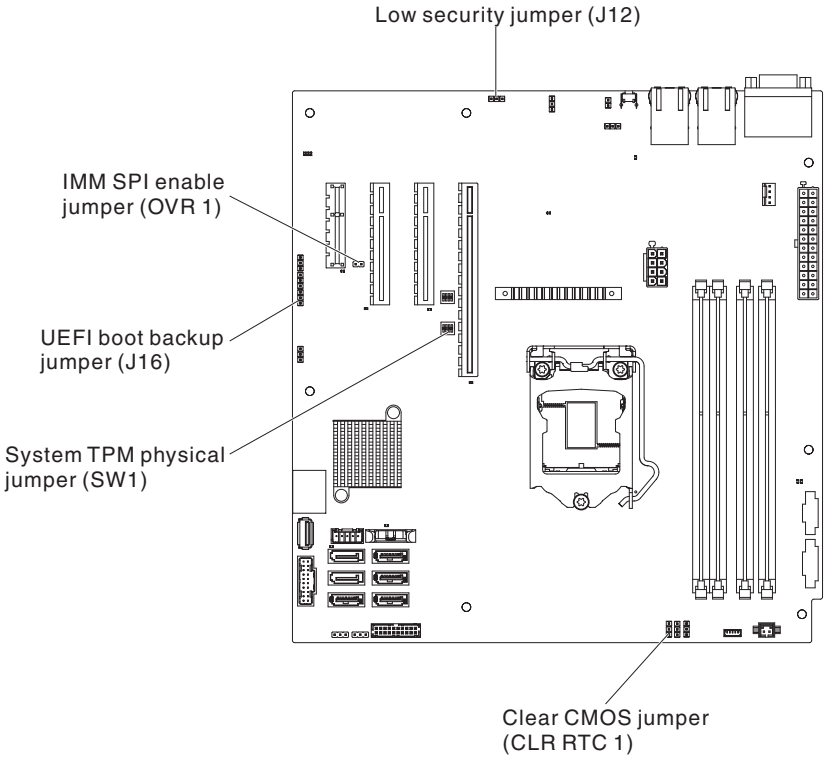

Figure 75. Location of the switches, jumpers, and buttons on the system board

5. Move the UEFI boot backup jumper from pins 1 and 2 to pins 2 and 3 to enable the UEFI recovery mode.

6. Reinstall the server cover; then, reconnect all power cords.
7. Restart the server. The system begins the power-on self-test (POST).
8. Boot the server to an operating system that is supported by the firmware update package that you downloaded.
9. Perform the firmware update by following the instructions that are in the firmware update package readme file.
10. Turn off the server and disconnect all power cords and external cables, and then remove the side cover (see "Removing the side cover" on page 36).
11. Move the UEFI boot backup jumper from pins 2 and 3 back to the primary position (pins 1 and 2).
12. Reinstall the cover (see "Replacing the side cover" on page 173).
13. Reconnect the power cord and any cables that you removed.
14. Restart the server. The system begins the power-on self-test (POST). If this does not recover the primary bank, continue with the following steps.
15. Remove the side cover (see "Removing the side cover" on page 36).
16. Reset the CMOS by removing the system battery (see "Removing the system battery" on page 270).
17. Leave the system battery out of the server for approximately 5 to 15 minutes.
18. Reinstall the system battery (see "Replacing the system battery" on page 272).
19. Reinstall the cover (see "Replacing the side cover" on page 173).
20. Reconnect the power cord and any cables that you removed.
21. Restart the server. The system begins the power-on self-test (POST).
22. If these recovery efforts fail, contact your Lenovo service representative for support.

In-band automated boot recovery method

This section details the in-band automated boot recovery method.

About this task

Note: Use this method if the System board LED on the light path diagnostics panel is lit and there is a log entry or `Booting Backup Image` is displayed on the firmware splash screen; otherwise, use the in-band manual recovery method.

Procedure

1. Boot the server to an operating system that is supported by the firmware update package that you downloaded.
2. Perform the firmware update by following the instructions that are in the firmware update package readme file.
3. Restart the server.
4. At the firmware splash screen, press F3 when prompted to restore to the primary bank. The server boots from the primary bank.

Out-of-band method

See the IMM2 documentation (*Integrated Management Module II User's Guide*) at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

Automated boot recovery (ABR)

Use this information for Automated boot recovery (ABR).

About this task

While the server is starting, if the integrated management module II detects problems with the server firmware in the primary bank, the server automatically switches to the backup firmware bank and gives you the opportunity to recover the firmware in the primary bank. For instructions for recovering the UEFI firmware, see "Recovering the server firmware (UEFI update failure)" on page 153. After you have recovered the firmware in the primary bank, complete the following steps:

Procedure

1. Restart the server.
2. When the prompt **Press F3 to restore to primary** is displayed, press F3 to start the server from the primary bank.

Nx-boot failure

Use this information for Nx-boot failure.

Configuration changes, such as added devices or adapter firmware updates, and firmware or application code problems can cause the server to fail POST (the power-on self-test). If this occurs, the server responds in either of the following ways:

- The server restarts automatically and attempts POST again.
- The server hangs, and you must manually restart the server for the server to attempt POST again.

After a specified number of consecutive attempts (automatic or manual), the Nx-boot failure feature causes the server to revert to the default UEFI configuration and start the Setup utility so that you can make the necessary corrections to the configuration and restart the server. If the server is unable to successfully complete POST with the default configuration, there might be a problem with the system board.

To specify the number of consecutive restart attempts that will trigger the Nx-boot failure feature, in the Setup utility, click **System Settings** > **Recovery** > **POST Attempts** > **POST Attempts Limit**. The available options are 3, 6, 9, and 255 (disable Nx-boot failure).

Chapter 5. Parts listing, Lenovo System x3100 M5 Type 5457

The parts listing of Lenovo System x3100 M5 Type 5457.

The following replaceable components are available for the Lenovo System x3100 M5 Type 5457 server, except as specified otherwise in "Replaceable server components." For an updated parts listing, go to http://www.lenovo.com/support.

Replaceable server components

The replaceable server components for Lenovo System x3100 M5 Type 5457.

Replaceable components consist of structural parts, and field replaceable units (FRUs):

- **Structural parts:** Purchase and replacement of structural parts (components, such as chassis assembly, top cover, and bezel) is your responsibility. If Lenovo acquires or installs a structural component at your request, you will be charged for the service. See "Structural parts" on page 166 for the list of structural parts.
- **Tier 1 customer replaceable unit (CRU):** Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request, you will be charged for the installation.
- **Tier 2 customer replaceable unit:** You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.

For information about the terms of the warranty and getting service and assistance, see the *Warranty Information* document that comes with the server. For more information about getting service and assistance, see Appendix D, "Getting help and technical assistance," on page 493.

Visit http://www.ibm.com/systems/info/x86servers/serverproven/compat/us for the latest options supporting plan.

The following illustration shows the major components in 4U server models with non-hot-swap power supplies. The illustrations in this document might differ slightly from your hardware. For the 5U server model with hot-swap power supplies, please see the table below.

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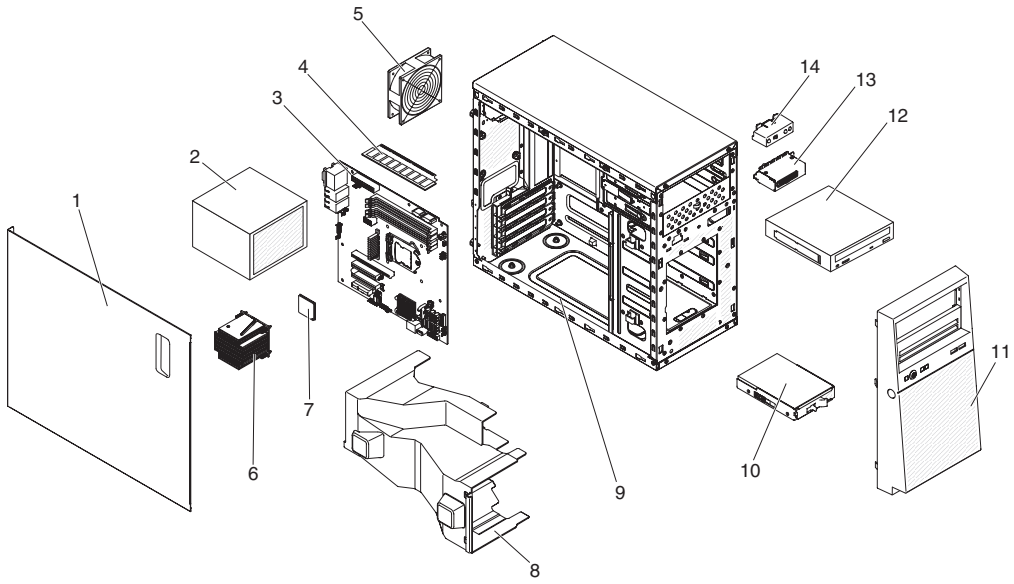

Figure 76. Server components for 4U server model with non-hot-swap power supplies

The following table lists the part numbers for the server replaceable components.

Table 30. Parts listing, 4U server model with non-hot-swap power supplies

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
2	Power supply, 300W, fixed	00AL206	
2	Power supply, 350W, fixed	00AL205	
2	Power supply, 430W, fixed	00MW247	
3	System board		00MW275
4	Memory, 4 GB 2Rx8 UDIMM, 1600 MHz, DDR3	00D5014	
4	Memory, 8 GB 2Rx8 UDIMM, 1600 MHz, DDR3	00D5018	
5	System fan, rear	00AL089	
6	Heat sink		00Y8238
7	Microprocessor, Intel Core-i3 4360, 3.7 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA424
7	Microprocessor, Intel Core-i3 4350, 3.6 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA425
7	Microprocessor, Intel Core-i3 4150, 3.5 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA427
7	Microprocessor, Intel Core-i3 4150T, 3.0 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KA428
7	Microprocessor, Intel Pentium G3450, 3.4 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA429
7	Microprocessor, Intel Pentium G3240, 3.1 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA431
7	Microprocessor, Intel Pentium G3240T, 2.7 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KA432
7	Microprocessor, Intel Celeron G1840, 2.8 GHz, 2 MB, 1600 MHz, 54 W (2-core)		00KA434

Table 30. Parts listing, 4U server model with non-hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
7	Microprocessor, Intel Pentium G3440, 3.3 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA450
7	Microprocessor, Intel Xeon E3-1231 v3, 3.4 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA451
7	Microprocessor, Intel Xeon E3-1241 v3, 3.5 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA452
7	Microprocessor, Intel Xeon E3-1271 v3, 3.6 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA453
7	Microprocessor, Intel Xeon E3-1281 v3, 3.7 GHz, 8 MB, 1600 MHz, 95 W (4-core)		00KA454
7	Microprocessor, Intel Xeon E3-1275L v3, 2.7 GHz, 8 MB, 1600 MHz, 45 W (4-core)		00KA455
7	Microprocessor, Intel Xeon E3-1240L v3, 2.0 GHz, 8 MB, 1600 MHz, 25 W (4-core)		00KA456
7	Microprocessor, Intel Xeon E3-1220 v3, 3.1 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00Y8235
7	Microprocessor, Intel Xeon E3-1220Lv3, 1.1 GHz, 4 MB cache, 1600 MHz, 13 W (2-core)		00AM097
10	DVD-ROM Drive	43W8466	
10	DVD Multi burner Drive	43W8467	
11	Hard disk drive, 3.5-inch simple-swap, 500 GB, 7.2 K	81Y9803	
11	Hard disk drive, 3.5-inch simple-swap, 1 TB, 7.2 K	81Y9807	
11	Hard disk drive, 3.5-inch simple-swap, 2 TB, 7.2 K	81Y9811	
11	Hard disk drive, 3.5-inch simple-swap, 3 TB, 7.2 K	81Y9815	
13	Front USB connector holder for 4U chassis	00AL691	
14	Operator information panel assembly	00KA584	
	Thermal sensor kit	46W9221	
	Battery, 3.0 volt	33F8354	
	Cable, SAS 680R cable	00D2814	
	Cable, SAS 700 mm cable	00D2817	
	Cable, USB for 4U chassis	00Y8282	
	Cable, 3.5" SATA	00Y8279	
	Cable, 3.5" backplane signal cable	46W9217	
	Cable, 2.5" backplane signal cable	46W9218	
	Cable, 24-inch SATA	25R5635	
	Cable, 1 M	39R6530	
	Cable, 3 M	39R6532	
	Cable, SAS Y-cable	44E8878	
	Cable, USB 1 m	44E8893	
	Cable, USB dongle	44E8894	
	Cable, power supply interposer	00MW260	
	Cable, power supply interposer	00D2749	

Table 30. Parts listing, 4U server model with non-hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
	Cable, USB conversion	39M2909	
	Cable, USB	46M6475	
	Cable, USB	46M6477	
	Cable, USB	81Y3643	
	Cord, 4 - 4.3 M line	39M5076	
	Cord, 1.5 M line	39M5375	
	Cord, 4.3 M line	39M5378	
	Cord, PDU jumper	30M5392	
	Cord, PDU C19 60A 3P with line	39Y8926	
	Cord, C13 PDU without line	46W1588	
	Retention bracket (front), adapter	13N2993	
	ServeRAID M1115 SAS/SATA Controller	46C8928	
	ServeRAID H1110 SAS/SATA Controller	81Y4494	
	ServeRAID M5100 series 512 MB cache (RAID 5 upgrade)	81Y4485	
	ServeRAID M5100 series 512 MB flash (RAID 5 upgrade)	46C9027	
	ServeRAID M5110 SAS/SATA Controller	00AE807	
	ServeRAID M5120 SAS/SATA Controller	00AE811	
	6 Gb SAS host bus adapter (HBA)	46C8935	
	N2115 SAS/SATA HBA	46C8989	
	N2125 SAS/SATA HBA	46C9011	
	10 Gb SFP+ SR optical transceiver	46C9297	
	Brocade 8Gb FC single-port host bus adapter	46M6061	
	Brocade 8Gb FC dual-port host bus adapter	46M6062	
	Brocade 16Gb FC single-port HBA	81Y1671	
	Brocade 16Gb FC dual-port HBA	81Y1678	
	Broadcom NetXtreme II dual-port 10Gb adapter	49Y7912	
	Broadcom NetXtreme I dual-port GbE adapter	90Y9373	
	Broadcom NetXtreme I quad-port GbE adapter	90Y9355	
	Intel X520-DA2 dual-port 10Gb virtual fabric adapter	49Y7962	
	Intel X540-T2 dual-port 10 Gb BaseT Adapter	49Y7972	
	Intel I340-T2 Ethernet dual-port adapter	94Y5166	
	Intel I340-T4 Ethernet quad-port adapter	94Y5167	
	Intel PRO/1000 PF server adapter	42C1752	
	QLogic 8200 dual-port 10 Gb SFP+ VFA adapter	90Y4605	
	Emulex 10 GbE virtual fabric adapter III	95Y3766	
	Mellanox ConnectX-3 10 GbE adapter	00D9692	
	Video adapter, NVIDIA Quadro K600	90Y2383	
	QLogic 16Gb FC Single-port HBA	00Y3340	
	QLogic 16Gb FC Dual-port HBA	00Y3344	

Table 30. Parts listing, 4U server model with non-hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
	QLogic 8Gb FC Single-port HBA	00Y5628	
	QLogic 8Gb FC Dual-port HBA	00Y5629	
	Emulex 8Gb FC Single-port HBA	42D0491	
	Emulex 8Gb FC Dual-port HBA	42D0500	
	Emulex 16Gb FC Dual-port HBA	00D8548	
	Emulex 8Gb FC Single-port HBA	00JY847	
	Emulex 8Gb FC Dual-port HBA	00JY848	
	Emulex 16Gb FC Dual-port HBA	00JY849	
	QLogic 10Gb virtual fabric and SR optical transceiver	42C1816	
	Internal USB 3 RDX carrier/dock	46C2346	
	Internal USB RDX carrier/dock	46C5380	
	RDX 320 GB cartridge	46C5394	
	RDX 500 GB cartridge	46C5395	
	RSPDU+ 24C13 30A	46W1562	
	RSPDU 24C13 3P	46W1568	
	RSPDU 24C13 1P	46W1570	
	RSPDU+ 12C19/1	46W1574	
	RSPDU 12C19/12	46W1578	
	RPDU+ 9C19/3C1	46W1582	
	60A 3 Phase PDU	46W1612	
	60A 3 Phase PDU	46W1614	
	NEMA PDU	39Y8913	
	IEC Rack PDU	39Y8914	
	DPI FE PDU	39Y8916	
	Half high LTO Gen 4 SAS tape drive	46X5672	
	Half high LTO Gen 5 SAS tape drive	46X5683	
	Drive, 5.25-inch, 80 GB, USB	99Y3870	
	Mouse, USB	39Y9875	
	Thermal solution fan kit for 4U chassis	00AL719	
	USB cable holder for 4U chassis	00AL691	
	Operating temperature enhancement kit for 4U chassis	00AL720	
	3.5" simple-swap hardware RAID upgrade kit	00Y8280	
	Miscellaneous hardware	00AL703	
	System service label	00MV863	

Consumable parts (parts that are purchased separately) are not covered by the Lenovo Statement of Limited Warranty. The following consumable parts are available for purchase from the retail store.

Index	Description	Part number

	Battery, ServeRAID-M5100 series	81Y4491

The following illustration shows the major components in the 5U server model with hot-swap power supplies. The illustrations in this document might differ slightly from your hardware. For 4U server models with non-hot-swap power supplies, please see the table above.

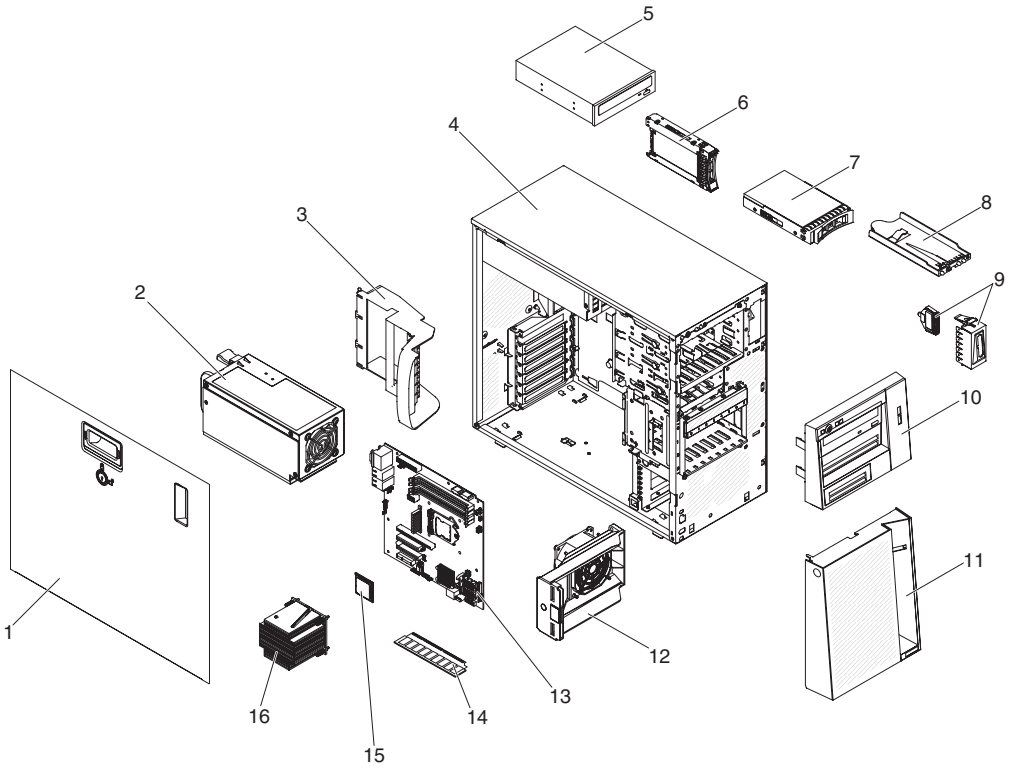

Figure 77. Server components for 5U server model with hot-swap power supplies

Table 31. Parts listing, 5U server model with hot-swap power supplies

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
2	Power supply, redundant, 430 watt	00AL204	
5	DVD-ROM Drive	43W8466	
5	DVD Multi burner Drive	43W8467	
6	Hard disk drive, 2.5-inch hot-swap, 900 GB, 10K	81Y9651	
6	Hard disk drive, 2.5-inch hot-swap, 900 GB, 10 K, SED	81Y9663	
6	Hard disk drive, 2.5-inch hot-swap, 300 GB, 15 K	81Y9671	
6	Hard disk drive, 2.5-inch hot-swap, 1 TB, 7.2 K	81Y9691	
6	Hard disk drive, 2.5-inch hot-swap, 250 GB, 7.2 K	81Y9735	
6	Hard disk drive, 2.5-inch hot-swap, 500 GB, 7.2 K	81Y9739	
6	Hard disk drive, 2.5-inch hot-swap, 1 TB, 7.2 K	81Y9743	
6	Solid state drive, 2.5-inch simple-swap, SATA, 256 GB	90Y8664	
6	Hard disk drive, 2.5-inch hot-swap, 600 GB, 10 K	90Y8873	

Table 31. Parts listing, 5U server model with hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
6	Hard disk drive, 2.5-inch hot-swap, 300 GB, 10 K	90Y8878	
6	Hard disk drive, 2.5-inch hot-swap, 600 GB, 10 K, SED	90Y8909	
6	Hard disk drive, 2.5-inch hot-swap, 146 GB, 15 K	90Y8927	
6	Hard disk drive, 2.5-inch hot-swap, 500 GB, 7.2 K	90Y8954	
6	Hard disk drive, 2.5-inch hot-swap, 500 GB, 7.2 K	42D0708	
7	Hard disk drive, 3.5-inch hot-swap, 300 GB, 15 K	49Y6093	
7	Hard disk drive, 3.5-inch hot-swap, 450 GB, 15 K	49Y6098	
7	Hard disk drive, 3.5-inch hot-swap, 600 GB, 15 K	49Y6103	
7	Hard disk drive, 3.5-inch hot-swap, 500 GB, 7.2 K	81Y9787	
7	Hard disk drive, 3.5-inch hot-swap, 1 TB, 7.2 K	81Y9791	
7	Hard disk drive, 3.5-inch hot-swap, 2 TB, 7.2 K	81Y9795	
7	Hard disk drive, 3.5-inch hot-swap, 3 TB, 7.2 K	81Y9799	
8	Operator information panel assembly	49Y8456	
9	Front USB connector holder for 5U chassis	00AL692	
12	2.5" hard disk drive fan duct	00AL088	
12	3.5" hard disk drive fan duct	00AL684	
13	System board		00MW275
14	Memory, 4 GB 2Rx8 UDIMM, 1600 MHz, DDR3	00D5014	
14	Memory, 8 GB 2Rx8 UDIMM, 1600 MHz, DDR3	00D5018	
15	Microprocessor, Intel Core-i3 4360, 3.7 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA424
15	Microprocessor, Intel Core-i3 4350, 3.6 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA425
15	Microprocessor, Intel Core-i3 4150, 3.5 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA427
15	Microprocessor, Intel Core-i3 4150T, 3.0 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KA428
15	Microprocessor, Intel Pentium G3450, 3.4 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA429
15	Microprocessor, Intel Pentium G3240, 3.1 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA431
15	Microprocessor, Intel Pentium G3240T, 2.7 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KA432
15	Microprocessor, Intel Celeron G1840, 2.8 GHz, 2 MB, 1600 MHz, 54 W (2-core)		00KA434
15	Microprocessor, Intel Pentium G3440, 3.3 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA450
15	Microprocessor, Intel Xeon E3-1231 v3, 3.4 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA451
15	Microprocessor, Intel Xeon E3-1241 v3, 3.5 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA452
15	Microprocessor, Intel Xeon E3-1271 v3, 3.6 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA453

Table 31. Parts listing, 5U server model with hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
15	Microprocessor, Intel Xeon E3-1281 v3, 3.7 GHz, 8 MB, 1600 MHz, 95 W (4-core)		00KA454
15	Microprocessor, Intel Xeon E3-1275L v3, 2.7 GHz, 8 MB, 1600 MHz, 45 W (4-core)		00KA455
15	Microprocessor, Intel Xeon E3-1240L v3, 2.0 GHz, 8 MB, 1600 MHz, 25 W (4-core)		00KA456
15	Microprocessor, Intel Xeon E3-1220 v3, 3.1 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00Y8235
15	Microprocessor, Intel Xeon E3-1220Lv3, 1.1 GHz, 4 MB cache, 1600 MHz, 13 W (2-core)		00AM097
16	Heat sink		00Y8238
	Thermal sensor kit	46W9221	
	Battery, 3.0 volt	33F8354	
	Cable, SAS 680R cable	00D2814	
	Cable, SAS 700 mm cable	00D2817	
	Cable, USB for 5U chassis	00KA532	
	Cable, 3.5" SATA	00Y8279	
	Cable, 3.5" backplane signal cable	46W9217	
	Cable, 2.5" backplane signal cable	46W9218	
	Cable, 24-inch SATA	25R5635	
	Cable, 1 M	39R6530	
	Cable, 3 M	39R6532	
	Cable, SAS Y-cable	44E8878	
	Cable, USB 1 m	44E8893	
	Cable, USB dongle	44E8894	
	Cable, power supply interposer	00MW260	
	Cable, power supply interposer	00D2749	
	Cable, USB conversion	39M2909	
	Cable, USB	46M6475	
	Cable, USB	46M6477	
	Cable, USB	81Y3643	
	Cord, 4 - 4.3 M line	39M5076	
	Cord, 1.5 M line	39M5375	
	Cord, 4.3 M line	39M5378	
	Cord, PDU jumper	30M5392	
	Cord, PDU C19 60A 3P with line	39Y8926	
	Cord, C13 PDU without line	46W1588	
	Retention bracket (front), adapter	13N2993	
	ServeRAID M1115 SAS/SATA Controller	46C8928	
	ServeRAID H1110 SAS/SATA Controller	81Y4494	
	ServeRAID M5100 series 512 MB cache (RAID 5 upgrade)	81Y4485	

Table 31. Parts listing, 5U server model with hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
	ServeRAID M5100 series 512 MB flash (RAID 5 upgrade)	46C9027	
	ServeRAID M5110 SAS/SATA Controller	00AE807	
	ServeRAID M5120 SAS/SATA Controller	00AE811	
	6 Gb SAS host bus adapter (HBA)	46C8935	
	N2115 SAS/SATA HBA	46C8989	
	N2125 SAS/SATA HBA	46C9011	
	10 Gb SFP+ SR optical transceiver	46C9297	
	Brocade 8Gb FC single-port host bus adapter	46M6061	
	Brocade 8Gb FC dual-port host bus adapter	46M6062	
	Brocade 16Gb FC single-port HBA	81Y1671	
	Brocade 16Gb FC dual-port HBA	81Y1678	
	Broadcom NetXtreme II dual-port 10Gb adapter	49Y7912	
	Broadcom NetXtreme I dual-port GbE adapter	90Y9373	
	Broadcom NetXtreme I quad-port GbE adapter	90Y9355	
	Intel X520-DA2 dual-port 10Gb virtual fabric adapter	49Y7962	
	Intel X540-T2 dual-port 10 Gb BaseT Adapter	49Y7972	
	Intel I340-T2 Ethernet dual-port adapter	94Y5166	
	Intel I340-T4 Ethernet quad-port adapter	94Y5167	
	Intel PRO/1000 PF server adapter	42C1752	
	QLogic 8200 dual-port 10 Gb SFP+ VFA adapter	90Y4605	
	Emulex 10 GbE virtual fabric adapter III	95Y3766	
	Mellanox ConnectX-3 10 GbE adapter	00D9692	
	Video adapter, NVIDIA Quadro K600	90Y2383	
	QLogic 16Gb FC Single-port HBA	00Y3340	
	QLogic 16Gb FC Dual-port HBA	00Y3344	
	QLogic 8Gb FC Single-port HBA	00Y5628	
	QLogic 8Gb FC Dual-port HBA	00Y5629	
	Emulex 8Gb FC Single-port HBA	42D0491	
	Emulex 8Gb FC Dual-port HBA	42D0500	
	Emulex 16Gb FC Dual-port HBA	00D8548	
	QLogic 10Gb virtual fabric and SR optical transceiver	42C1816	
	Power supply cage, 430 watt		00MV259
	2.5-inch hot-swap hard disk drive CR2 backplane	46W9187	
	3.5-inch hot-swap hard disk drive backplane	49Y4462	
	Internal USB 3 RDX carrier/dock	46C2346	
	Internal USB RDX carrier/dock	46C5380	
	RDX 320 GB cartridge	46C5394	
	RDX 500 GB cartridge	46C5395	
	RSPDU+ 24C13 30A	46W1562	

Table 31. Parts listing, 5U server model with hot-swap power supplies (continued)

Index number	Description of server component	CRU part number (Tier 1)	CRU part number (Tier 2)
	RSPDU 24C13 3P	46W1568	
	RSPDU 24C13 1P	46W1570	
	RSPDU+ 12C19/1	46W1574	
	RSPDU 12C19/12	46W1578	
	RPDU+ 9C19/3C1	46W1582	
	60A 3 Phase PDU	46W1612	
	60A 3 Phase PDU	46W1614	
	NEMA PDU	39Y8913	
	IEC Rack PDU	39Y8914	
	DPI FE PDU	39Y8916	
	Half high LTO Gen 4 SAS tape drive	46X5672	
	Half high LTO Gen 5 SAS tape drive	46X5683	
	Drive, 5.25-inch, 80 GB, USB	99Y3870	
	Mouse, USB	39Y9875	
	Thermal solution fan kit for 5U chassis	00AL001	
	USB cable holder for 5U chassis	00AL692	
	Operating temperature enhancement kit for 5U chassis	00AL721	
	Miscellaneous hardware	00AL703	
	System service label	00MV863	

Consumable parts (parts that are purchased separately) are not covered by the Lenovo Statement of Limited Warranty. The following consumable parts are available for purchase from the retail store.

Index	Description	Part number
	Battery, ServeRAID-M5100 series	81Y4491

Structural parts

Structural parts are not covered by the Lenovo Statement of Limited Warranty. You can place an order on the structural parts from the Lenovo retail store.

The following structural parts are for 4U server models with non-hot-swap power supplies. They are available for purchase from the retail store.

Table 32. Structural parts for 4U server models with non-hot-swap power supplies, Type 5457

Index	Description	Part number
1	Side cover assembly	00AL701
8	Air baffle	00AL109
9	4U chassis assembly	00AL700
12	Bezel	13N2450
12	Bezel	00MV856

Table 32. Structural parts for 4U server models with non-hot-swap power supplies, Type 5457 (continued)

Index	Description	Part number
	Simple-swap hard disk drive cage, 3.5" drives	00AL689
	Filler, power supply	00D8860
	Filler, DVD-ROM Drive	13N2450
	Feet, chassis	13N2985
	EMC shield kit, optical disk drive/tape drive	13N2997
	Kit, Retainer (for optical and diskette drives)	39R9369
	EMC shield	49Y8455
	Filler, PCI card	81Y7472
	DVD drive retention bracket for 4U chassis	81Y7473
	PCI adapter retention bracket for 4U chassis	81Y7474
	Shield kit, simple-swap 3.5- inch hard disk drive	81Y7479
	Chassis stand foot assembly	81Y7483
	Miscellaneous hardware for rack	00N7193
	Rack kit assembly	00Y7580
	Holder, battery (retainer)	00Y8545
	Bottom cover	39R9363
	Rack chassis	39Y9760
	Cable management arm	39Y9761
	Miscellaneous hardware	39Y9837
	Screw, four M3x5 screws	42C3933
	Friction slide	69Y4391
	Remote RAID battery/power module tray	94Y7609
	3U BRACKET KIT	94Y7628
	EIA brackets	39Y9758
	Side/top cover	49Y8446

The following structural parts are for 5U server models with hot-swap power supplies. They are available for purchase from the retail store.

Table 33. Structural parts for 5U server models with hot-swap power supplies, Type 5457

Index	Description	Part number
1	Side cover with lock	49Y8447
3	Retention bracket (rear) for 5U chassis, adapter	00AL013
4	5U chassis assembly	00AL688
10	Bezel, upper	00AL687
11	Bezel, lower (for 3.5" hard disk drives)	00MV857
11	Bezel, lower (for 2.5" hard disk drives)	00MV858
	Hard disk drive cage, 3.5" drives	00AL685
	Hard disk drive cage, 2.5" drives	00D8852
	Filler, power supply	00D8860
	Filler, DVD-ROM Drive	13N2450

Table 33. Structural parts for 5U server models with hot-swap power supplies, Type 5457 (continued)

Index	Description	Part number
	Feet, chassis	13N2985
	EMC shield kit, optical disk drive/tape drive	13N2997
	Keylock, keyed-random	26K7364
	Kit, Retainer (for optical and diskette drives)	39R9369
	EMC shield	49Y8455
	Filler, PCI card	81Y7472
	Chassis stand foot assembly	81Y7483
	Miscellaneous hardware for rack	00N7193
	Rack kit assembly	00Y7580
	Holder, battery (retainer)	00Y8545
	Bottom cover	39R9363
	Rack chassis	39Y9760
	Cable management arm	39Y9761
	Miscellaneous hardware	39Y9837
	Screw, four M3x5 screws	42C3933
	Tower to rack slide kit for 5U chassis	42R5348
	Hardware RAID battery holder for 5U chassis	00AL722
	Friction slide	69Y4391
	Remote RAID battery/power module tray	94Y7609
	3U BRACKET KIT	94Y7628
	EIA brackets	39Y9758
	Keylock assembly	26K7363
	Side/top cover	49Y8446

To order a structural part, complete the following steps:

Note: Changes are made periodically to the Lenovo website. The actual procedure might vary slightly from what is described in this document.

1. Go to http://www.ibm.com.
2. From the **Products** menu, select **Upgrades, accessories & parts**.
3. Click **Obtain maintenance parts**; then, follow the instructions to order the part from the retail store.

If you need help with your order, call the toll-free number that is listed on the retail parts page, or contact your local Lenovo representative for assistance.

Power cords

For your safety, a power cord with a grounded attachment plug is provided to use with this product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.

Lenovo power cords used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

Power cords for a specific country or region are usually available only in that country or region.

Power cord part number	**Used in these countries and regions**
39M5206	China
39M5102	Australia, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea
39M5123	Afghanistan, Albania, Algeria, Andorra, Angola, Armenia, Austria, Azerbaijan, Belarus, Belgium, Benin, Bosnia and Herzegovina, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo (Democratic Republic of), Congo (Republic of), Cote D'Ivoire (Ivory Coast), Croatia (Republic of), Czech Republic, Dahomey, Djibouti, Egypt, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Finland, France, French Guyana, French Polynesia, Germany, Greece, Guadeloupe, Guinea, Guinea Bissau, Hungary, Iceland, Indonesia, Iran, Kazakhstan, Kyrgyzstan, Laos (People's Democratic Republic of), Latvia, Lebanon, Lithuania, Luxembourg, Macedonia (former Yugoslav Republic of), Madagascar, Mali, Martinique, Mauritania, Mauritius, Mayotte, Moldova (Republic of), Monaco, Mongolia, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Portugal, Reunion, Romania, Russian Federation, Rwanda, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Slovakia, Slovenia (Republic of), Somalia, Spain, Suriname, Sweden, Syrian Arab Republic, Tajikistan, Tahiti, Togo, Tunisia, Turkey, Turkmenistan, Ukraine, Upper Volta, Uzbekistan, Vanuatu, Vietnam, Wallis and Futuna, Yugoslavia (Federal Republic of), Zaire
39M5130 39M5179	Denmark
39M5144	Bangladesh, Lesotho, Macao, Maldives, Namibia, Nepal, Pakistan, Samoa, South Africa, Sri Lanka, Swaziland, Uganda
39M5151	Abu Dhabi, Bahrain, Botswana, Brunei Darussalam, Channel Islands, China (Hong Kong S.A.R.), Cyprus, Dominica, Gambia, Ghana, Grenada, Iraq, Ireland, Jordan, Kenya, Kuwait, Liberia, Malawi, Malaysia, Malta, Myanmar (Burma), Nigeria, Oman, Polynesia, Qatar, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Seychelles, Sierra Leone, Singapore, Sudan, Tanzania (United Republic of), Trinidad and Tobago, United Arab Emirates (Dubai), United Kingdom, Yemen, Zambia, Zimbabwe
39M5158	Liechtenstein, Switzerland
39M5165	Chile, Italy, Libyan Arab Jamahiriya
39M5172	Israel

Power cord part number	Used in these countries and regions
39M5095	220 - 240 V Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Caicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Mexico, Micronesia (Federal States of), Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Thailand, Taiwan, United States of America, Venezuela
39M5081	110 - 120 V Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Caicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Mexico, Micronesia (Federal States of), Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Thailand, Taiwan, United States of America, Venezuela
39M5076 39M5512	United States of America
39M5463	Taiwan
39M5087	Thailand
39M5219	Korea (Democratic People's Republic of), Korea (Republic of)
39M5199	Japan
39M5068	Argentina, Paraguay, Uruguay
39M5226	India
39M5240 39M5241	Brazil
39M5375 39M5378 39M5509	Canada, Germany, United States of America

Chapter 6. Removing and replacing components

Use this information to remove and replace the server components.

The types of replaceable components are:

- **Structural parts:** Purchase and replacement of structural parts (components, such as chassis assembly, cover, and bezel) is your responsibility. If Lenovo acquires or installs a structural component at your request, you will be charged for the service.
- **Tier 1 customer replaceable unit (CRU):** Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request, you will be charged for the installation.
- **Tier 2 customer replaceable unit (CRU):** You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.

See Chapter 5, "Parts listing, Lenovo System x3100 M5 Type 5457," on page 157 to determine whether a component is a structural part, Tier 1 CRU, or Tier 2 CRU.

For information about the terms of the warranty, see the *Warranty Information* document that comes with the server.

For more information about getting service and assistance, see Appendix D, "Getting help and technical assistance," on page 493.

Returning a device or component

If you are instructed to return a device or component, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing and replacing server components

This section provides information for removing and replacing structural parts or components in the server.

Removing and replacing structural parts

This section provides information for removing and replacing structural parts in the server.

Replacement of structural parts is your responsibility. If Lenovo installs a structural part at your request, you will be charged for the installation.

The illustrations in this document might differ slightly from your hardware.

Removing the side cover

Use this information to remove the side cover.

Attention: Operating the server for more than 30 minutes with the side cover removed might damage server components. For proper cooling and airflow, install the side cover before you turn on the server.

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For 4U server models with non-hot-swap power supplies, complete the following steps to remove the side cover. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see “Turning off the server” on page 25).
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Unscrew the two chassis screws on the rear side of the server.
5. Pull the rear side cover handle and push the front side cover handle at the same time.

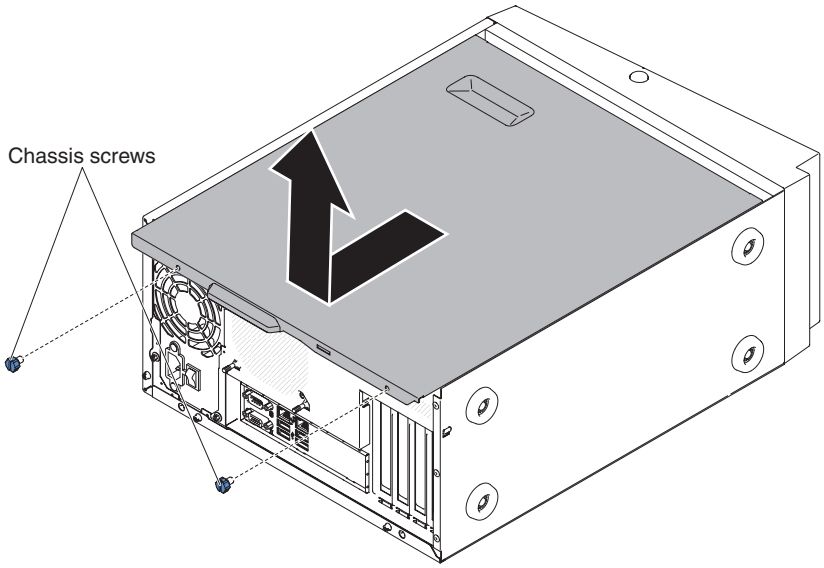


Figure 78. Side cover removal for 4U server model with non-hot-swap power supplies

   Attention: For proper cooling and airflow, replace the server cover before you turn on the server.
6. If you are instructed to return the side cover, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

For the 5U server model with hot-swap power supplies, complete the following steps to remove the side cover. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see “Turning off the server” on page 25).
3. Unlock the side cover; then, press the cover-release latch down (as shown in the illustration) to remove the cover.

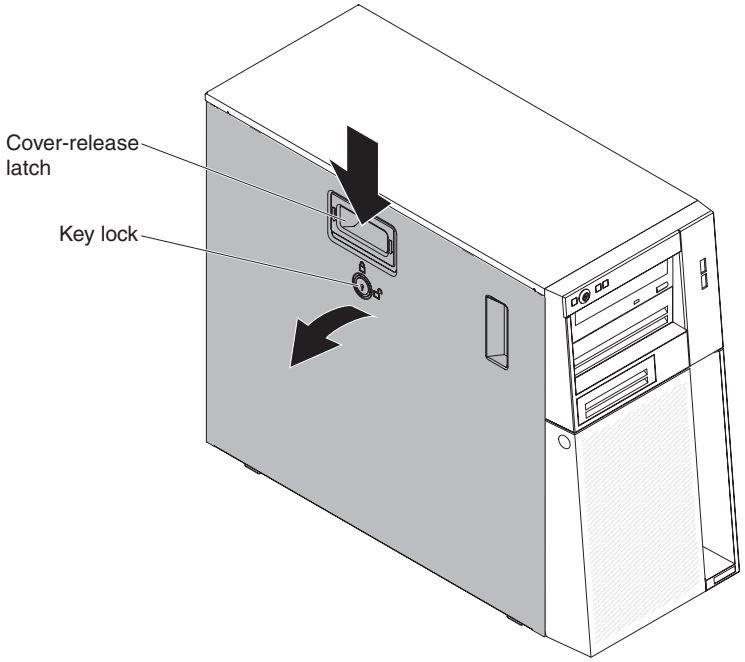


Figure 79. Side cover removal for 5U server model with hot-swap power supplies

Attention: For proper cooling and airflow, replace the server cover before you turn on the server.

4. If you are instructed to return the side cover, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the side cover

Use this information to replace the side cover.

Attention: For proper cooling and airflow, replace the side cover before turning on the server. Operating the server for extended periods of time (more than 30 minutes) with the side cover removed might damage server components.

For 4U server models with non-hot-swap power supplies, complete the following steps to remove the side cover. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Press on the side cover and push from the rear side of the side cover until it locks securely into place.

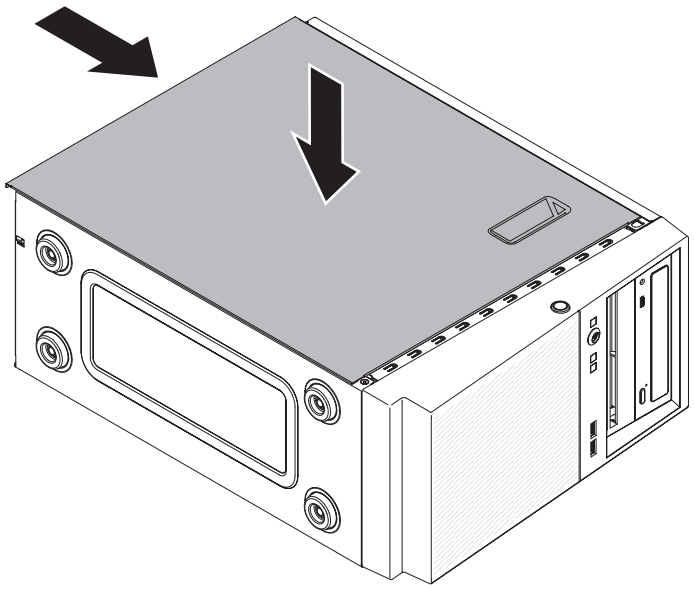


Figure 80. Side cover installation for 4U server model with non-hot-swap power supplies

5. Secure the side cover in place with the two chassis screws on the rear of the side cover.
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

For the 5U server model with hot-swap power supplies, complete the following steps in order to remove the side cover. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

Attention: The cover lock must be in the unlocked (opened) position before you install the side cover.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
3. If you removed the upper and lower bezels, reinstall them before you replace the side cover (see "Replacing the lower bezel" on page 181 and "Replacing the upper bezel" on page 183).
4. Position the lip at the bottom edge of the side cover on the ledge at the bottom of the chassis; then, rotate the cover up to the chassis. Press down on the cover release latch and push the cover into the chassis until it latches securely into place.

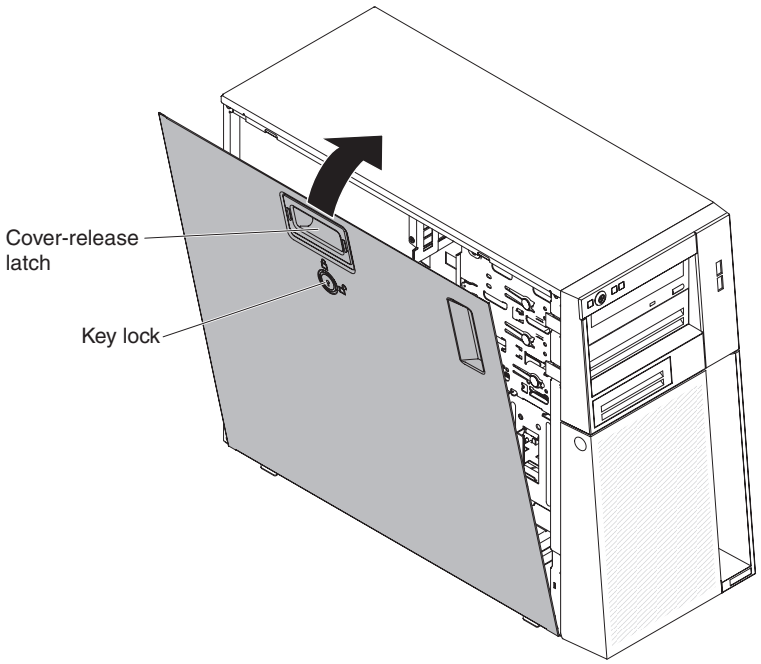


Figure 81. Side cover installation for 5U server model with hot-swap power supplies

5. Lock the side cover.
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the air baffle

This procedure applies only to 4U server models with non-hot-swap power supplies.

To remove the air baffle, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and peripheral devices and disconnect the power cords and all external cables (see "Turning off the server" on page 25).
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Grasp the top of the air baffle and lift it out of the server.

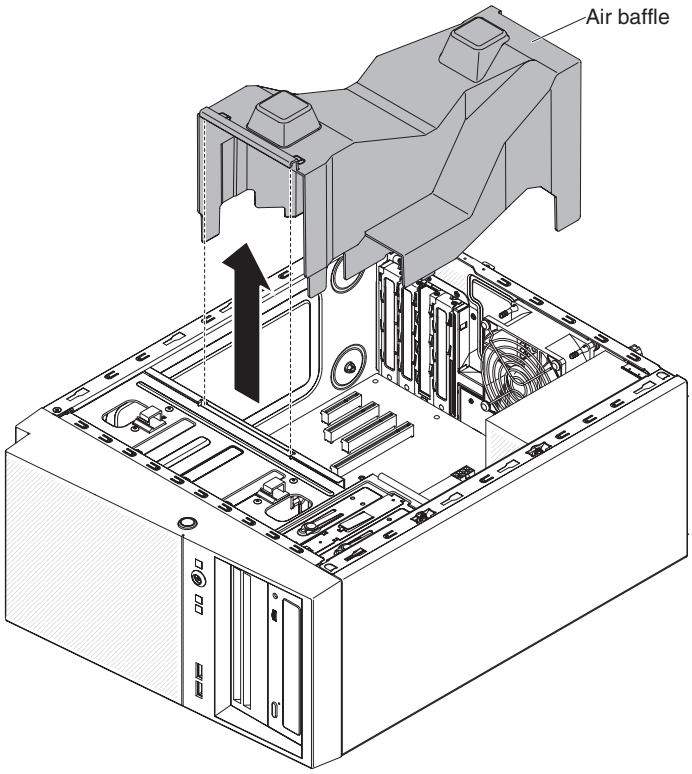


Figure 82. Air baffle removal for 4U server model with non-hot-swap power supplies

Attention: For proper cooling and airflow, reinstall the air baffle, making sure all cables are out of the way, before you turn on the server. Operating the server with the air baffle removed might damage server components.

6. If you are instructed to return the air baffle, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the air baffle

This procedure applies only to 4U server models with non-hot-swap power supplies.

To install the air baffle on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Align the tabs on the air baffle with the slots on the chassis.
3. Lower the air baffle into the server.

   Attention:

   - Make note of the microprocessor power cable routing, as the cable may interfere with the air baffle installation.

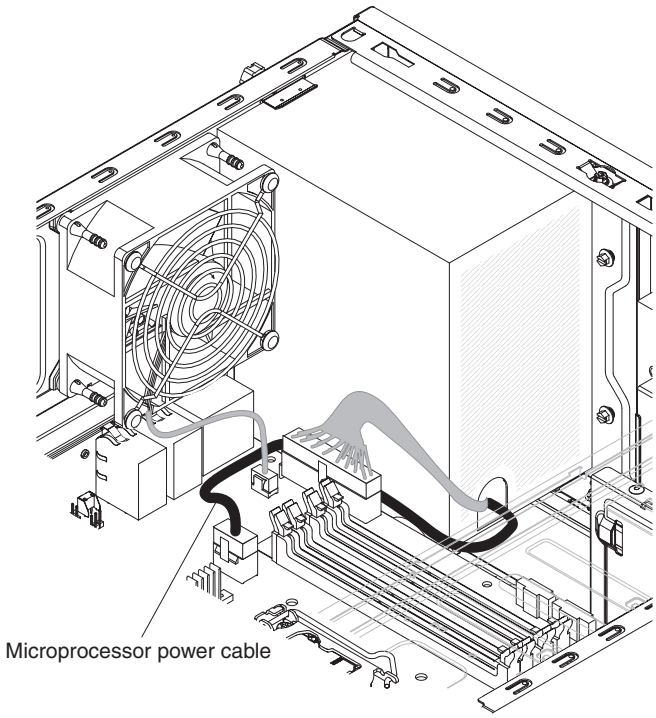


Figure 83. Microprocessor power cable routing when installing air baffle for 4U server model with non-hot-swap power supplies

- Make sure that the tabs on the air baffle are inserted into the holes on the chassis and no cables are not caught or pinched.
- For proper cooling and airflow, reinstall the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

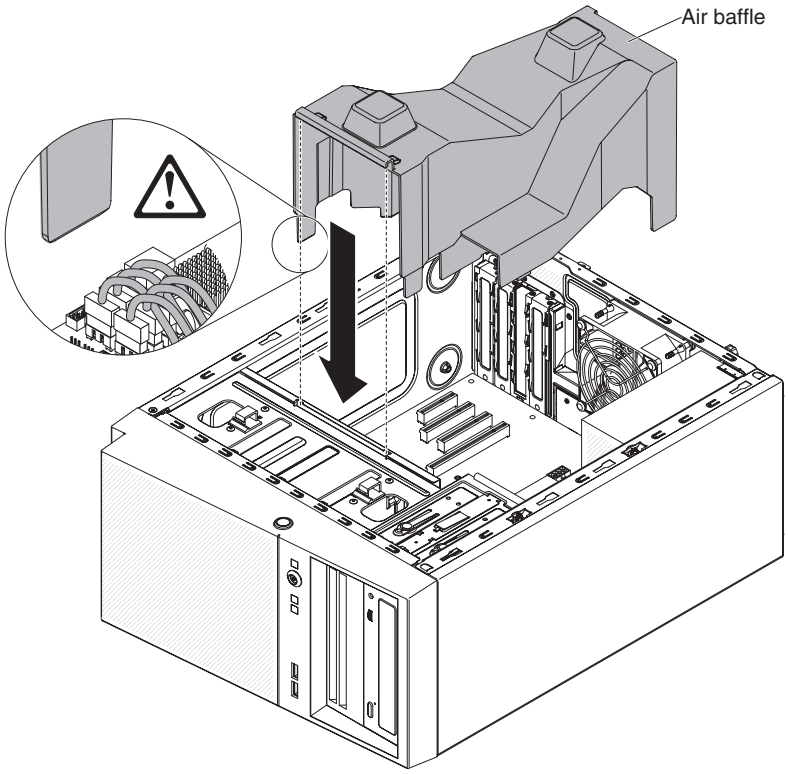


Figure 84. Air baffle installation for 4U server model with non-hot-swap power supplies

4. Install and lock the side cover (see "Replacing the side cover" on page 173).
5. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the bezel

This procedure applies only to 4U server models with non-hot-swap power supplies.

When you work with some devices on 4U server models with non-hot-swap power supplies, such as the drives in bays 3 through 6, you must first remove the bezel to access the devices.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Press the button on the left edge of the bezel; then, rotate the left side of the bezel away from the server until it disengages and set it aside.

   Note: When rotating the bezel to a certain point, it may automatically disengage from the chassis.

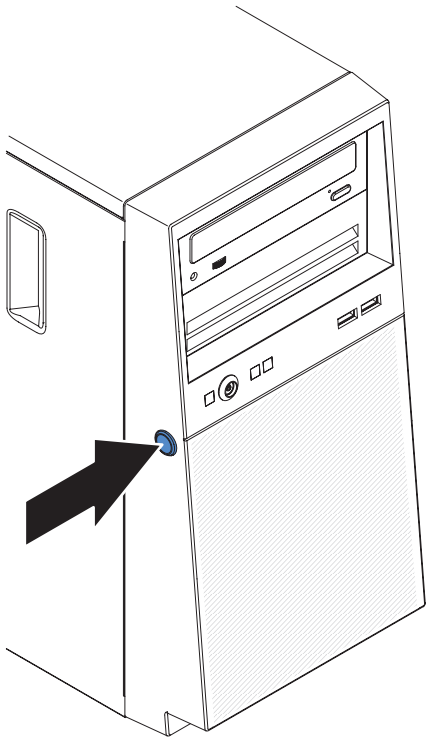


Figure 85. Bezel removal for 4U server model with non-hot-swap power supplies (1)

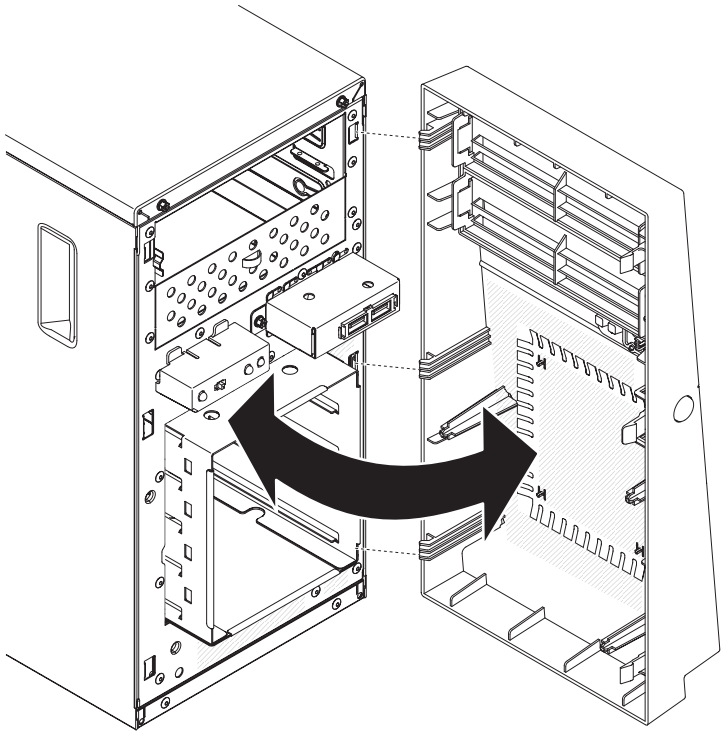


Figure 86. Bezel removal for 4U server model with non-hot-swap power supplies (2)

3. If you are instructed to return the bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the bezel

This procedure applies only to 4U server models with non-hot-swap power supplies.

To install the bezel on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Insert the three tabs on the bezel into the corresponding holes in the front of the server.
3. Rotate the bezel to the server until it locks securely into place.

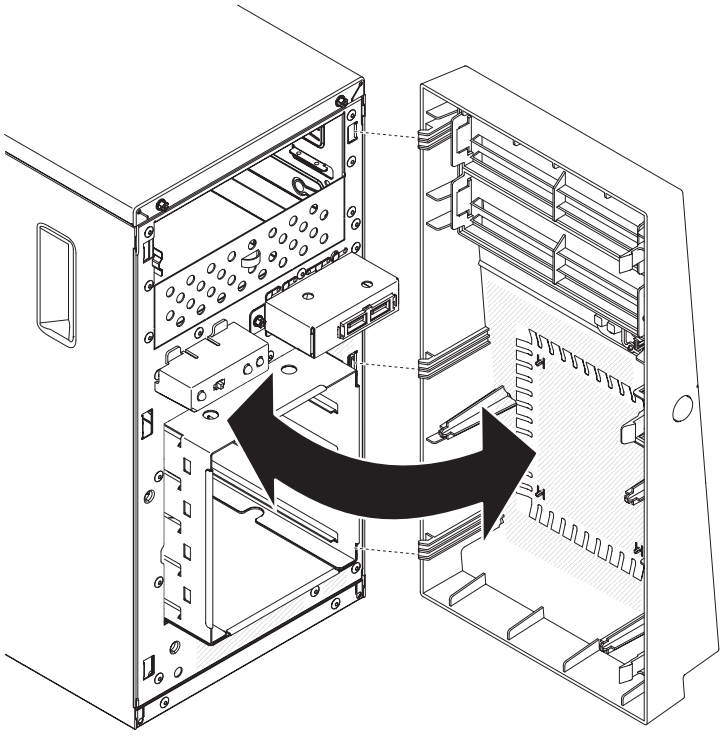


Figure 87. Bezel installation for 4U server model with non-hot-swap power supplies

4. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the lower bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To access the hard disk drives on the 5U server model with hot-swap power supplies, you must first remove the lower bezel.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. If you are replacing a non-hot-swap component, turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Press the blue-colored release button on the right side of the lower bezel and rotate the lower bezel downward to disengage from the chassis.

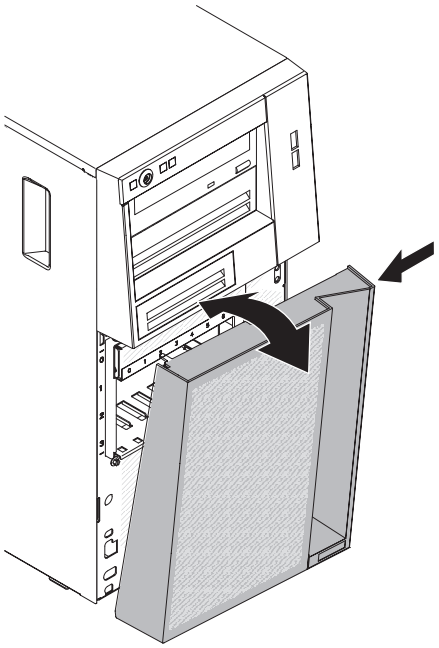


Figure 88. Lower bezel removal for 5U server model with hot-swap power supplies

4. If you are instructed to return the lower bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the lower bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the lower bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Insert the two bottom tabs on the lower bezel into the corresponding holes in the front of the chassis.

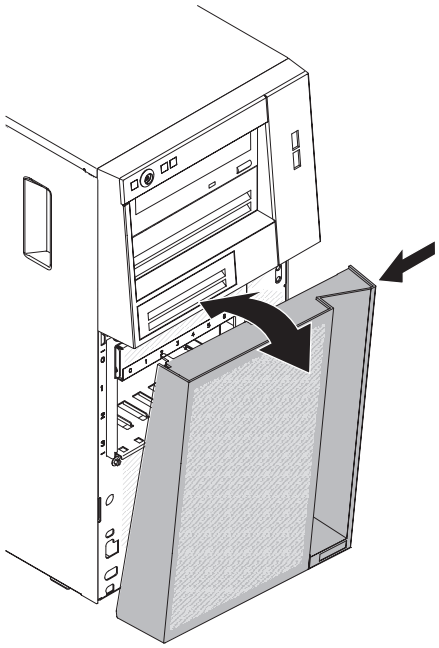


Figure 89. Lower bezel installation for 5U server model with hot-swap power supplies

3. Rotate the top of the lower bezel up to the chassis; then, press the blue-colored release tab on the right side of the lower bezel and completely close the lower bezel until it locks securely into place.
4. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the upper bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To access the DVD drive or tape drive on the 5U server model with hot-swap power supplies, you must first remove the upper bezel to access the devices.

To remove the upper bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. If you are replacing a non-hot-swap component, turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Carefully pull the two bezel clips on the left side of the upper bezel; then, rotate the upper bezel to the right side of the server to disengage the two right-side tabs from the chassis.

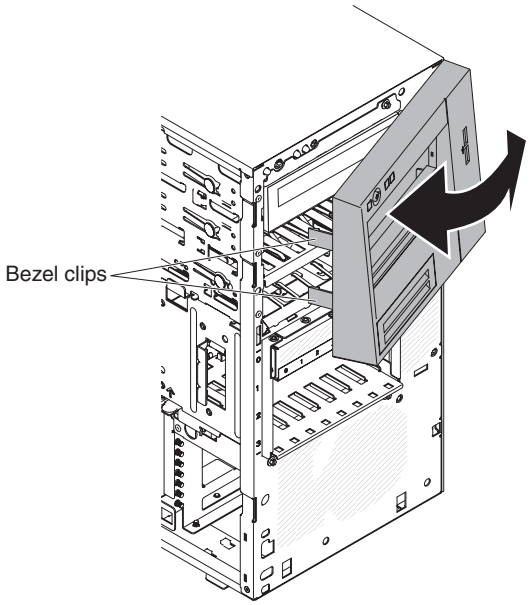


Figure 90. Lower bezel removal for 5U server model with hot-swap power supplies

6. If you are instructed to return the upper bezel, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the upper bezel

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the upper bezel on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Insert the two tabs on the right-side of the upper bezel into the corresponding holes on the right side of the chassis.

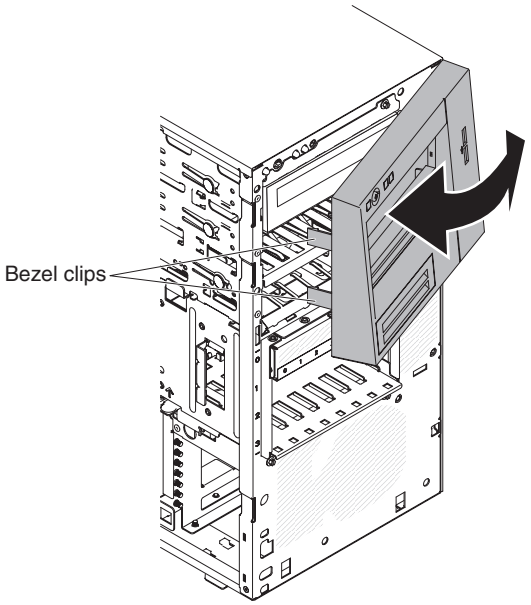


Figure 91. Upper bezel installation for 5U server model with hot-swap power supplies

3. Rotate the upper bezel to the left side of the chassis until the bezel clips are aligned with the corresponding indentations on the left side of the chassis and snap them into place.
4. Unlock and remove the side cover (see "Replacing the lower bezel" on page 181).
5. Remove the lower bezel (see "Replacing the side cover" on page 173).
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the hard disk drive cage

Use this information to remove the hard disk drive cage.

To remove the hard disk drive cage on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Remove the simple-swap hard disk drives (see "Removing a simple-swap hard disk drive" on page 207).
8. Remove the simple-swap backplate (see "Removing the simple-swap backplate" on page 224).
9. Press and hold the drive cage release latches.

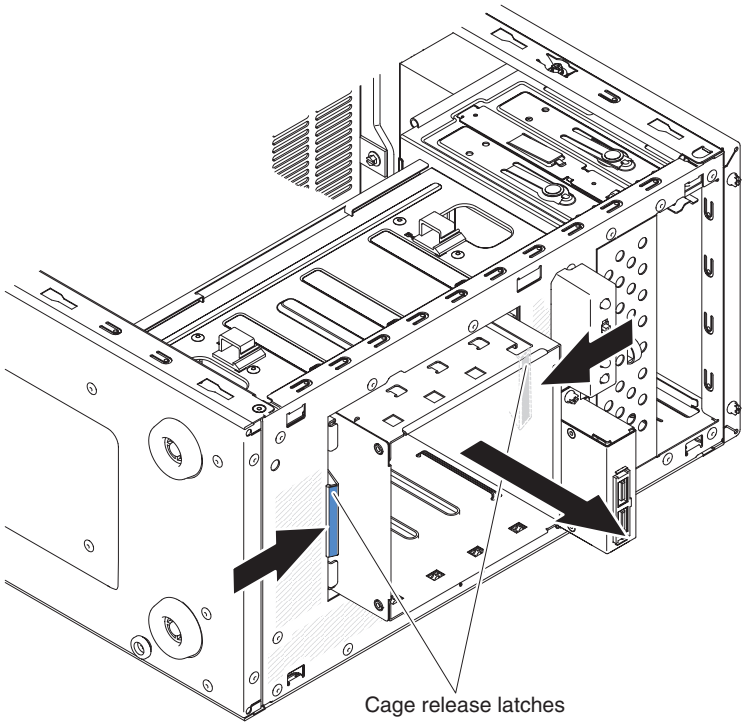


Figure 92. Hard disk drive cage removal for 4U server model with non-hot-swap power supplies

10. Carefully pull the hard disk drive cage out of the opening in the chassis.
11. If you are instructed to return the drive cage, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the hard disk drive cage on 5U server models with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the hot-swap SAS/SATA hard disk drives installed in the hard disk drive cage (see "Removing a hot-swap hard disk drive" on page 210).
6. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
7. Remove the hard disk drive fan duct (see "Removing the hard disk drive fan duct" on page 213).
8. Remove the hard disk drive cables from the cable clips.
9. Press and hold the drive cage release tab; then, rotate the drive cage out of the chassis until the retaining tab on top of the cage locks into place.

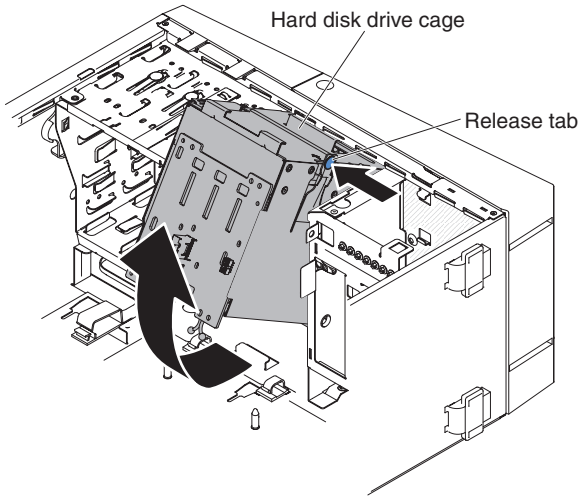


Figure 93. Rotating hard disk drive cage out of chassis for 5U server model with hot-swap power supplies

10. Disconnect the power, signal and configuration cables from the hard disk drive backplane (for details regarding the cabling, see "Removing the hot-swap hard disk drive backplane" on page 231).
11. Remove the screws as shown in the illustration.

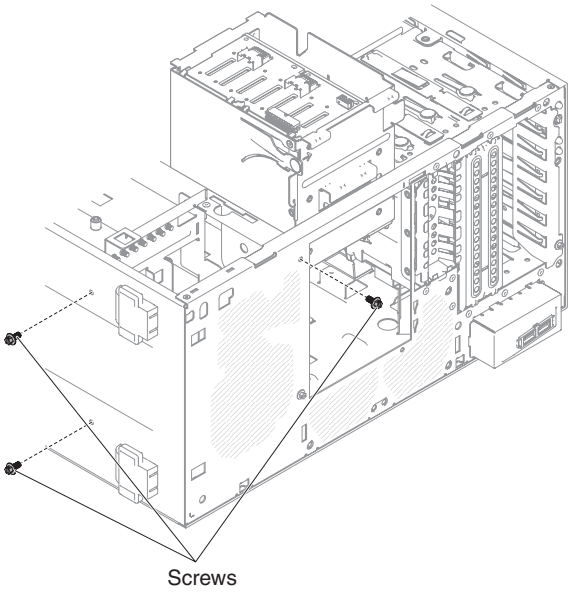


Figure 94. Hard disk drive cage screw removal for 5U server model with hot-swap power supplies

12. Lift the hard disk drive cage out of the chassis.

    Note: You may need to slightly twist and turn the hard disk drive cage in order to remove it from the server.

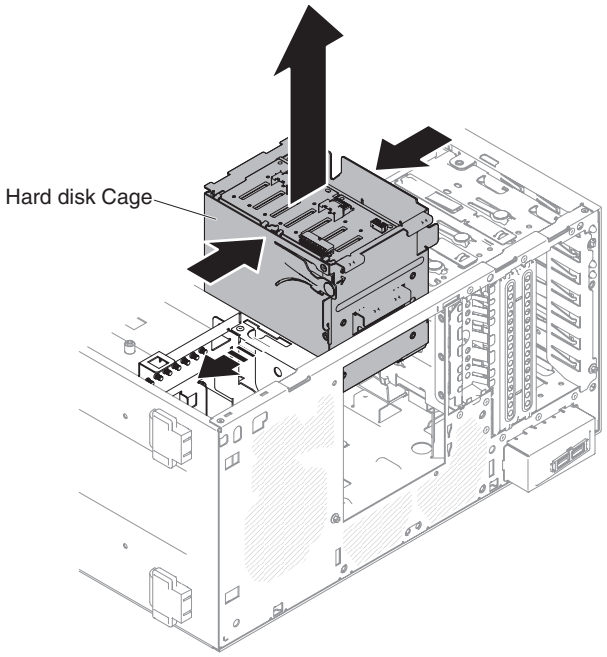


Figure 95. Hard disk drive cage removal for 5U server model with hot-swap power supplies

Replacing the hard disk drive cage

Use this information to replace the hard disk drive cage

To install the hard disk drive cage on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Press the hard disk drive cage in until the release latches click into place.

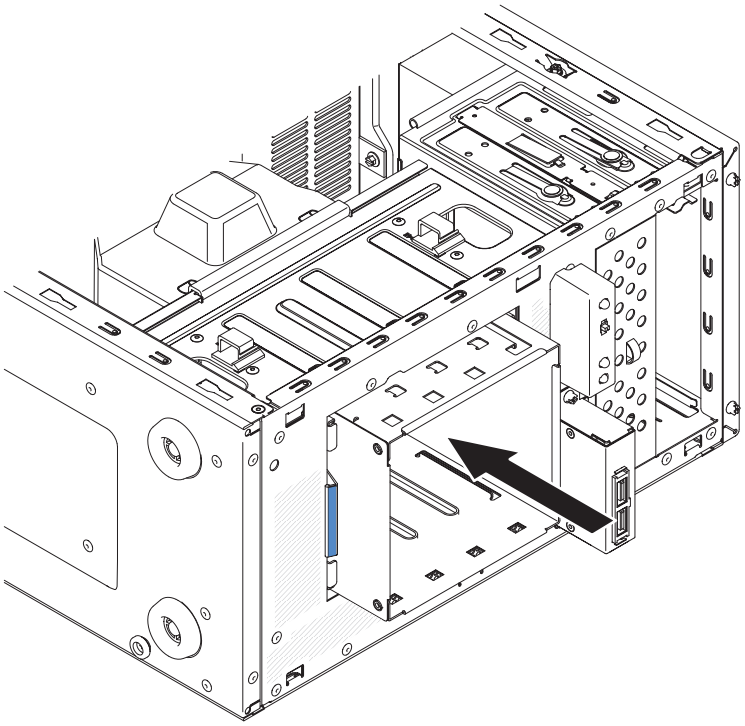


Figure 96. Hard disk drive cage installation for 4U server model with non-hot-swap power supplies

Note: Make sure the backplate is already installed on the disk drive cage (see "Replacing the simple-swap backplate" on page 225).

3. Install the air baffle (see "Replacing the air baffle" on page 176).
4. Install the side cover (see "Replacing the side cover" on page 173).
5. Stand the server back up in its vertical position.
6. Install the bezel (see "Replacing the bezel" on page 180).
7. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the hard disk drive cage on 5U server models with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Lower the hard disk drive cage into the chassis.

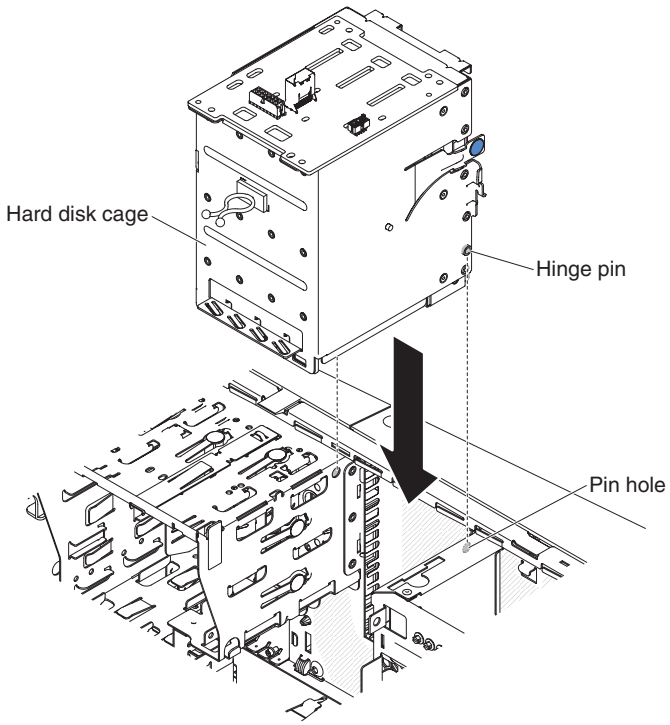


Figure 97. Hard disk drive cage installation for 5U server model with hot-swap power supplies

3. Install the screws to secure the hard disk drive cage into the chassis.

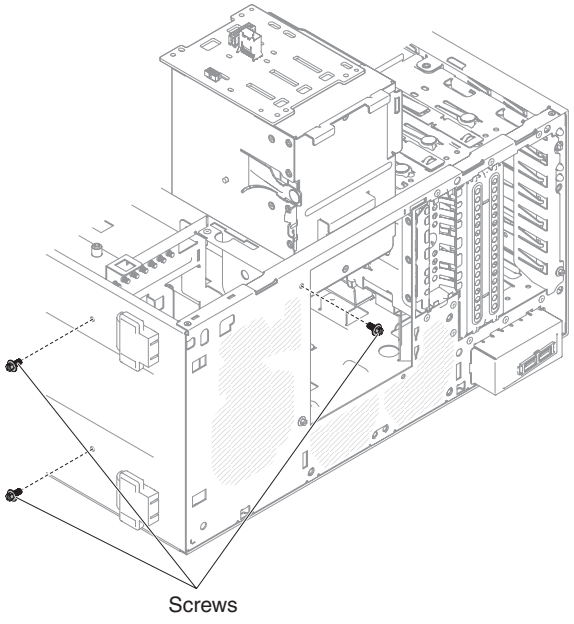


Figure 98. Hard disk drive cage screw installation for 5U server model with hot-swap power supplies

4. Connect the power, signal and configuration cables to the hard disk drive backplane (for details regarding the cabling, see "Replacing the hot-swap hard disk drive backplane" on page 234).
5. Press and hold the retaining tab on the side of the cage; then, rotate the drive cage into the chassis until it locks into place.

Note: You may need to slightly lift up the cage in order to press and hold the retaining tab.

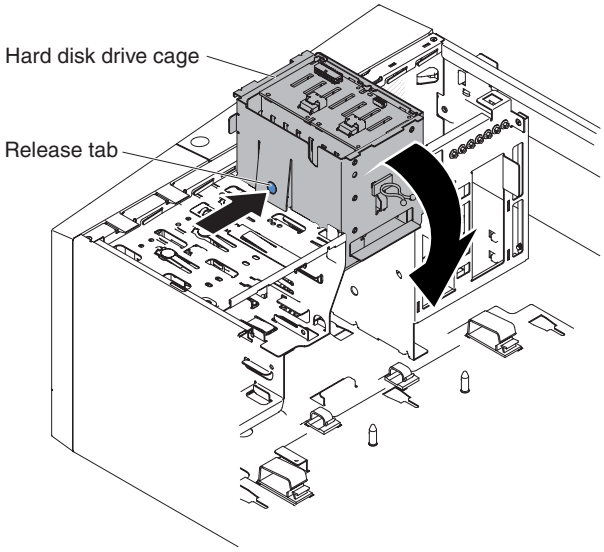


Figure 99. Rotating hard disk drive cage into chassis for 5U server model with hot-swap power supplies

6. Install the hard disk drive fan duct onto the hard disk drive cage (see "Replacing the hard disk drive fan duct" on page 216).
7. Stand the server back up in its vertical position.
8. Install the hot-swap hard disk drives that you removed from the hard disk drive cage (see "Replacing a hot-swap hard disk drive" on page 212).
9. Install the lower bezel (see "Replacing the lower bezel" on page 181).
10. Install and lock the side cover (see "Replacing the side cover" on page 173).
11. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the battery holder from 5U server model

Use this information to remove the battery holder from 5U server model

To remove the battery holder from the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the battery holder and bracket from the chassis by unscrewing the screw.

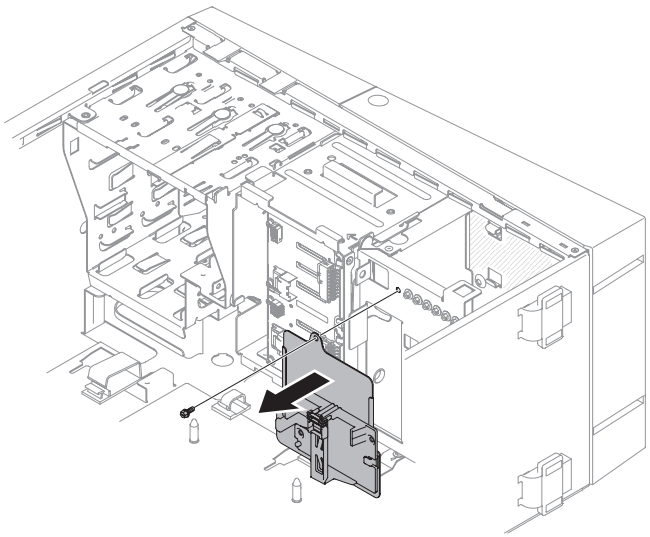


Figure 100. Battery holder and bracket removal from chassis for 5U server model with hot-swap power supplies

6. Remove the battery holder from the bracket by sliding it out of the slot.

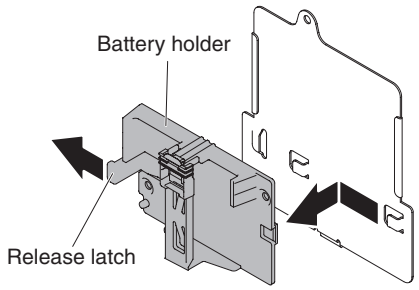


Figure 101. Battery holder removal from bracket for 5U server model with hot-swap power supplies

7. Remove the latch retainer from the battery holder.

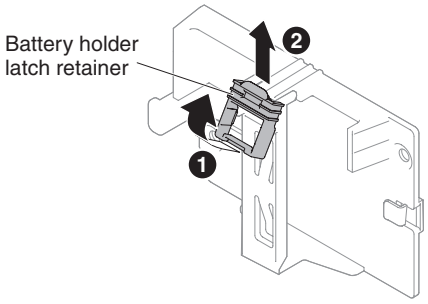


Figure 102. Latch retainer removal from battery holder for 5U server models with hot-swap power supplies

8. If you are instructed to return the battery, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the battery holder on 5U server model

Use this information to replace the battery holder on the 5U server model

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the battery holder on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Attach the latch retainer onto the battery holder.

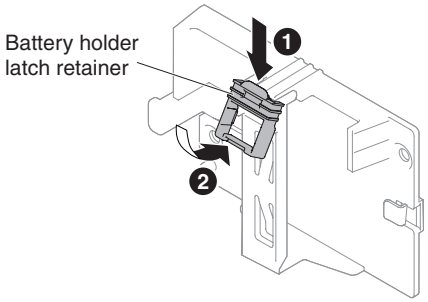


Figure 103. Latch retainer attachment onto battery holder for 5U server models with hot-swap power supplies

3. Insert the battery holder into the bracket.

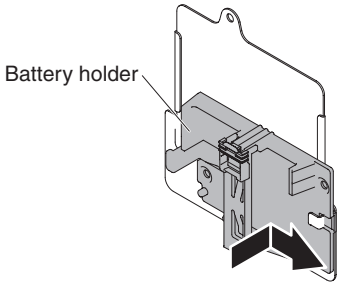


Figure 104. Installing battery holder into bracket for 5U server model with hot-swap power supplies

4. Tighten the screw to secure the battery holder and bracket to the chassis.

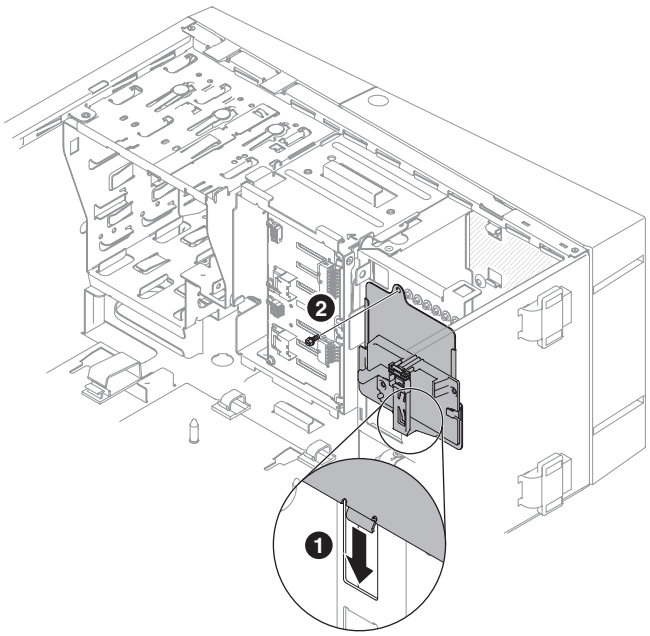


Figure 105. Installing battery holder and bracket into chassis for 5U server model with hot-swap power supplies

5. Stand the server back up in its vertical position.
6. Install and lock the side cover (see "Replacing the side cover" on page 173).
7. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing and replacing Tier 1 CRUs

This section provides information for removing and replacing Tier 1 CRUs in the server.

Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request, you will be charged for the installation.

The illustrations in this document might differ slightly from your hardware.

Removing and installing internal drives

Use this information to remove and install internal drives.

The following figure shows the locations of the four 3.5" simple-swap hard disk drive bays in the 4U server model with non-hot-swap power supplies.

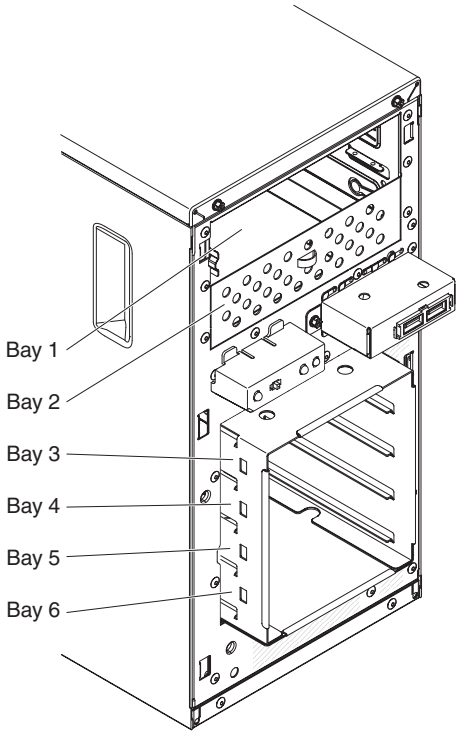


Figure 106. Location of the four 3.5" simple-swap hard disk drive bays in the 4U server model with non-hot-swap power supplies

The following figure shows the locations of the eight 2.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies.

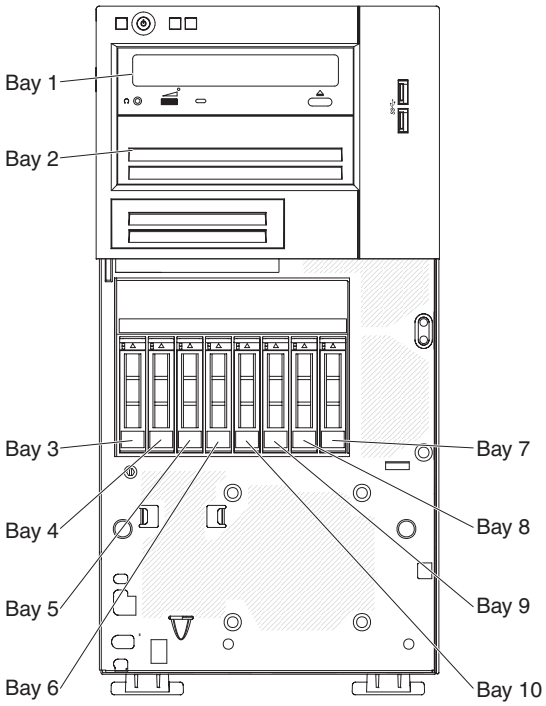


Figure 107. Location of the eight 2.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies

The following figure shows the locations of the four 3.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies.

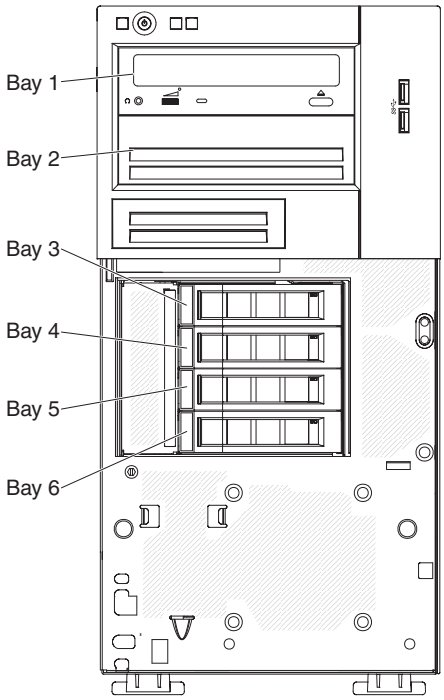


Figure 108. Location of the four 3.5" hot-swap hard disk drive bays in the 5U server model with hot-swap power supplies

The following notes describe the types of drives that the server supports and other information that you must consider when installing a drive:

- Make sure that you have all the cables and other equipment that is specified in the documentation that comes with the drive.
- Check the instructions that come with the drive to see whether you have to set any switches or jumpers on the drive. If you are installing a SATA device, be sure to set the SATA ID for that device.
- Optional external tape drives, DVD-ROM drive are examples of removable-media drives. You can install removable-media drives only in bays 1 and 2.
- The electromagnetic interference (EMI) integrity and cooling of the server are protected by having all bays and PCI slots covered or occupied. When you install a drive or PCI adapter, save the EMC shield and filler panel from the bay or the PCI adapter slot cover in the event that you later remove the drive or adapter.
- For a complete list of supported options for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.

Removing a DVD drive:

Use this information to remove a DVD drive.

To remove a DVD drive in 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see “Removing the bezel” on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see “Removing the side cover” on page 36).
6. Disconnect the power cable and then the signal cables from the drive that is to be removed.
7. Stand the server back up in its vertical position.
8. Press and hold the blue release button on the side of the bay to release the drive; then, pull the drive out of the front of the server.

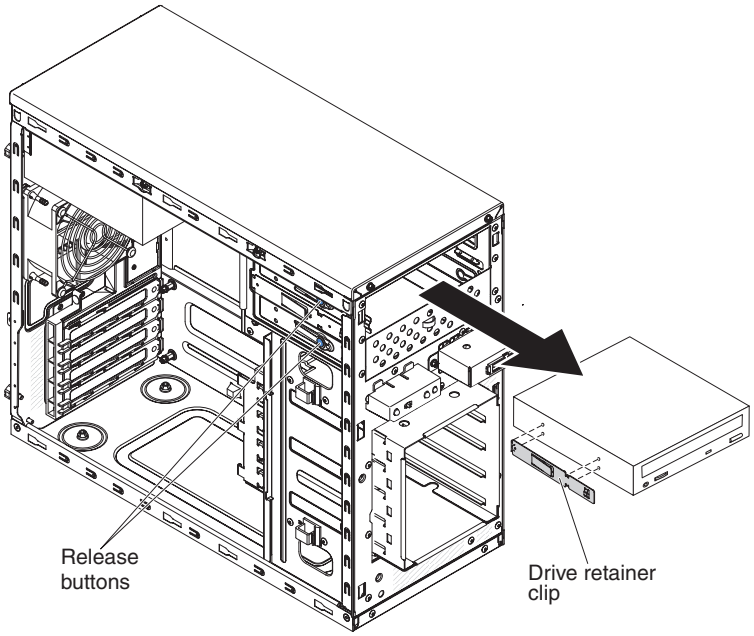
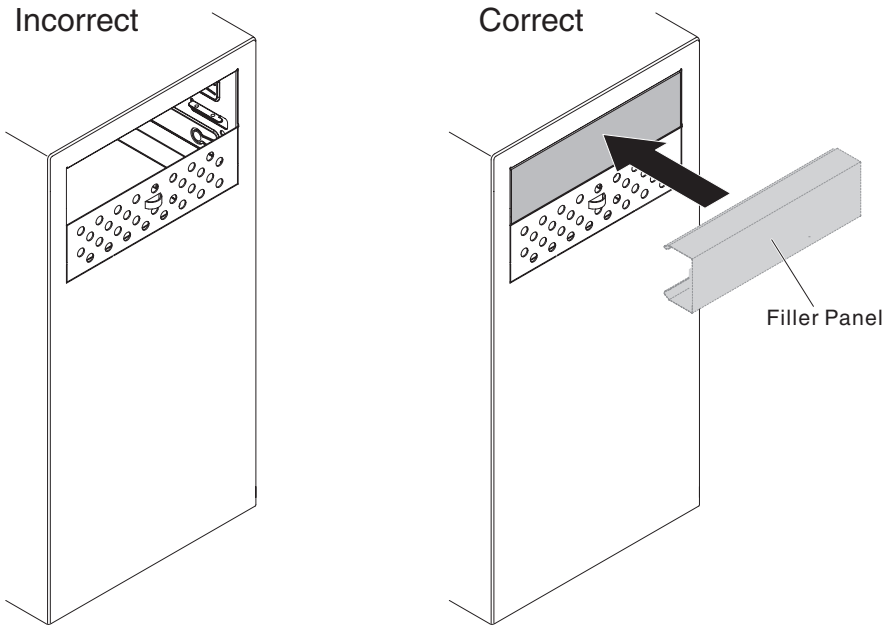


Figure 109. DVD drive removal for 4U server model with non-hot-swap power supplies

9. Remove the drive retainer clip from the side of the drive. Save the clip to use when you install the replacement drive.
10. If you are instructed to return the drive, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Important: To help ensure system reliability and electromagnetic compatibility (EMC), make sure that a filler panel (part number is 00KC799) is installed in the drive bay when no tape drive or CD/DVD drive is installed.



To remove a DVD drive in the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the upper bezel (see "Removing the upper bezel" on page 41).
6. Disconnect the power and signal cables from the drive that is to be removed.
7. Press and hold the blue-colored release button on the side of the bay to release the drive; then, pull the drive out of the front of the server.

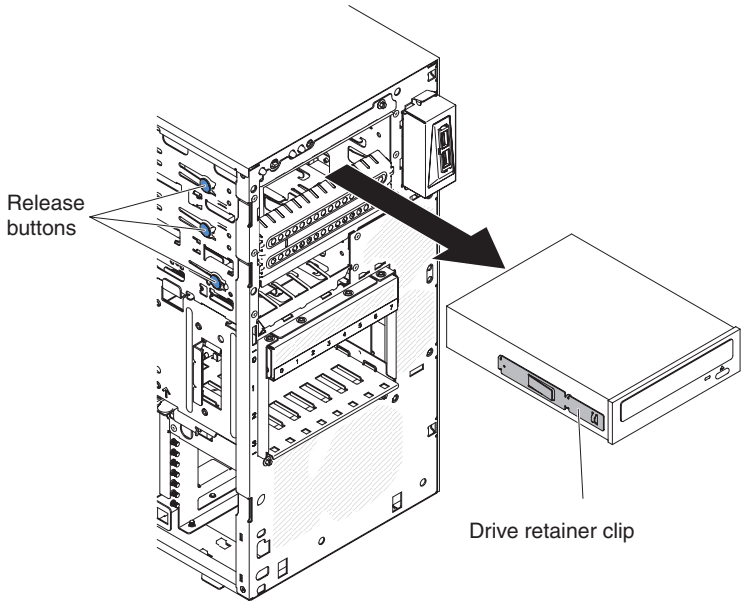
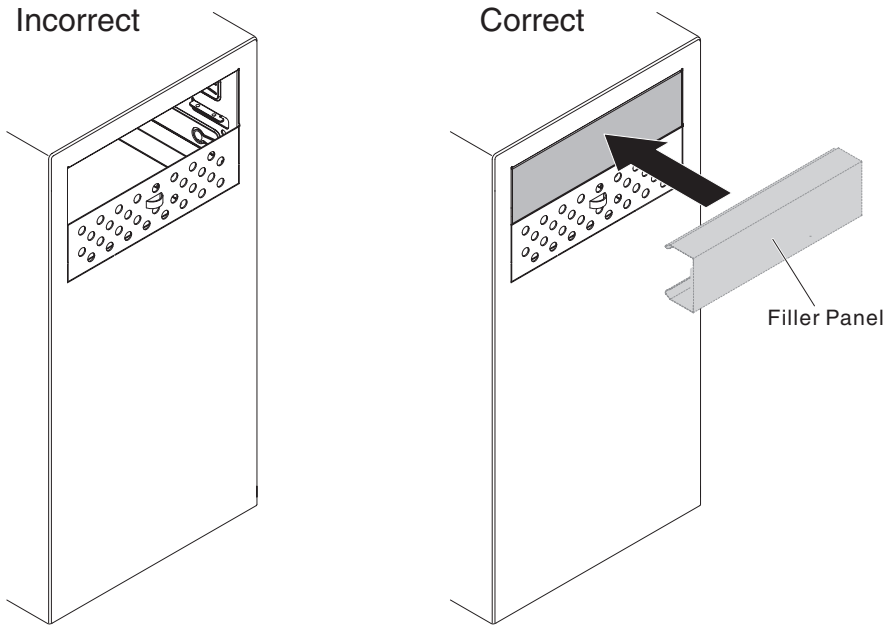


Figure 110. DVD drive removal for 5U server model with hot-swap power supplies

8. Remove the drive retainer clip from the side of the drive. Save the clip to use when you install the replacement drive.
9. If you are instructed to return the drive, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Important: To help ensure system reliability and electromagnetic compatibility (EMC), make sure that a filler panel (part number is 00KC799) is installed in the drive bay when no tape drive or CD/DVD drive is installed.



Replacing the DVD drive:

Use this information to replace the DVD drive

If you are replacing a drive, make sure that:

- You have all the cables and other equipment that are specified in the documentation that comes with the new drive.
- You have checked the instructions that come with the new drive to determine whether you must set any switches or jumpers in the drive.
- You have removed the blue optical drive rails from the side of the old drive and have them available for installation on the new drive.

Note: If you are installing a drive that contains a laser, observe the following safety precautions.

Statement 3

CAUTION:
When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- **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 controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

DANGER

Some laser products contain an embedded Class 3A or Class 3B laser diode.

Note the following. Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

To install a DVD drive on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Follow the instructions that come with the drive to set jumpers or switches, if there are any.

   Note: You might find it easier to install the new drive from the front and then attach the cables.
3. Touch the static-protective package that contains the new DVD drive to any unpainted metal surface on the server; then, remove the DVD drive from the package and place it on a static-protective surface.
4. Stand the server back up in its vertical position.
5. Remove the drive retainer clip from the side of the drive cage of bay 1 or bay 2. Slide the drive retainer clip to the front to remove it from the drive cage; then, snap the drive retainer clip into the screw holes on the side of the drive.
6. Push the drive into the bay.

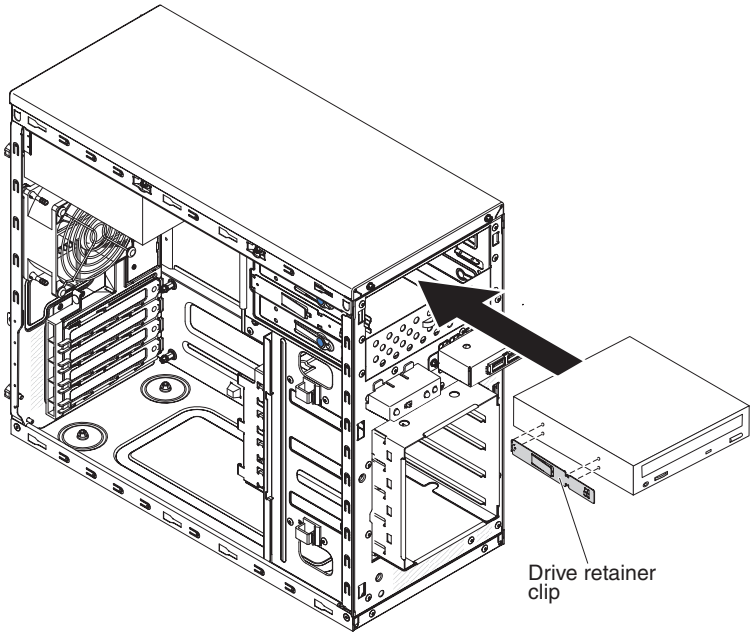


Figure 111. DVD drive installation for 4U server models with non-hot-swap power supplies

7. Carefully turn the server on its side so that it is lying flat.

   Attention: Do not allow the server to fall over.
8. Connect the power (power connector P9) and signal cables to the drive.

   Note: Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).
9. If you have another drive to install or remove, do so now.
10. Install the side cover (see "Replacing the side cover" on page 173).
11. Install the bezel (see "Replacing the bezel" on page 180).

Note: Remove the filler blocking the installed drive if any.

12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install a DVD drive on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Follow the instructions that come with the drive to set jumpers or switches, if there are any.

   Note: You might find it easier to install the new drive from the front and then attach the cables.
3. Touch the static-protective package that contains the new DVD drive to any unpainted metal surface on the server; then, remove the DVD drive from the package and place it on a static-protective surface.
4. Attach the drive retainer clip that you removed from the previous drive to the side of the new drive.
5. Push the drive into the bay.

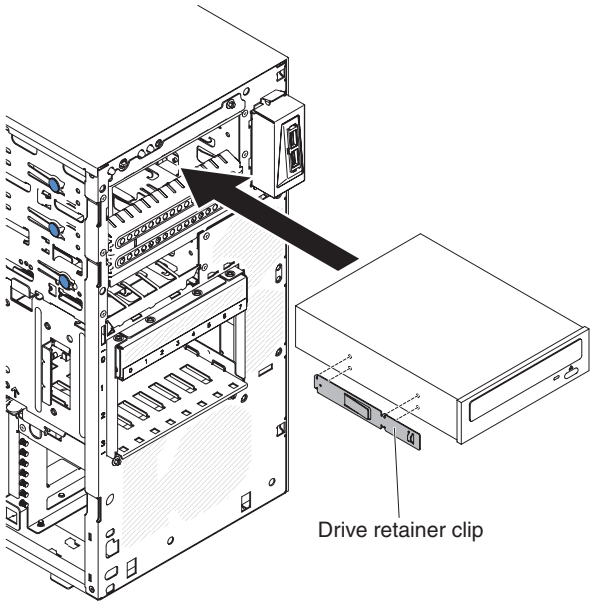


Figure 112. DVD drive installation for 5U server model with hot-swap power supplies

6. Connect the power and signal cables to the drive.

   Note: Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).
7. Install the upper bezel (see "Replacing the upper bezel" on page 183).
8. Install the lower bezel (see "Replacing the lower bezel" on page 181).
9. Install and lock the side cover (see "Replacing the side cover" on page 173).
10. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing a tape drive:

Use this information to remove a tape drive.

To remove a tape drive on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see “Removing the bezel” on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see “Removing the side cover” on page 36).
6. Disconnect the power cable and then the signal cables from the drive that is to be removed.
7. Stand the server back up in its vertical position.
8. Press and hold the blue release button on the side of the bay to release the drive; then, pull the drive out of the front of the server.

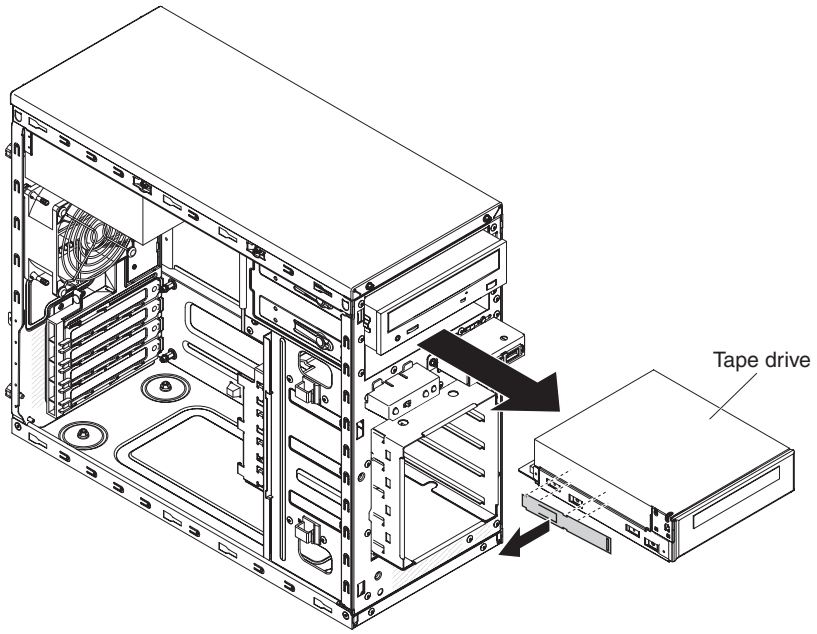
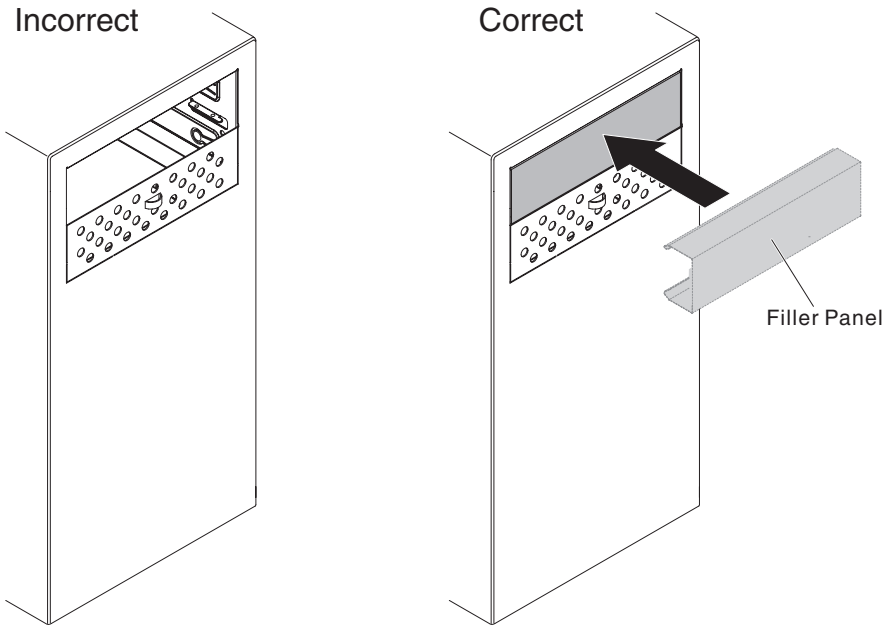


Figure 113. Tape drive removal for 4U server model with non-hot-swap power supplies

9. Remove the drive retainer clip from the side of the drive. Save the clip to use when you install the replacement drive.
10. If you are instructed to return the drive, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Important: To help ensure system reliability and electromagnetic compatibility (EMC), make sure that a filler panel (part number is 00KC799) is installed in the drive bay when no tape drive or CD/DVD drive is installed.



To remove a tape drive on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the upper bezel (see "Removing the upper bezel" on page 41).
6. Disconnect the power and signal cables from the drive that is to be removed.
7. Press and hold the blue-colored release button on the side of the bay to release the drive; then, pull the drive out of the front of the server.
8. Remove the drive retainer clip from the side of the drive. Save the clip to use when you install the replacement drive.

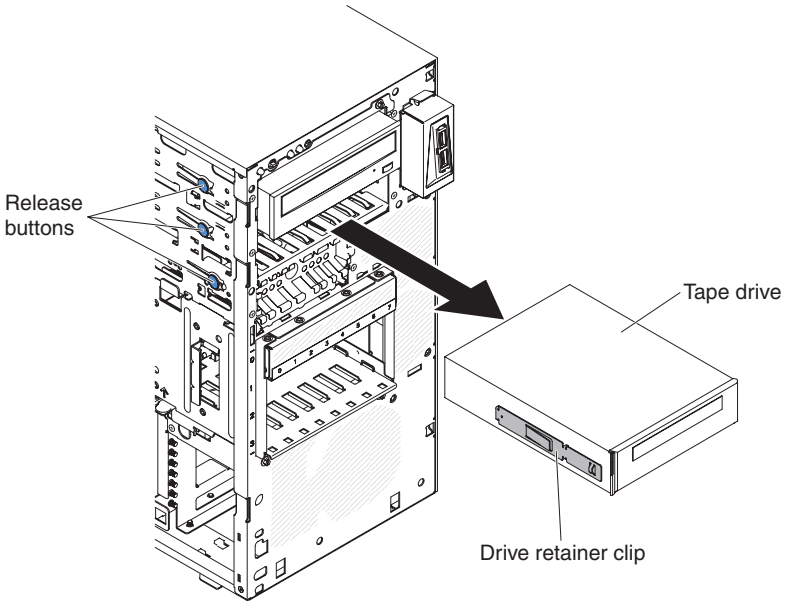
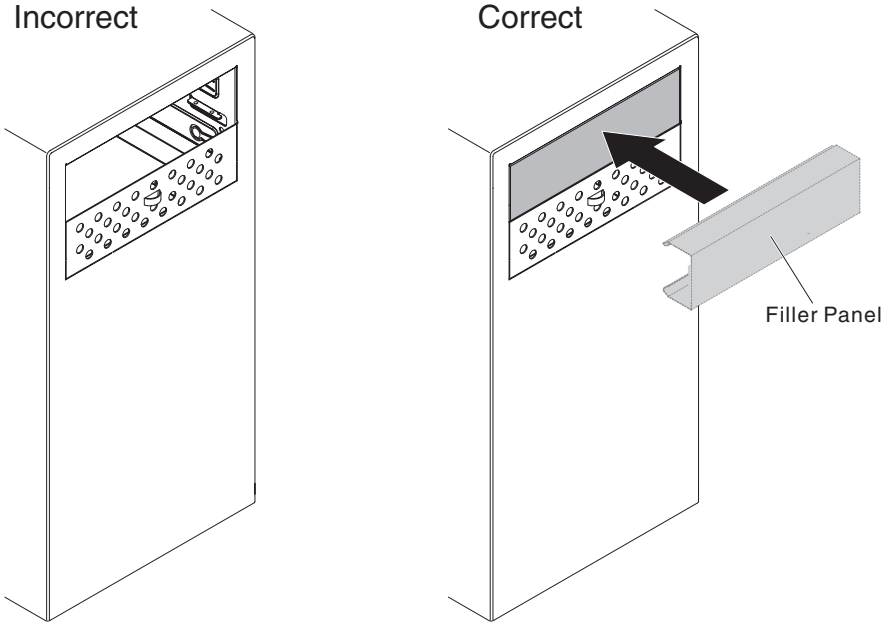


Figure 114. Tape drive removal for 5U server model with hot-swap power supplies

9. If you are instructed to return the drive, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Important: To help ensure system reliability and electromagnetic compatibility (EMC), make sure that a filler panel (part number is 00KC799) is installed in the drive bay when no tape drive or CD/DVD drive is installed.



Replacing the tape drive:

Use this information to replace the tape drive

If you are replacing a drive, make sure that:

- You have all the cables and other equipment that is specified in the documentation that comes with the new drive.
- You check the instructions that come with the new drive to determine whether you must set any switches or jumpers on the drive.
- You have removed the drive retainer clip on the side of the old drive and have it available for installation on the new drive.

To install a tape drive on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. Set any jumpers or switches on the drive according to the documentation that comes with the drive.
4. Stand the server back up in its vertical position.
5. Remove the filler from the drive cage, if any is present.
6. Remove the drive retainer clip from the side of the drive cage of bay 1 or bay 2. Slide the drive retainer clip to the front to remove it from the drive cage; then, snap the drive retainer clip into the screw holes on the side of the drive.
7. Push the drive into the bay.

   Note: A tape drive can only be installed in bay 1 or bay 2

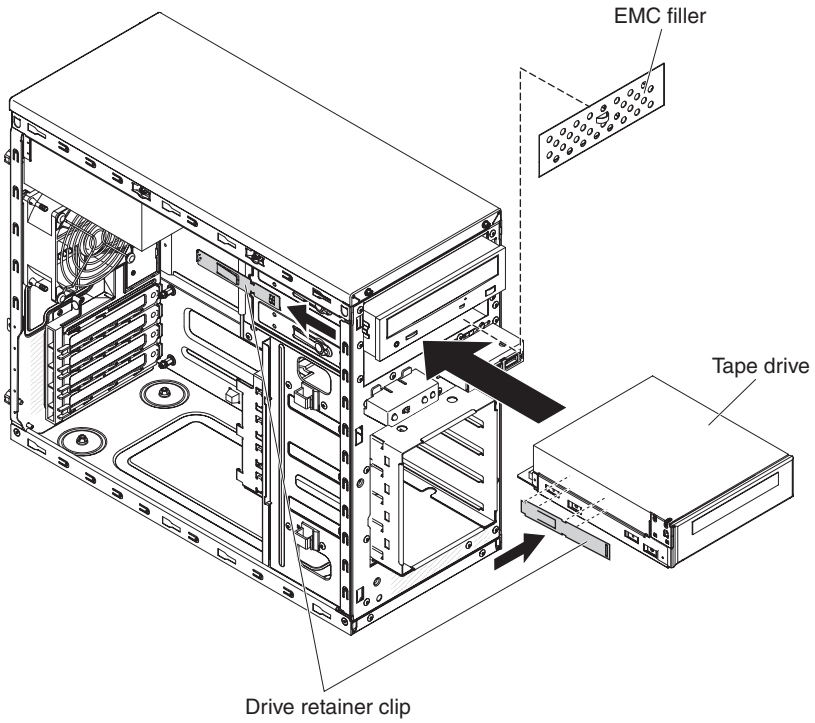


Figure 115. Tape drive installation for 4U server model with non-hot-swap power supplies

8. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

Attention: Do not allow the server to fall over.

9. Connect one end of the applicable signal cable into the rear of the drive and make sure that the other end of this cable is connected into the applicable connector on the system board.
10. Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).
11. If you have another drive to install or remove, do so now.
12. Install the air baffle (see "Replacing the air baffle" on page 176).
13. Install the side cover (see "Replacing the side cover" on page 173).
14. Stand the server back up in its vertical position.
15. Install the bezel (see "Replacing the bezel" on page 180
16. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Attention: If no tape drive is installed, it is important to reinstall the filler back to the bay.

To install a tape drive on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. Set any jumpers or switches on the drive according to the documentation that comes with the drive.
4. Remove the filler from the drive cage, if any is present.
5. Attach the drive retention clip that you removed from the previous drive into the screw holes on the side of the new drive.
6. Push the drive into the bay.

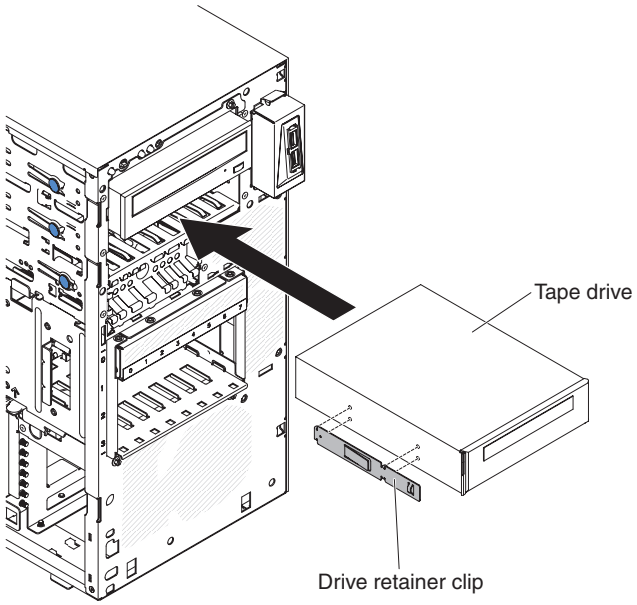


Figure 116. Tape drive installation for 5U server model with hot-swap power supplies

7. Connect one end of the applicable signal cable into the rear of the drive and make sure that the other end of this cable is connected into the applicable connector on the system board.
8. Route the signal cable so that it does not block the airflow to the rear of the drives or over the microprocessor and dual inline memory modules (DIMMs).
9. Connect the power cable to the rear of the drive. The connectors are keyed and can be inserted only one way.
10. Install the upper bezel (see "Replacing the upper bezel" on page 183).
11. Install the lower bezel (see "Replacing the lower bezel" on page 181).
12. Install and lock the side cover (see "Replacing the side cover" on page 173).
13. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing a simple-swap hard disk drive:

This procedure applies only to 4U server models with non-hot-swap power supplies.

Attention: Simple-swap hard disk drives are not hot-swappable. Disconnect all power from the server before you remove or install a simple-swap hard disk drive.

To remove a simple-swap SATA hard disk drive on 4U server models that have non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Slide the blue release latch to the right with one finger (to release the drive) while using another finger to grasp the black drive handle and pull the hard disk drive out of the drive bay.

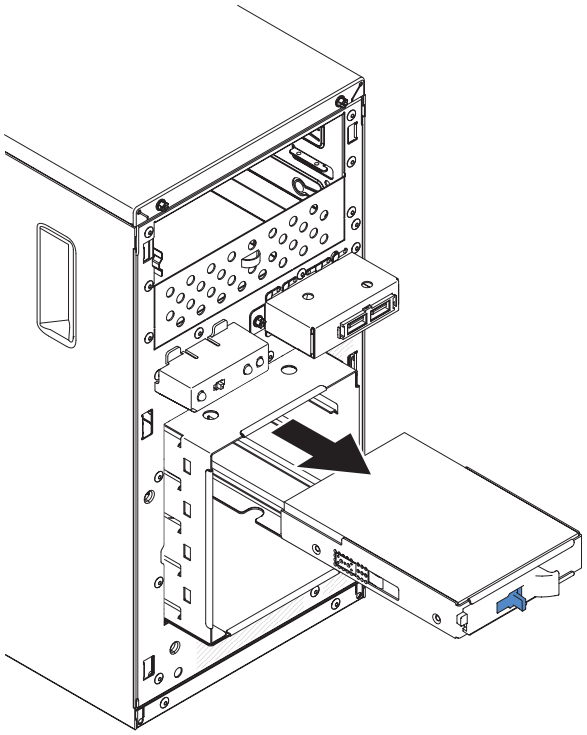


Figure 117. Simple-swap hard disk drive removal for 4U server model with non-hot-swap power supplies

5. If you are instructed to return the drive assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a simple-swap hard disk drive:

This procedure applies only to 4U server models with non-hot-swap power supplies.

The 4U server model with non-hot-swap power supplies supports up to four 3.5-inch simple-swap SATA hard disk drives, which are accessible from the front of the server.

Note: Only 3TB or below hard disk drive options are supported by the 4U server model with non-hot-swap power supplies .

You must disconnect all power from the server before you remove or install simple-swap drives. Before you install a simple-swap SATA hard disk drive, read the following information:

Install the drives starting from the top bay to the bottom bay (bay 3, 4, 5, and then 6). The following tables list the IDs of the hard disk drives:

Table 34. IDs of simple-swap drives

Drive bay	HDD ID
3	0
4	1
5	2

Table 34. IDs of simple-swap drives (continued)

Drive bay	HDD ID
6	3

- The simple-swap SATA hard disk drives connect to the SATA 0 through SATA 3 connectors on the system board as follows:
  - System board end cable connector 0 connects to the SATA 0 connector on the system board.
  - System board end cable connector 1 connects to the SATA 1 connector on the system board.
  - System board end cable connector 2 connects to the SATA 2 connector on the system board.
  - System board end cable connector 3 connects to the SATA 3 connector on the system board.
-
  - Hard disk drive 0 connects to the SATA 0 connector on the system board.
  - Hard disk drive 1 connects to the SATA 1 connector on the system board.
  - Hard disk drive 2 connects to the SATA 2 connector on the system board.
  - Hard disk drive 3 connects to the SATA 3 connector on the system board.

Note: Under RAID mode:

1. In uEFI setup menu:
   - Drive 0 indicates hard disk drive 0.
   - Drive 1 indicates hard disk drive 1.
   - Drive 2 indicates hard disk drive 2.
   - Drive 3 indicates hard disk drive 3.
2. In MegaRAID Storage Manager utility:
   - Slot 0 indicates hard disk drive 0.
   - Slot 1 indicates hard disk drive 1.
   - Slot 2 indicates hard disk drive 2.
   - Slot 3 indicates hard disk drive 3.

Attention: Simple-swap hard disk drives are not hot-swappable. Disconnect all power from the server before you remove or install a simple-swap hard disk drive

Note: If you installed a ServeRAID adapter in the server, connect the other end of the SATA signal cable to the connector on the ServeRAID adapter.

To install a simple-swap SATA hard disk drive on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. Align the drive assembly with the guide rails in the bay (the connector end of the drive goes in first).
4. Grasp the black drive handle and slide the blue release latch to the right; then, carefully slide the drive assembly into the drive bay until it stops, and release

the latch.

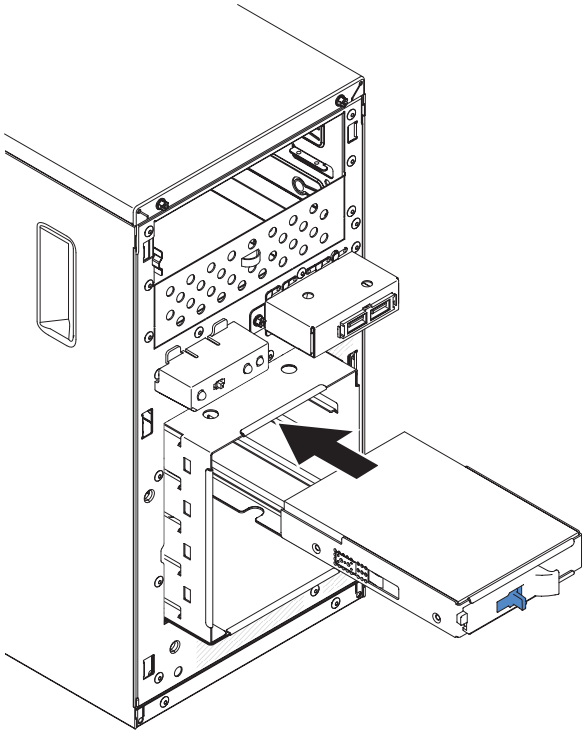


Figure 118. Simple-swap hard disk drive installation for 4U server model with non-hot-swap power supplies

5. If you have another drive to install or remove, do so now.
6. Install the bezel (see “Replacing the bezel” on page 180).
7. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing a hot-swap hard disk drive:

This procedure applies only to the 5U server model with hot-swap power supplies.

Attention: To maintain proper system cooling, do not operate the server for more than 10 minutes without at least one hard disk drive installed in the drive bay.

To remove a hot-swap hard disk drive on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.

   Note: You do not have to turn off the server to remove hot-swap drives from the hot-swap drive bays.
2. Remove the lower bezel (see “Removing the lower bezel” on page 41).
3. Rotate the drive tray handle of the drive assembly that is to be removed to the open position.

   The following illustration shows the removal of a 2.5" hot swap hard disk from a 5U server model with hot-swap power supplies.

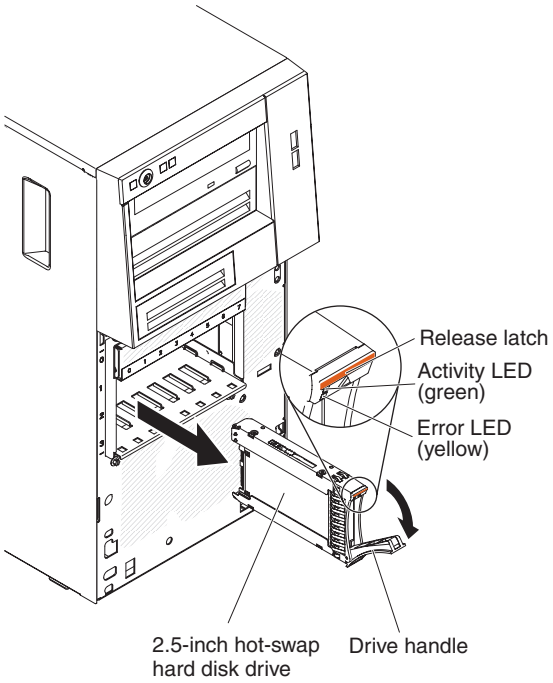


Figure 119. 2.5" hot swap hard disk drive removal for 5U server model with hot-swap power supplies

The following illustration shows the removal of a 3.5" hot swap hard disk from a 5U server model with hot-swap power supplies.

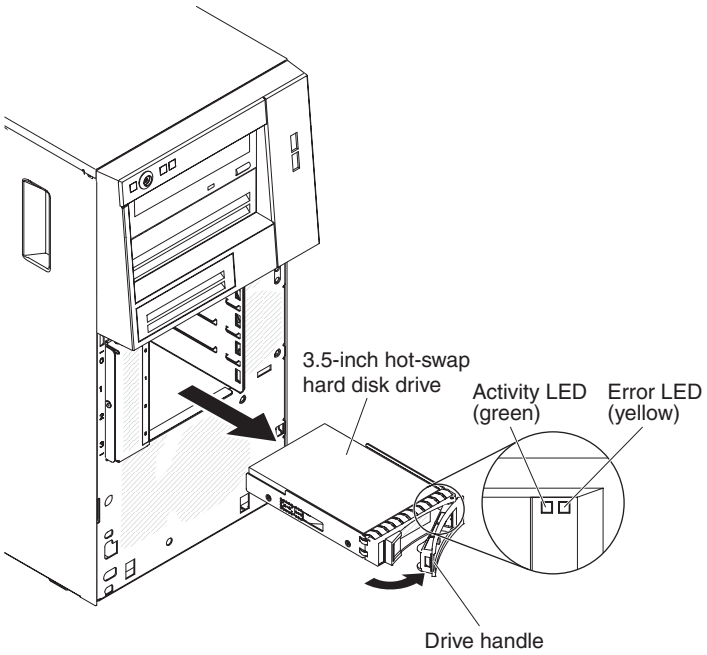


Figure 120. 3.5" hot swap hard disk drive removal for 5U server model with hot-swap power supplies

4. Grasp the handle of the drive assembly that is to be replaced and pull the assembly out of the bay.

5. If you are instructed to return the drive assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a hot-swap hard disk drive:

This procedure applies only to the 5U server model with hot-swap power supplies.

If you are replacing a drive, make sure that:

- The hot-swap drives must be either all SAS hard disk drives or all SATA hard disk drives; the two types cannot be combined.
- Inspect the drive tray for signs of damage.
- To maintain proper system cooling, do not operate the server for more than 10 minutes without at least one hard disk drive installed in the drive bay.
- You do not have to turn off the server to install hot-swap drives in the hot-swap drive bays.

To install a hot-swap hard disk drive on the 5U server model that have hot-swap power supplies, complete the following steps.

The following illustration shows the installation of a 2.5" hot swap hard disk for 5U server model with hot-swap power supplies.

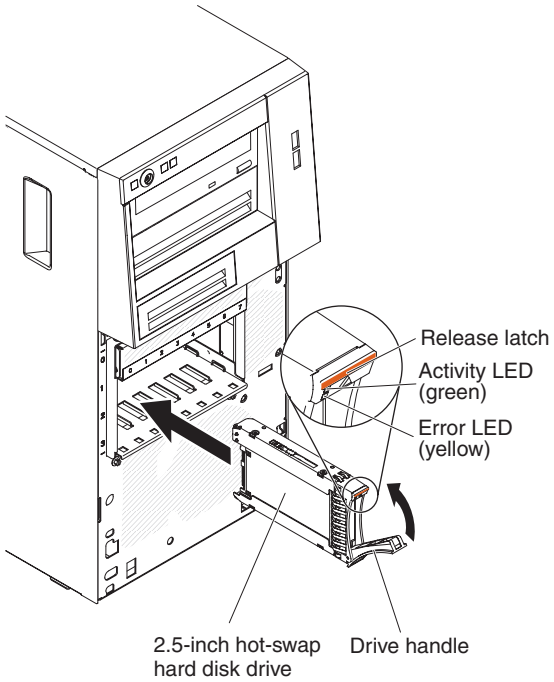


Figure 121. 2.5" hot swap hard disk drive installation for 5U server model with hot-swap power supplies

The following illustration shows the installation of a 3.5" hot swap hard disk for 5U server model with hot-swap power supplies.

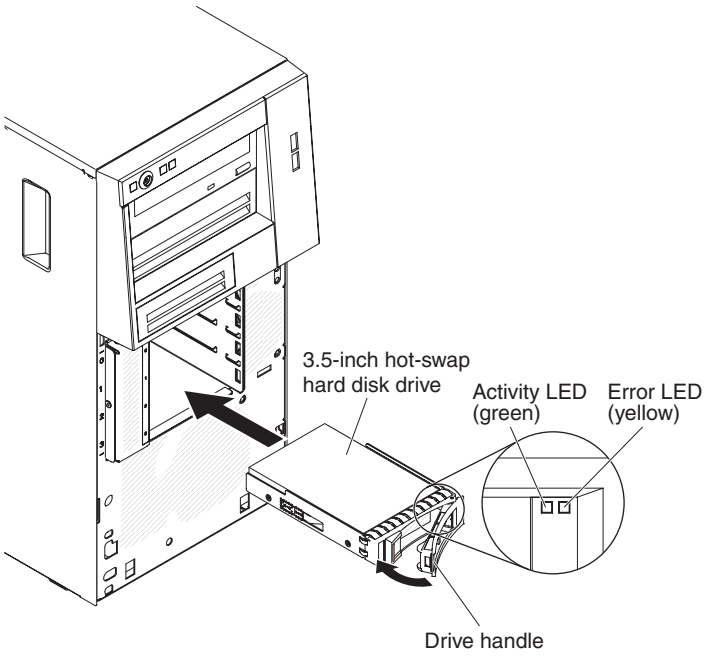


Figure 122. 3.5" hot swap hard disk drive installation for 5U server model with hot-swap power supplies

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. Make sure that the drive tray handle is in the open position.
4. Align the drive assembly with the guide rails in the bay; then, carefully slide the drive assembly into the drive bay until the drive stops.
5. Rotate the drive tray handle to the closed position.
6. Check the hard disk drive status indicator to make sure that the hard disk drive is operating correctly. (You might have to restart the server for the drive to be recognized.) If the yellow hard disk drive status LED for a drive is lit continuously, it indicates that the drive is faulty and must be replaced. If the green hard disk drive activity LED is flashing, this indicates that the drive is being accessed.

   Note: If the server is configured for RAID operation using a ServeRAID controller, you might have to reconfigure the disk arrays after you replace hard disk drives. See the ServeRAID documentation for additional information about RAID operation and complete instructions for using ServeRAID Manager.
7. Install the lower bezel (see "Replacing the lower bezel" on page 181).

Removing the hard disk drive fan duct

This procedure applies only to the 5U server model with hot-swap power supplies.

To remove the hard disk drive fan duct on the 5U server model with hot-swap power supplies, complete the following steps.

1. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
2. Unlock and remove the side cover (see "Removing the side cover" on page 36).

3. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.

4. Unfasten the retention clips that secure the hard disk drive fan duct cable and then disconnect the hard disk drive fan duct cable from the system board.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

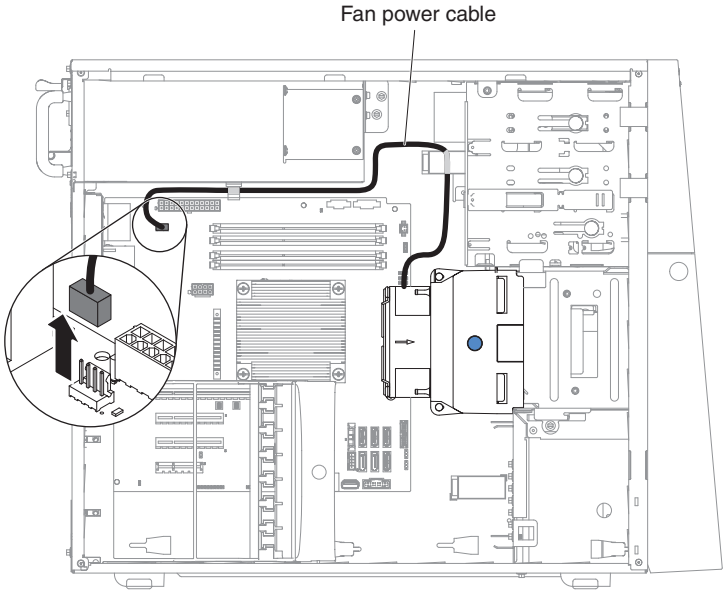


Figure 123. 2.5" hard disk drive fan duct cable removal for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

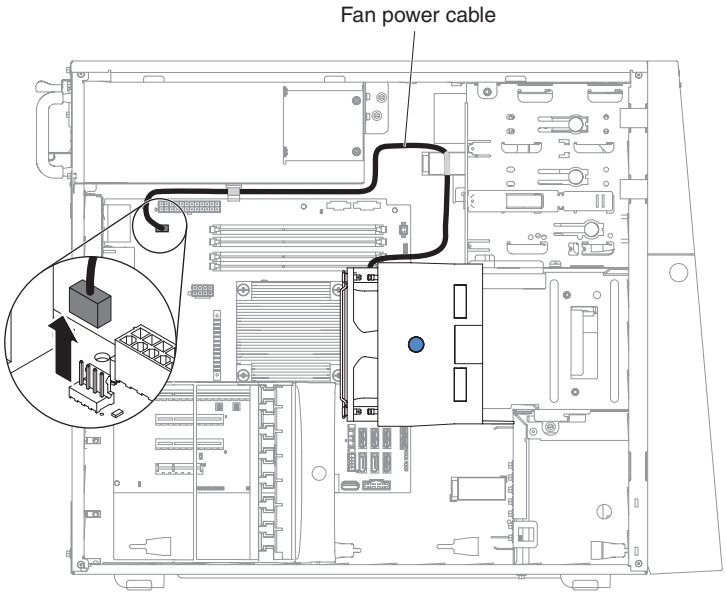


Figure 124. 3.5" hard disk drive fan duct cable removal for 5U server model with hot-swap power supplies

5. Grasp the hard disk drive fan duct by the blue point and pull up to lift it out of the chassis.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

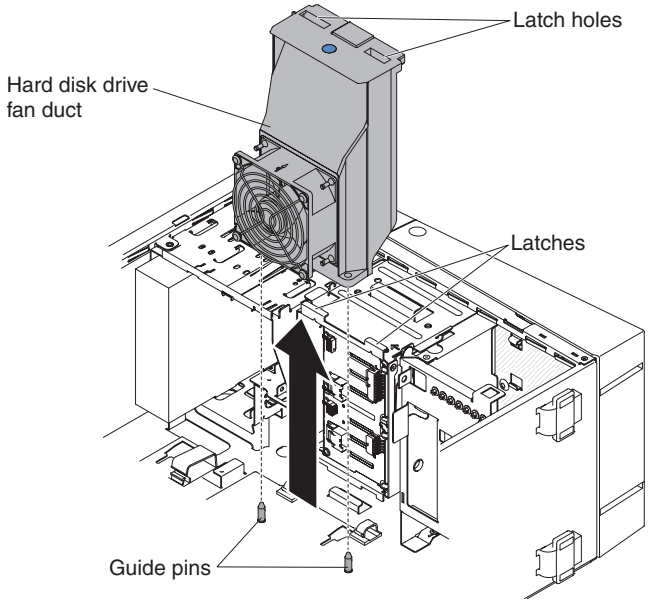


Figure 125. 2.5" hard disk drive fan duct removal for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

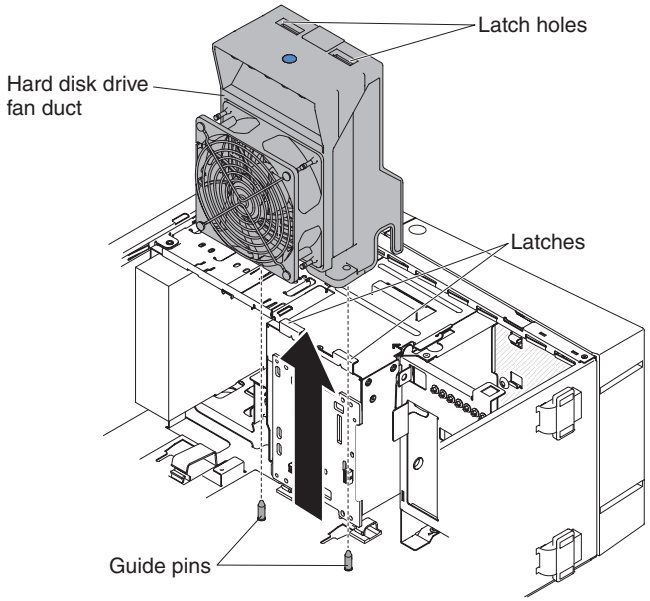


Figure 126. 3.5" hard disk drive fan duct removal for 5U server model with hot-swap power supplies

6. If you are instructed to return the fan, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the hard disk drive fan duct

This procedure applies only to the 5U server model with hot-swap power supplies.

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the hard disk drive fan duct on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Lower the hard disk drive fan duct into the chassis, making sure the two guide pins and two latches on the chassis protrude through the respective holes on the hard disk drive fan duct.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

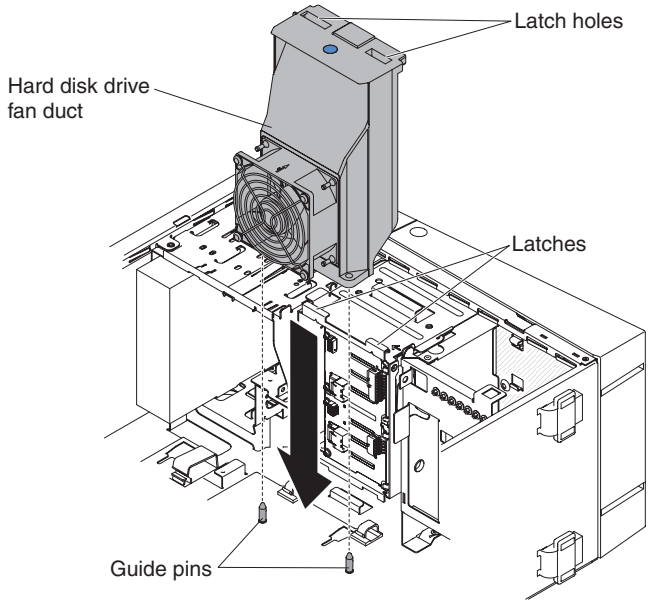


Figure 127. 2.5" hard disk drive fan duct installation for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

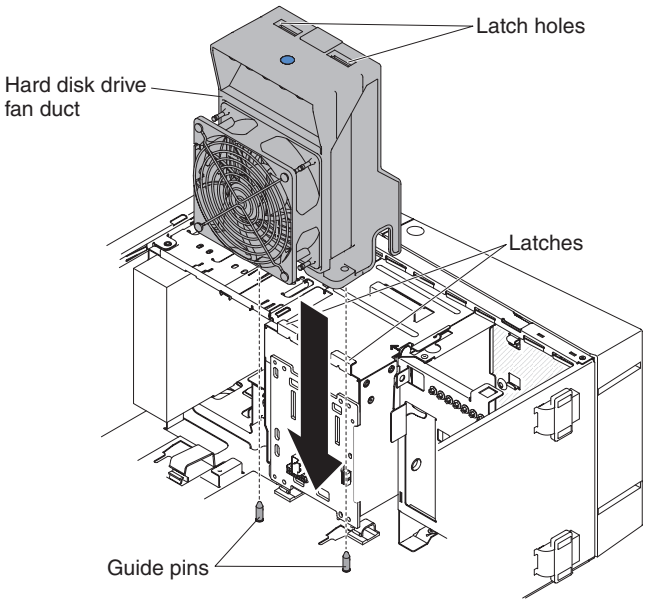


Figure 128. 3.5" hard disk drive fan duct installation for 5U server model with hot-swap power supplies

3. Connect the hard disk drive fan duct cable to the system board (see "System-board internal connectors" on page 30 for the location of the fan assembly connector).

   Attention: Remember to insert the hard disk drive fan duct cable into the relevant retention clips.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

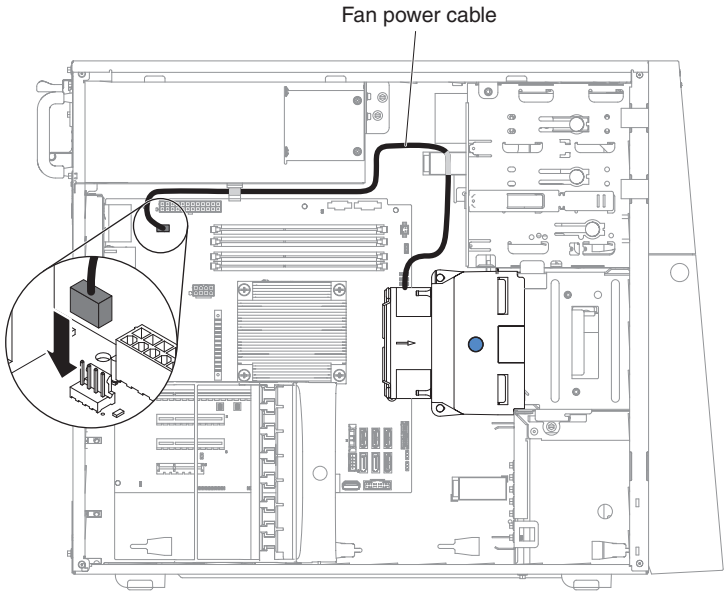


Figure 129. 2.5" hard disk drive fan duct cable installation for 5U server model with hot-swap power supplies

   The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

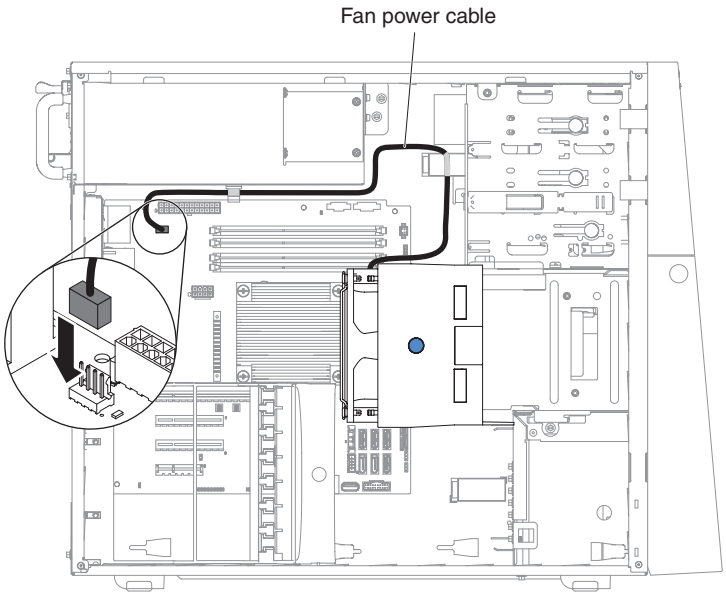


Figure 130. 3.5" hard disk drive fan duct cable installation for 5U server model with hot-swap power supplies

4. Stand the server back up in its vertical position.
5. Install and lock the side cover (see "Replacing the side cover" on page 173).
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the USB embedded hypervisor flash device

Use this information to remove the USB embedded hypervisor flash device.

To remove the USB hypervisor key on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Locate the USB embedded hypervisor flash device connector on the system board.

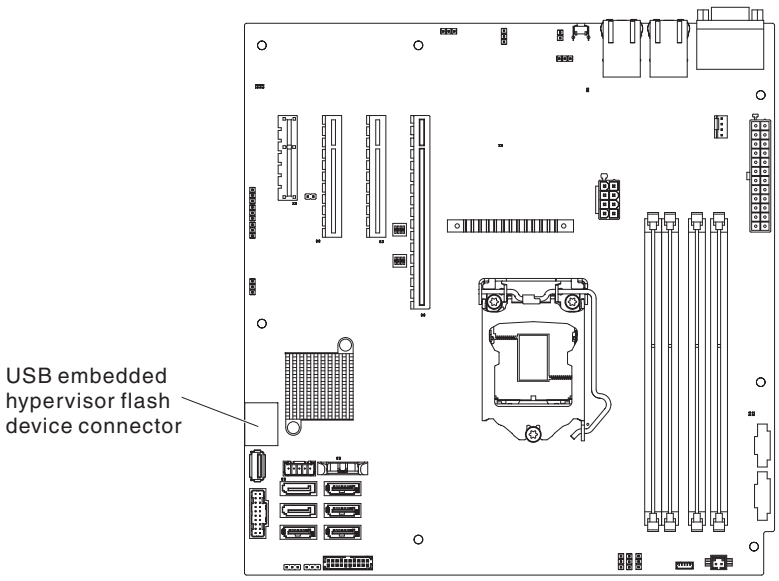


Figure 131. USB hypervisor flash device connector location on system board for 4U server model with non-hot-swap power supplies

7. Slide the lockbar on the flash device connector to the unlocked position and pull the USB flash device out of the connector.

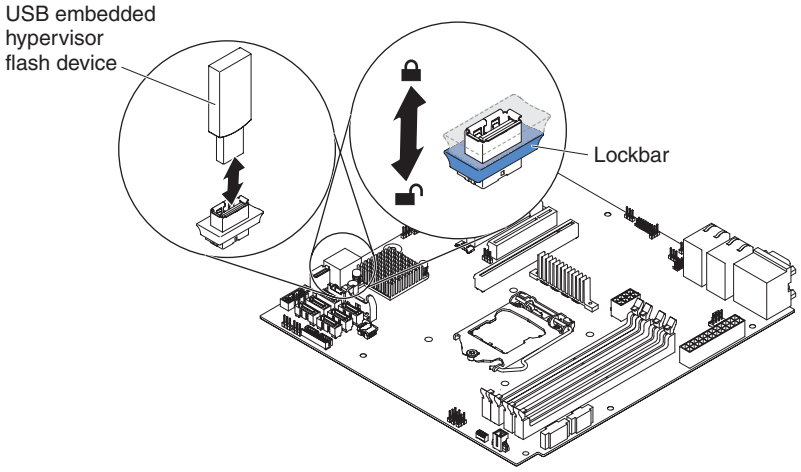


Figure 132. USB hypervisor flash device removal from system board for 4U server model with non-hot-swap power supplies

8. If you are instructed to return the hypervisor memory key, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

   Note: You must configure the server not to look for the hypervisor USB drive. See "Configuring the server" on page 90 for information about disabling hypervisor support.

To remove the system board on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Rotate the rear adapter-retention bracket to the open (unlocked) position.
6. Locate the USB embedded hypervisor flash device connector on the system board.

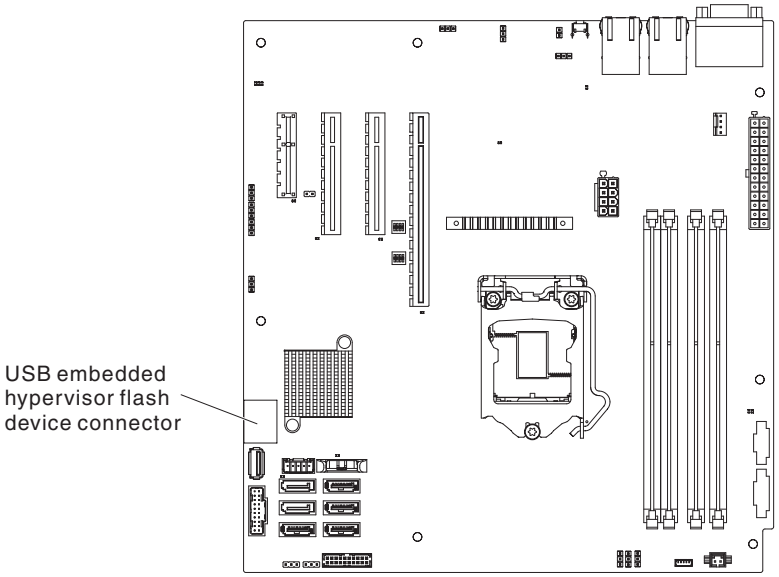


Figure 133. USB hypervisor flash device connector location on system board for 5U server model with hot-swap power supplies

7. Slide the lockbar on the flash device connector to the unlocked position and pull the USB flash device out of the connector.

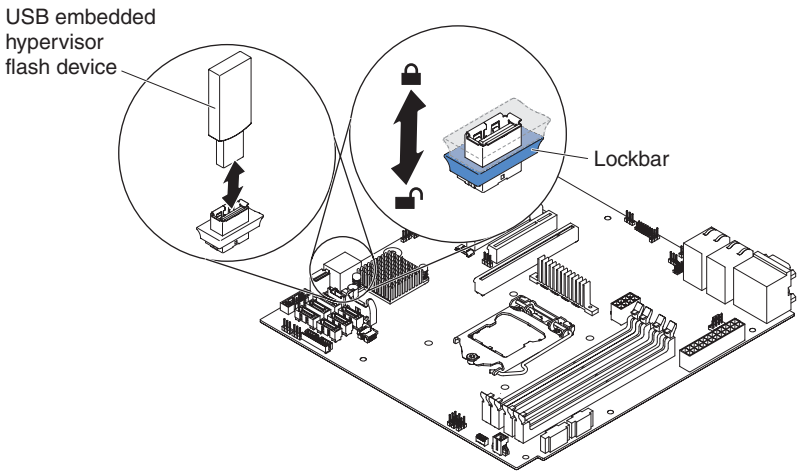


Figure 134. USB hypervisor flash device removal from system board for 5U server model with hot-swap power supplies

8. If you are instructed to return the hypervisor memory key, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

   Note: You must configure the server not to look for the hypervisor USB drive. See "Configuring the server" on page 90 for information about disabling hypervisor support.

Replacing the USB embedded hypervisor flash device

Use this information to replace a USB embedded hypervisor flash device.

To install a USB embedded hypervisor flash device on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Locate the USB embedded hypervisor flash device connector on the system board.

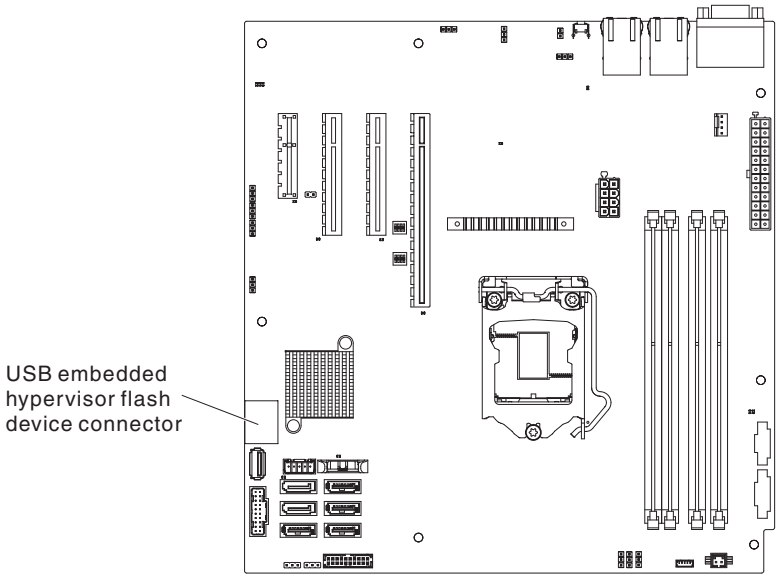


Figure 135. USB hypervisor flash device connector location on system board for 4U server model with non-hot-swap power supplies

3. Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.
4. Slide the lockbar toward the riser-card assembly to the locked position until it is seated firmly.

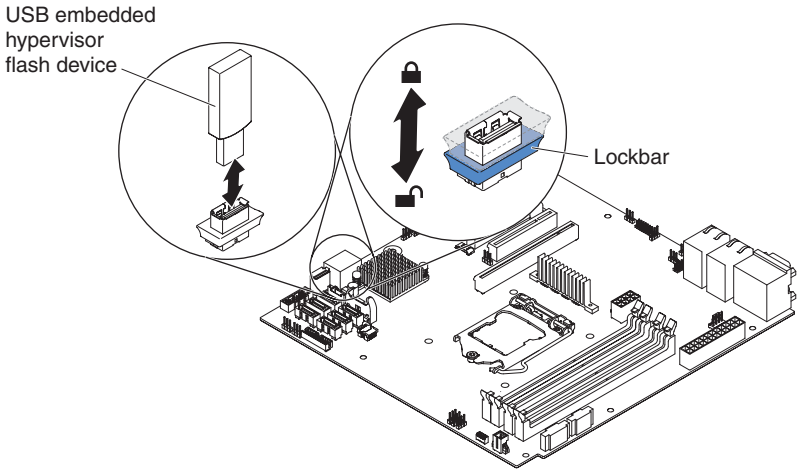


Figure 136. USB hypervisor flash device installation for 4U server model with non-hot-swap power supplies

5. Install the air baffle (see "Replacing the air baffle" on page 176).
6. Install the side cover (see "Replacing the side cover" on page 173).
7. Stand the server back up in its vertical position.
8. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the system board on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Locate the USB embedded hypervisor flash device connector on the system board.

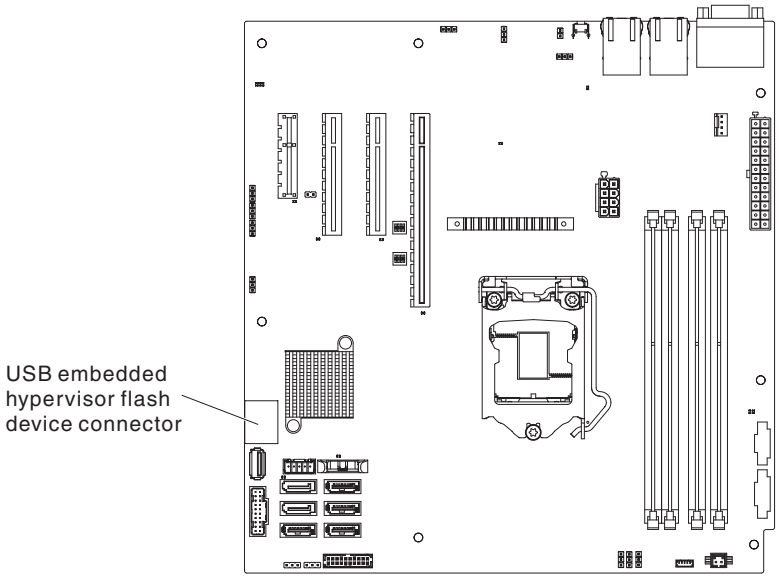


Figure 137. USB hypervisor flash device connector location on system board for 5U server model with hot-swap power supplies

3. Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.
4. Slide the lockbar toward the riser-card assembly to the locked position until it is seated firmly.

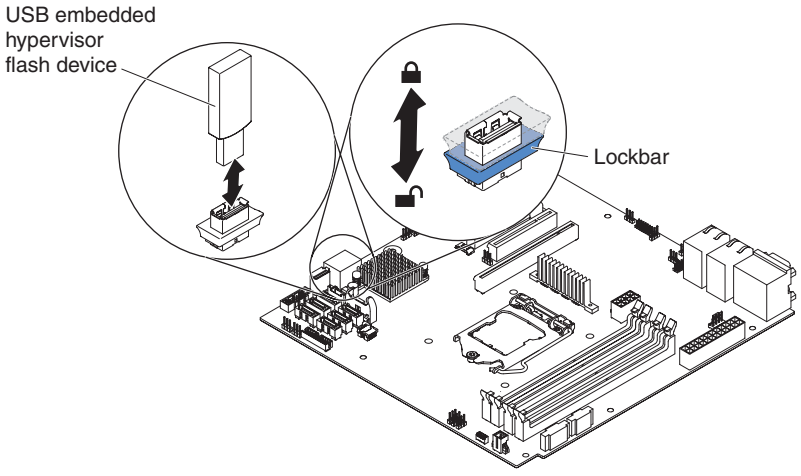


Figure 138. USB hypervisor flash device installation for 5U server model with hot-swap power supplies

5. Rotate the rear adapter-retention bracket to the closed (locked) position.
6. Stand the server back up in its vertical position.
7. Install and lock the side cover (see “Replacing the side cover” on page 173).

8. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the simple-swap backplate

This procedure applies only to 4U server models with non-hot-swap power supplies.

To remove the simple-swap backplate on 4U server models with non-hot-swap power supplies, complete the following steps.

Note: You need a screwdriver in order to complete the steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Remove the simple-swap hard disk drives that are installed in the hard disk drive cage (see "Removing a simple-swap hard disk drive" on page 207).
8. To remove the simple-swap backplate, slide it outwards and then rotate it out of the hard disk drive cage.

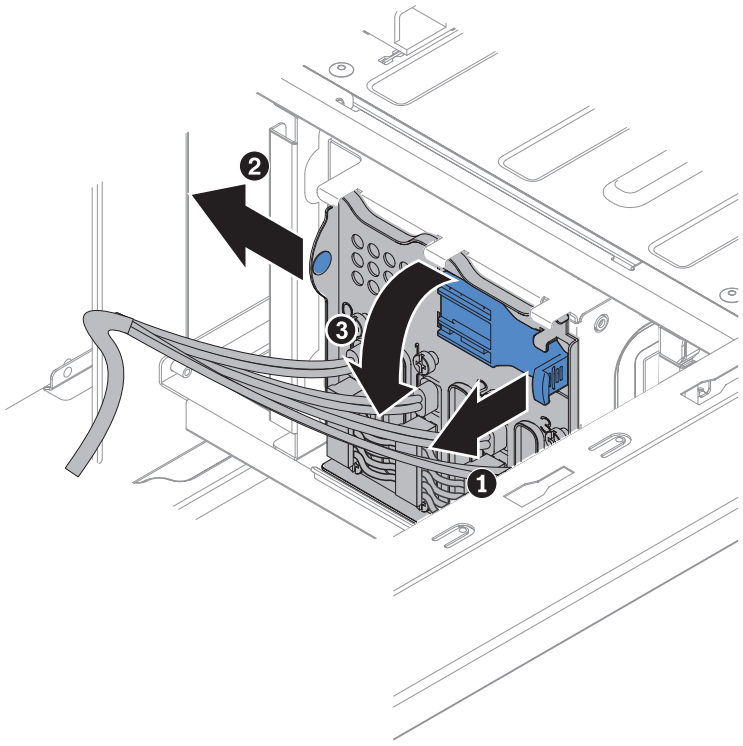


Figure 139. Simple-swap backplate removal for 4U server model with non-hot-swap power supplies

9. Disconnect the power cable from the simple-swap backplate and then the signal cable from the system board.

   Note: The signal cables on the simple-swap backplate can not be removed.
10. If you are instructed to return the simple-swap backplate, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the simple-swap backplate

This procedure applies only to 4U server models with non-hot-swap power supplies.

To install the simple-swap backplate on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Press and hold the hard disk drive cage release latches to pull the drive cage out.

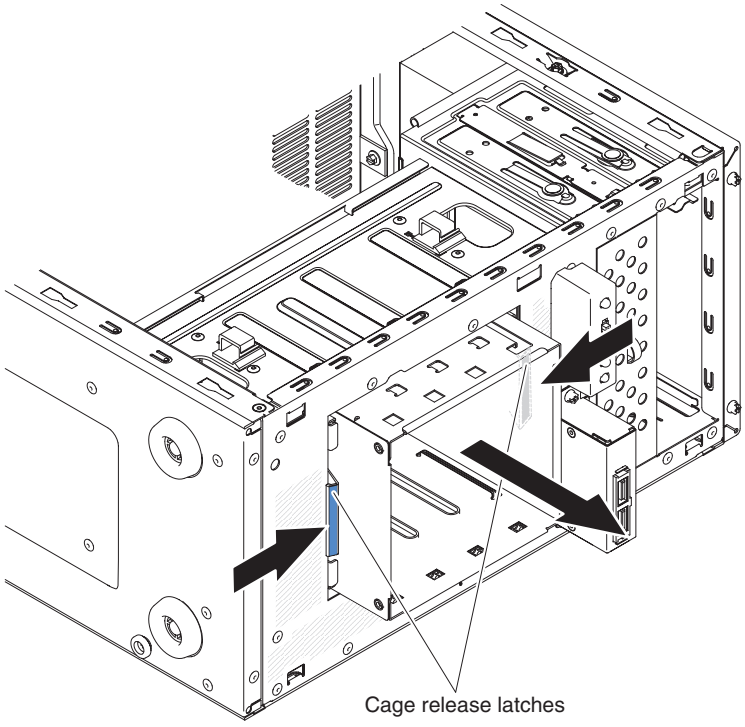


Figure 140. Hard disk drive cage removal for 4U server model with non-hot-swap power supplies

3. Align the bottom edge of the simple-swap backplate between the tabs and the bottom edge of the hard disk drive cage (area colored in green), then rotate the backplate toward the hard disk drive cage and slide it inwards.

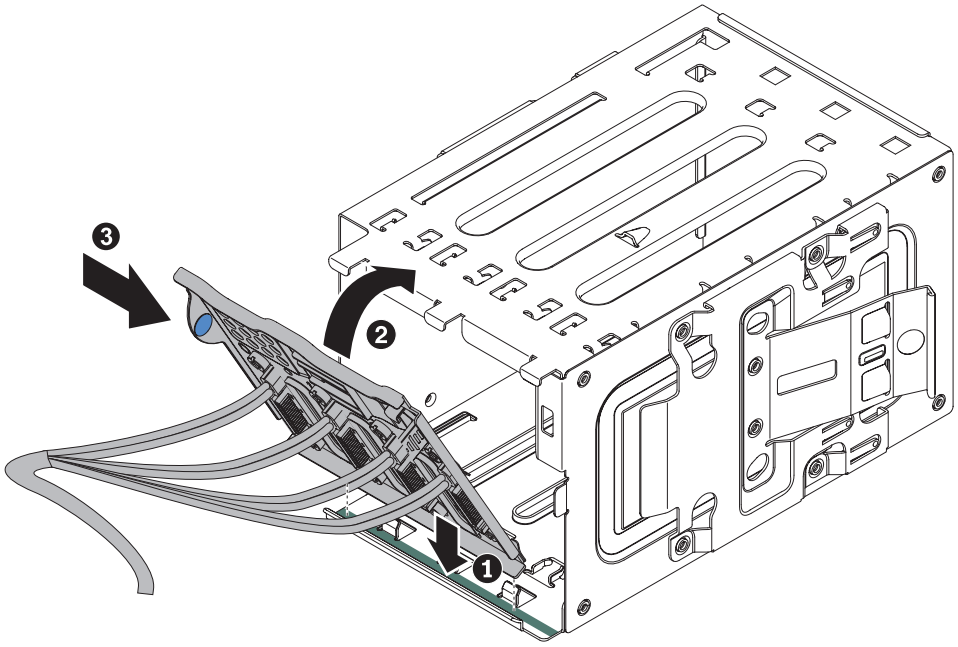


Figure 141. Simple-swap backplate installation in hard disk drive cage for 4U server model with non-hot-swap power supplies

4. Slide the hard disk drive cage into the opening in the front of the chassis till half in.

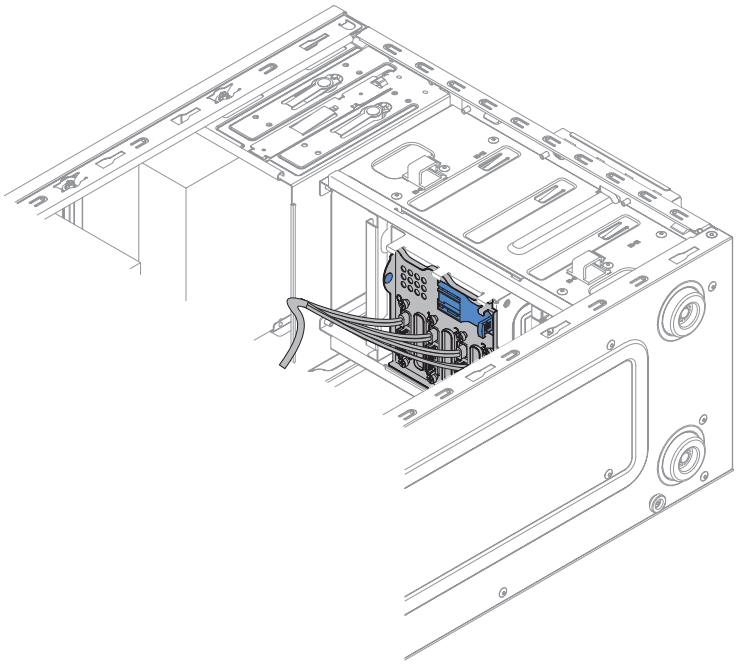


Figure 142. Sliding hard disk drive cage half in into chassis for 4U server model with non-hot-swap power supplies

5. Connect the hard disk drive power cables to the backplate (connector P3 to bay 3, connector P4 to bay 4, connector P5 to bay 5, and connector P6 to bay 6,).

6. Connect the hard disk drive signal cables to the SATA connectors on the system board or the connector on the adapter (if one is installed).

   Note: In the LSI RAID utility, SATA 1 represents hard disk drive in drive bay two and SATA 2 represents hard disk drive in drive bay one (see "Replacing a simple-swap hard disk drive" on page 208).

   The following illustrations shows the SATA connectors on the system board:

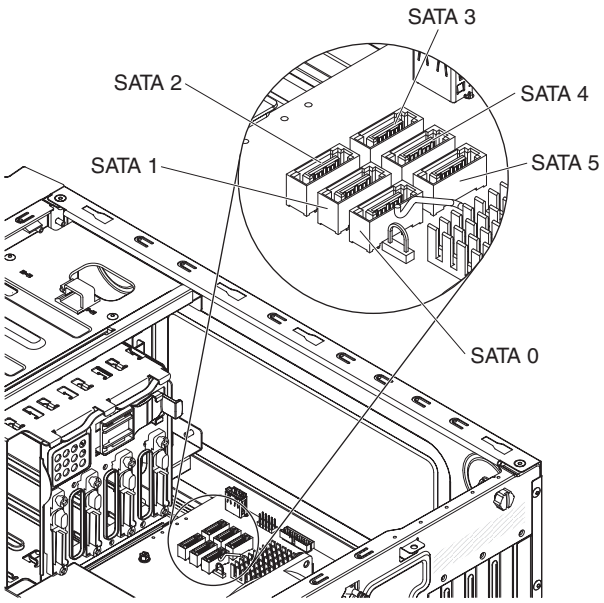


Figure 143. SATA connector location on system board for 4U server model with non-hot-swap power supplies

7. Push hard disk drive cage in until the release latches click into place.

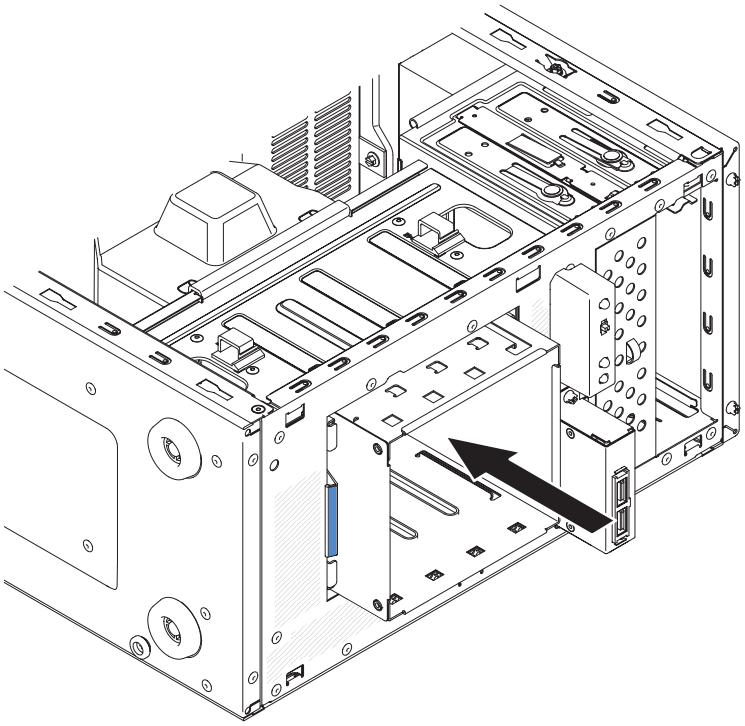


Figure 144. Pushing hard disk drive cage into chassis for 4U server model with non-hot-swap power supplies

8. Install the simple-swap hard disk drives that you removed from the hard disk drive cage (see "Replacing a simple-swap hard disk drive" on page 208).
9. Install the air baffle (see "Replacing the air baffle" on page 176).
10. Install the side cover (see "Replacing the side cover" on page 173).
11. Stand the server back up in its vertical position.
12. Install bezel (see "Replacing the bezel" on page 180).
13. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Replacing software RAID simple-swap hard disk drive backplate with hardware RAID simple-swap hard disk drive backplate

This procedure applies only to 4U server models with non-hot-swap power supplies.

To replace the software RAID simple-swap hard disk drive backplate with hardware RAID simple-swap hard disk drive backplate, complete the following steps:

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the simple-swap backplate (see "Removing the simple-swap backplate" on page 224).
4. Align the bottom edge of the simple-swap backplate between the tabs and the bottom edge of the hard disk drive cage (area colored in grey), then rotate the backplate toward the hard disk drive cage and slide it inwards.

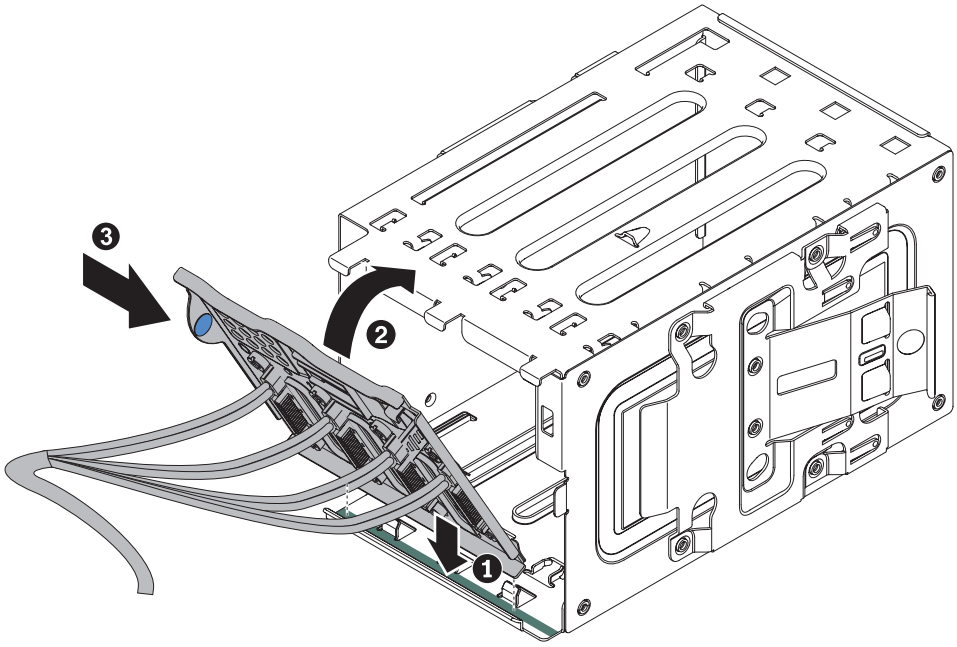


Figure 145. Installing simple-swap backplate in hard disk drive cage for 4U server model with non-hot-swap power supplies

5. Slide the hard disk drive cage into the opening in the front of the chassis till half in.

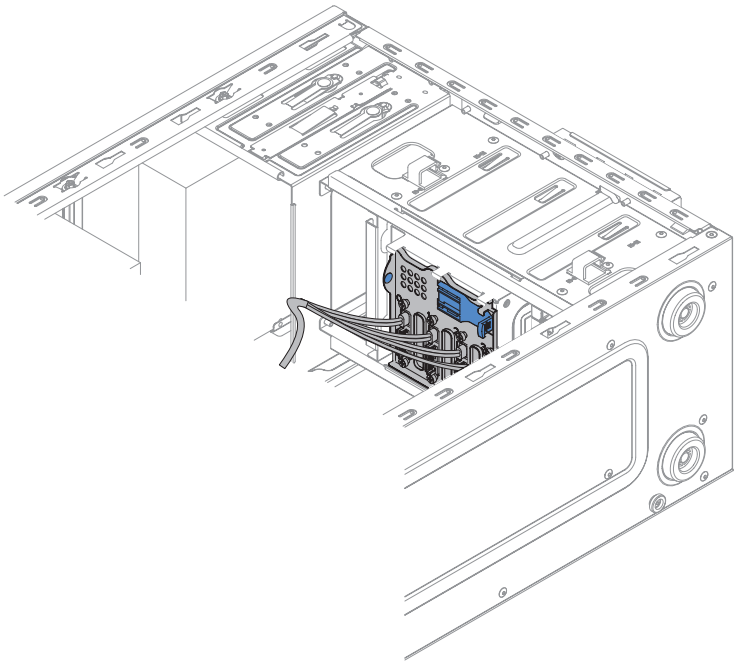


Figure 146. Sliding hard disk drive cage half in into chassis for 4U server model with non-hot-swap power supplies

6. Connect the hard disk drive power cables to the backplate (connector P3 to bay 3, connector P4 to bay 4, connector P5 to bay 5, and connector P6 to bay 6).

7. Connect the hard disk drive signal cable to the SAS connector on the adapter.

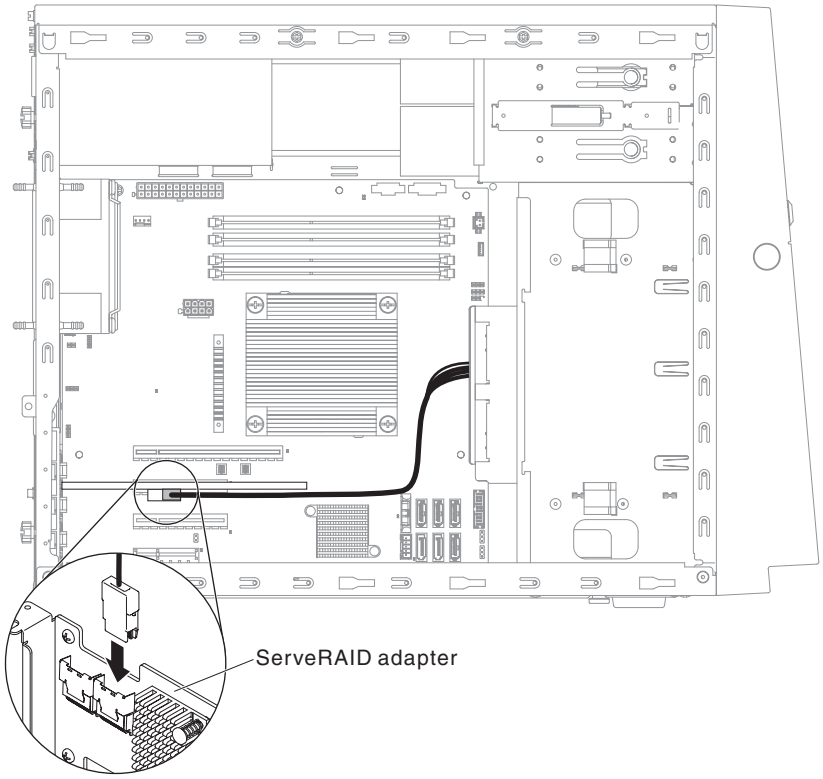


Figure 147. Hard disk drive signal cable connection to SAS connector on adapter for 4U server model with non-hot-swap power supplies

8. Secure the cables with the retention clips.
9. Push hard disk drive cage in until the release latches click into place.

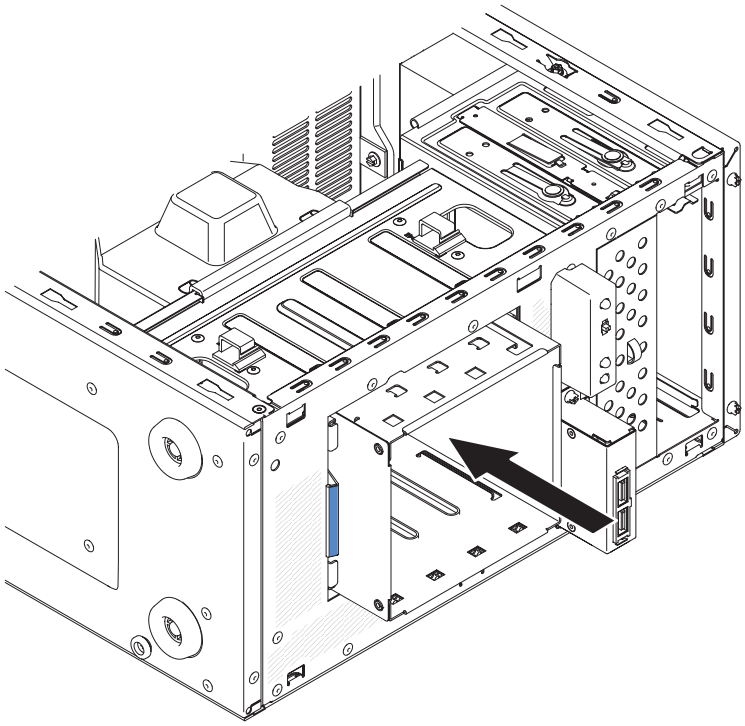


Figure 148. Pushing hard disk drive cage into chassis for 4U server model with non-hot-swap power supplies

10. Install the simple-swap hard disk drives that you removed from the hard disk drive cage (see "Replacing a simple-swap hard disk drive" on page 208).
11. Install the air baffle (see "Replacing the air baffle" on page 176).
12. Install the side cover (see "Replacing the side cover" on page 173).
13. Stand the server back up in its vertical position.
14. Install bezel (see "Replacing the bezel" on page 180).
15. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the hot-swap hard disk drive backplane

This procedure applies only to the 5U server model with hot-swap power supplies.

To remove the hot-swap backplane on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the hot-swap SAS/SATA hard disk drives installed in the hard disk drive cage (see "Removing a hot-swap hard disk drive" on page 210).
6. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.

7. Remove the hard disk drive fan duct (see “Removing the hard disk drive fan duct” on page 213). Doing so requires removing the cables from the cable clips.
8. Press and hold the hard disk drive cage release tab; then, rotate the hard disk drive cage out of the chassis until the retaining tab on top of the cage locks into place.

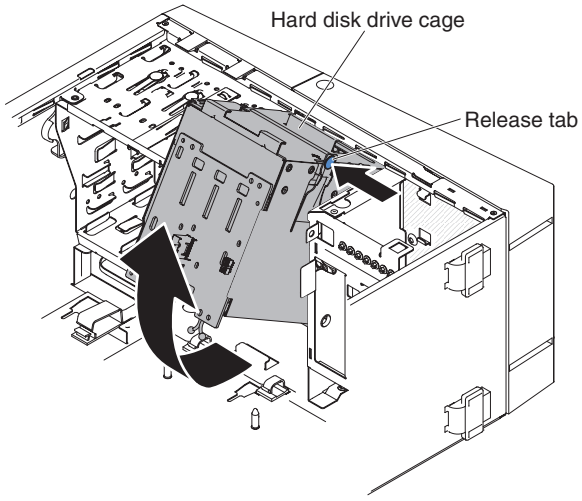


Figure 149. Rotating hard disk drive cage out of chassis for 5U server model with hot-swap power supplies

9. Disconnect the power, signal and configuration cables from the hard disk drive backplane.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

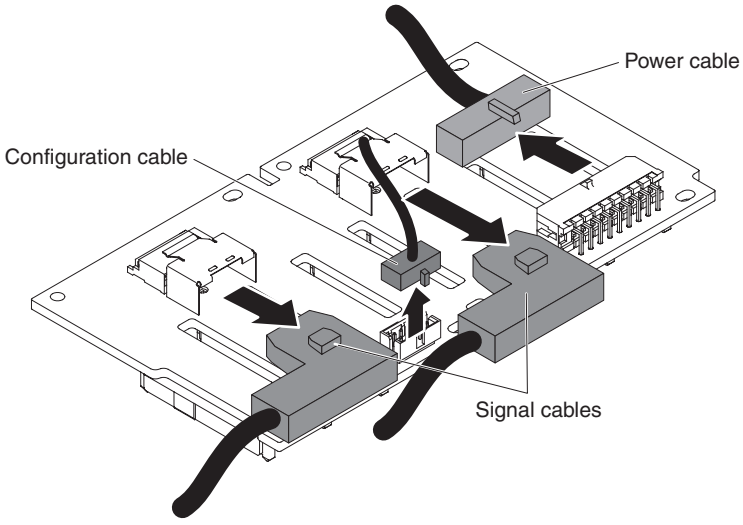


Figure 150. 2.5" hot swap hard disk drive backplane cabling removal for 5U server model with hot-swap power supplies

   The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

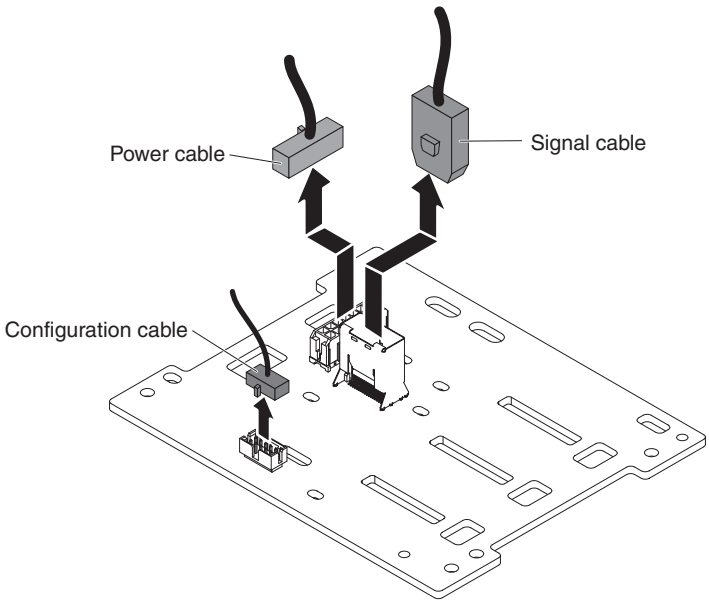


Figure 151. 3.5" hot swap hard disk drive backplane cabling removal for 5U server model with hot-swap power supplies

10. Remove the screws that secure the SAS/SATA hard disk drive backplane to the drive cage.

    Note:

    - A total of four screws need to be removed for backplanes that support 2.5" hot swap hard disk drives.
    - A total of two screws need to be removed for backplanes that support 3.5" hot swap hard disk drives.

    The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

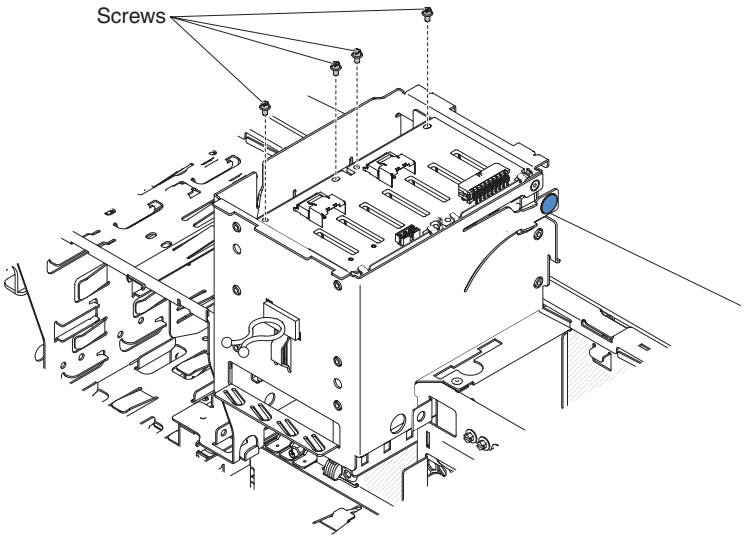


Figure 152. 2.5" hot swap hard disk drive backplane screw removal for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

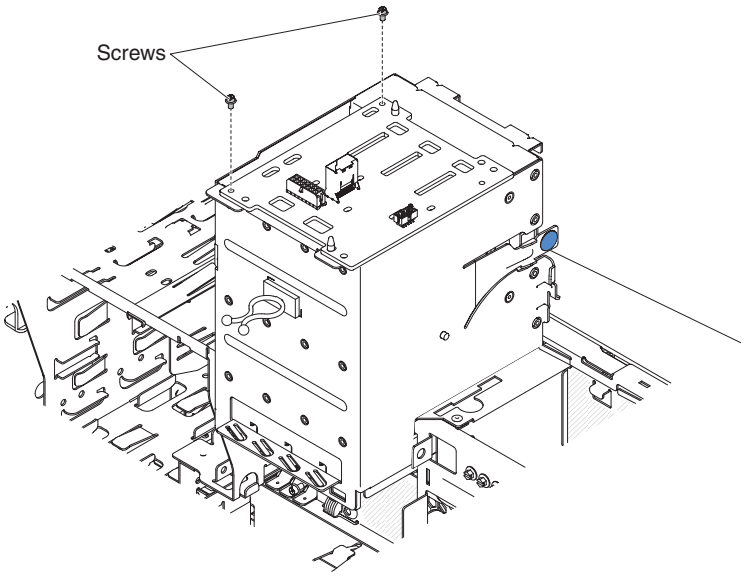


Figure 153. 3.5" hot swap hard disk drive backplane screw removal for 5U server model with hot-swap power supplies

11. Lift the hot-swap backplane out of the lower lip on the drive cage and set it aside.
12. If you are instructed to return the SAS/SATA hard disk drive backplane, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the hot-swap hard disk drive backplane

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the hard disk drive backplane on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Place the bottom edge of the hot-swap hard disk drive backplane in the lower lip of the drive cage.
3. Connect the power, signal and configuration cables to the hard disk drive backplane.

   Note: Make sure that Port 1 on the hardware ServeRAID is connected to Port 1 on the backplane. Likewise, Port 0 on the hardware ServeRAID should be connected to Port 0 on the backplane.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

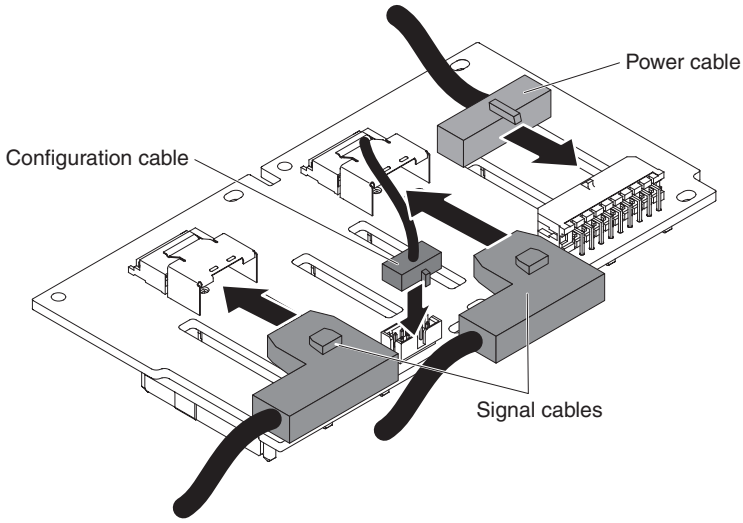


Figure 154. 2.5" hot swap hard disk drive backplane cabling installation for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

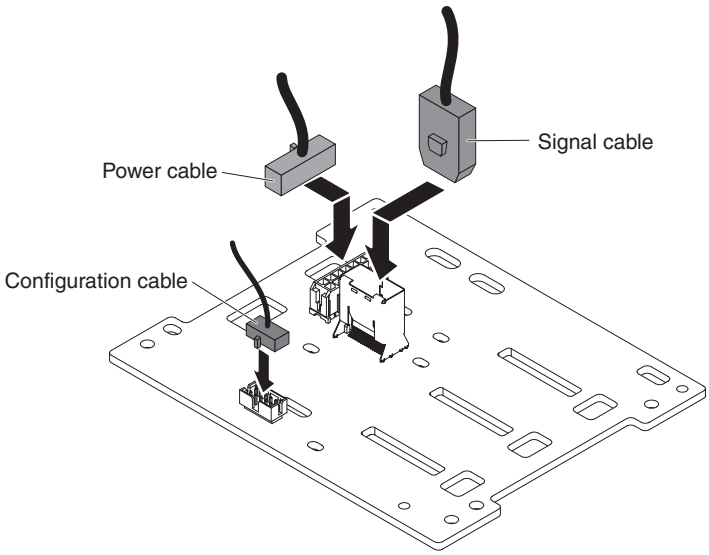


Figure 155. 3.5" hot swap hard disk drive backplane cabling installation for 5U server model with hot-swap power supplies

4. Install the screws that secure the hot-swap hard disk drive backplane to the drive cage.

   Note:

   - A total of four screws need to be installed for backplanes that support 2.5" hot-swap hard disk drives.
   - A total of two screws need to be installed for backplanes that support 3.5" hot-swap hard disk drives.

   The following illustration is for 5U server models with 2.5" hot swap hard disk drives installed.

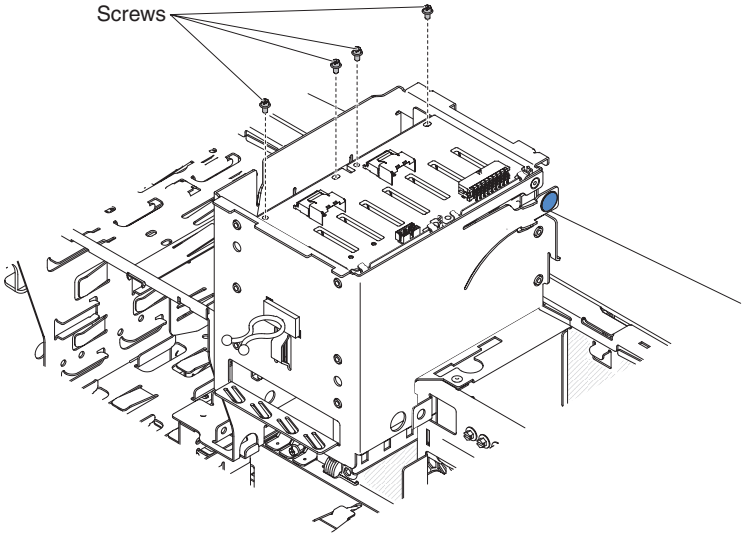


Figure 156. 2.5" hot swap hard disk drive backplane screw installation for 5U server model with hot-swap power supplies

The following illustration is for 5U server models with 3.5" hot swap hard disk drives installed.

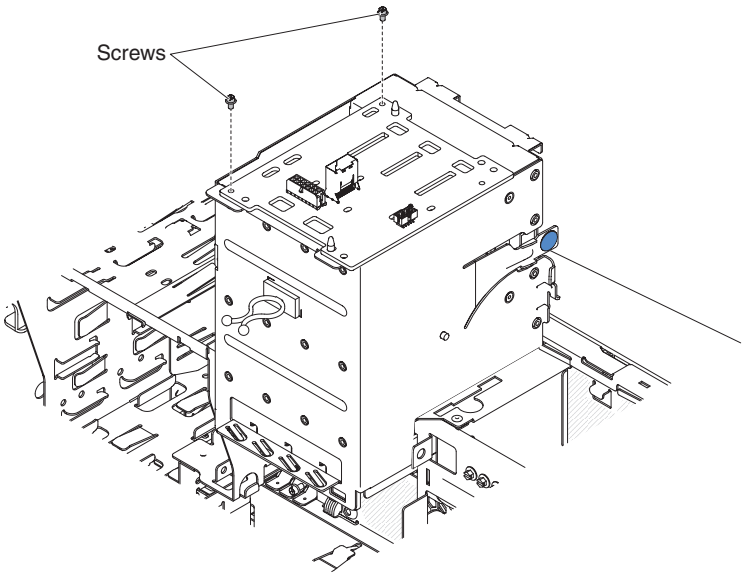


Figure 157. 3.5" hot swap hard disk drive backplane screw installation for 5U server model with hot-swap power supplies

5. Press and hold the retaining tab on the side of the cage; then, rotate the drive cage into the chassis until it locks into place.

   Note: You may need to slightly lift up the cage in order to press and hold the retaining tab.

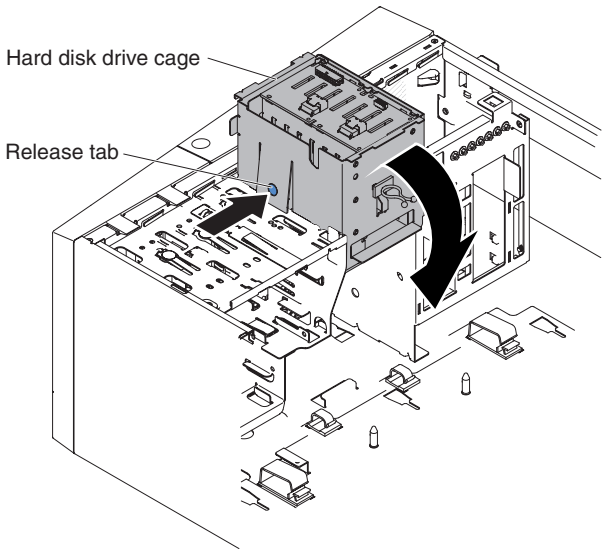


Figure 158. Rotating hard disk drive cage into chassis for 5U server model with hot-swap power supplies

6. Install the hard disk drive fan duct onto the hard disk drive cage (see "Replacing the hard disk drive fan duct" on page 216).
7. Stand the server back up in its vertical position.
8. Install the hot-swap hard disk drives that you removed from the hard disk drive cage (see "Replacing a hot-swap hard disk drive" on page 212).
9. Install the lower bezel (see "Replacing the lower bezel" on page 181).
10. Install and lock the side cover (see "Replacing the side cover" on page 173).
11. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the operator information panel assembly

Use this information to remove the operator information panel assembly

To remove the operator information panel assembly on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Disconnect the operator information panel assembly cable from the system board, and note the routing of the cable (see "System-board internal connectors" on page 30 for the location of the operator information panel assembly connector).
8. Stand the server back up in its vertical position.

9. Press on top of the operator information panel assembly and rotate the assembly toward the bottom of the server; then, remove the operator information panel assembly from the chassis.

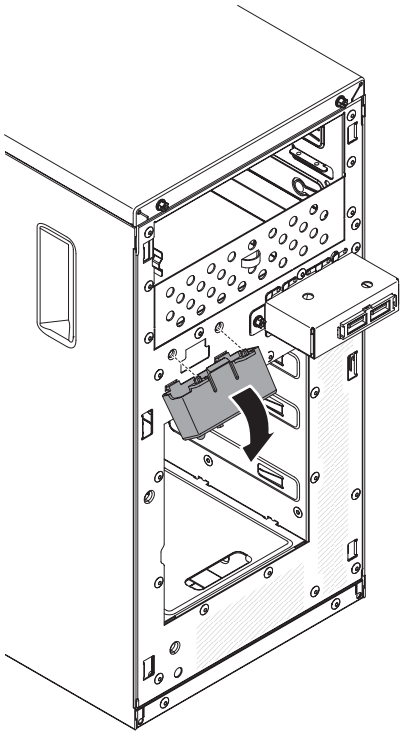


Figure 159. Operator information panel assembly removal for 4U server model with non-hot-swap power supplies

Note: Carefully pull the cable out from the opening. Do not allow the LED to disconnect from the operator information panel assembly.

10. If you are instructed to return the operator information panel assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the operator information panel assembly on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the lower bezel (see "Removing the lower bezel" on page 41).
5. Remove the upper bezel (see "Removing the upper bezel" on page 41).
6. Slide the drives in bay 1 and bay 2 forward slightly (see "Removing a DVD drive" on page 195 and "Removing a tape drive" on page 202 for more information). It is not necessary to remove these drives.
7. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.

8. Remove the hot-swap power supplies and the hot-swap power-supply cage (see “Removing the hot-swap power supply” on page 254) and “Removing the hot-swap power supply cage” on page 286).
9. Disconnect the operator information panel assembly cable from the system board, and note the routing of the cable (see “System-board internal connectors” on page 30 for the location of the operator information panel assembly connector).
10. Press on the release tab of the operator information panel assembly and pull the assembly toward the rear of the server; then, remove the operator information panel assembly from the chassis.

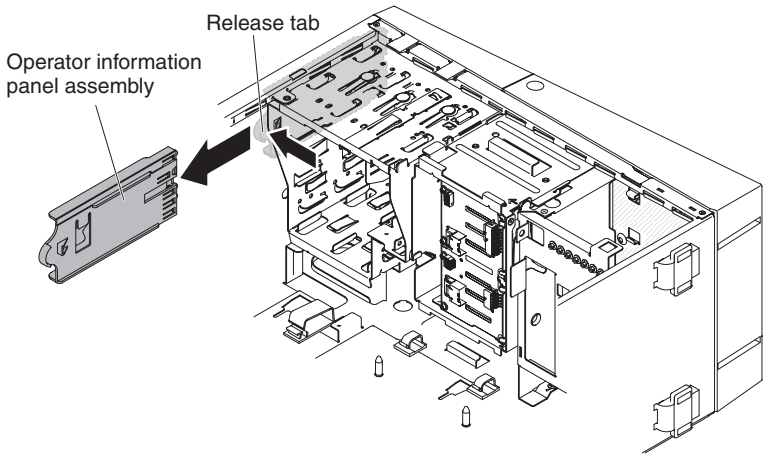


Figure 160. Operator information panel assembly removal for 5U server model with hot-swap power supplies

11. If you are instructed to return the operator information panel assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the operator information panel assembly

Use this information to replace the operator information panel assembly

To install the operator information panel assembly on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Reroute the operator information panel assembly cable into the opening.

   Note: Carefully pull the cable out from the opening. Do not allow the LED to disconnect from the operator information panel assembly.
3. Insert the bottom tabs of the operator information panel assembly into the corresponding holes and rotate the assembly toward the chassis.

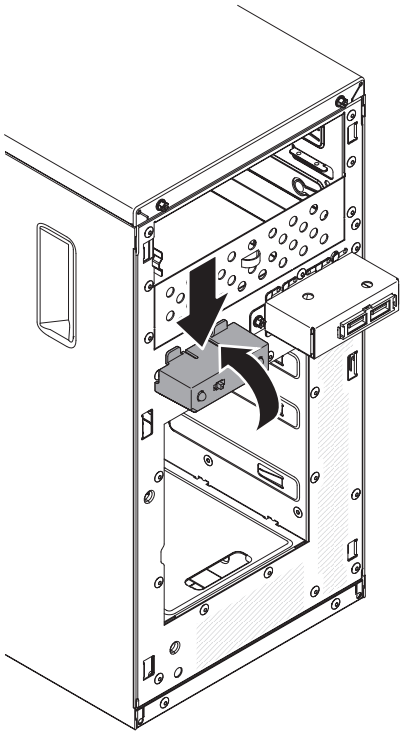


Figure 161. Operator information panel assembly installation for 4U server model with non-hot-swap power supplies

4. Push the operator information panel assembly toward the chassis until it clicks into place.
5. Reroute and connect the operator information panel assembly cable to the system board (see "System-board internal connectors" on page 30 for the location of the operator information panel assembly connector).
6. Install the air baffle (see "Replacing the air baffle" on page 176).
7. Install the side cover (see "Replacing the side cover" on page 173).
8. Stand the server back up in its vertical position.
9. Install bezel (see "Replacing the bezel" on page 180).
10. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the operator information panel assembly on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Carefully turn the server on its side so that it is lying flat.

   Attention: Do not allow the server to fall over.
3. Position the front end of the operator information panel assembly in the channel above bay 1.
4. Push the operator information panel assembly toward the front of the chassis until it clicks into place.

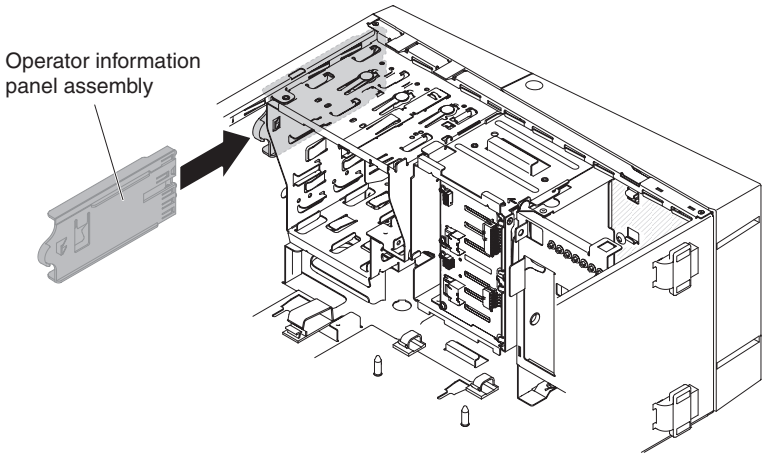


Figure 162. Operator information panel assembly installation for 5U server model with hot-swap power supplies

5. Reroute and connect the operator information panel assembly cable to the system board (see "System-board internal connectors" on page 30 for the location of the operator information panel assembly connector).
6. Install the power-supply cage and the power supplies (see "Replacing the hot-swap power supply cage" on page 288 and "Replacing the hot-swap power supply" on page 255).
7. Push the drives in bay 1 and bay 2 into the drive bays (see "Replacing the DVD drive" on page 199 and "Replacing the tape drive" on page 204 for more information).
8. Stand the server back up in its vertical position.
9. Install the upper bezel (see "Replacing the upper bezel" on page 183).
10. Install the lower bezel (see "Replacing the lower bezel" on page 181).
11. Install and lock the side cover (see "Replacing the side cover" on page 173).
12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the front USB connector assembly

Use this information to remove the front USB connector assembly

To remove the front USB connector assembly on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the side cover (see "Removing the side cover" on page 36).
6. Remove the air baffle (see "Removing the air baffle" on page 38).
7. Disconnect the front USB cable from the system board by pushing on the latch, and note the routing of the cable (see "System-board internal

connectors" on page 30 for the location of the front USB connector assembly connector).

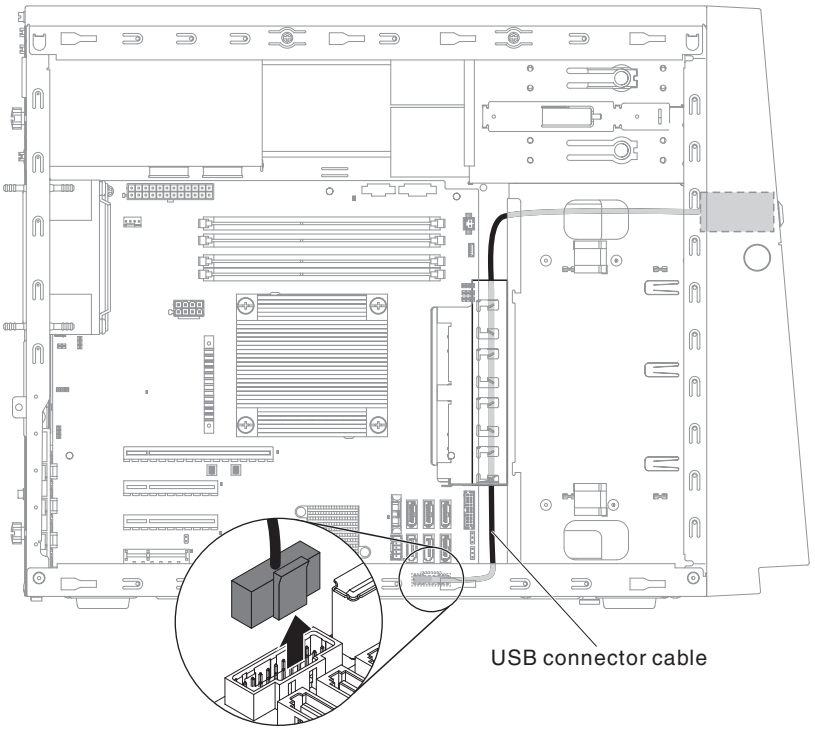


Figure 163. Front USB cable removal for 4U server model with non-hot-swap power supplies

8. Unscrew the front USB housing; then, tilt the top of the housing away from the chassis and lift the housing out of the opening in the chassis.
9. Pull the assembly out of the back of the housing.

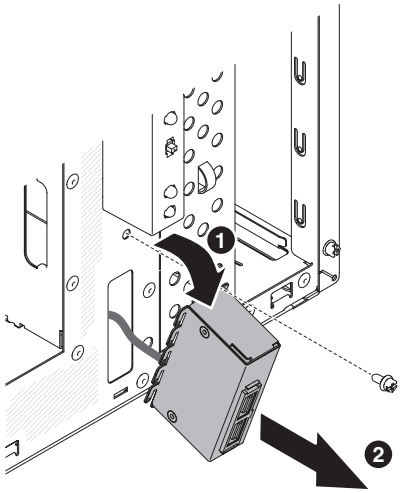


Figure 164. Front USB connector assembly removal for 4U server model with non-hot-swap power supplies

10. Carefully pull the front USB cable out of the opening in the chassis.

11. If you are instructed to return the front USB connector assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the front USB connector assembly on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Remove the lower bezel (see “Removing the lower bezel” on page 41).
5. Remove the upper bezel (see “Removing the upper bezel” on page 41).
6. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
7. Disconnect the front USB cable from the system board by pushing on the latch, and note the routing of the cable (see “System-board internal connectors” on page 30 for the location of the front USB connector assembly connector).

   Note: Disconnection of the SATA cables is suggested if any of them interferes with the process.

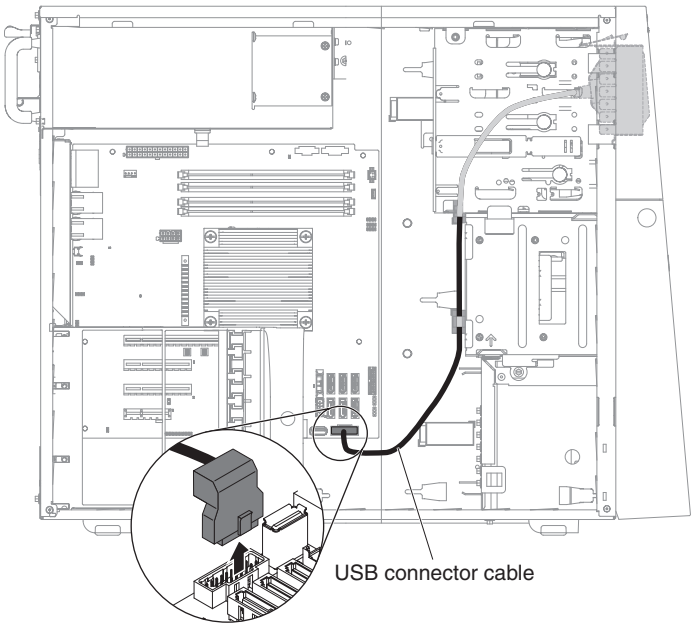


Figure 165. Front USB cable removal for 5U server model with hot-swap power supplies

8. Stand the server back up in its vertical position.
9. Remove the hard disk drive fan duct (see “Removing the hard disk drive fan duct” on page 213).
10. Press down and hold the release tab on the top of the front USB housing; then, tilt the top of the housing away from the chassis and lift the housing out

of the opening in the chassis.

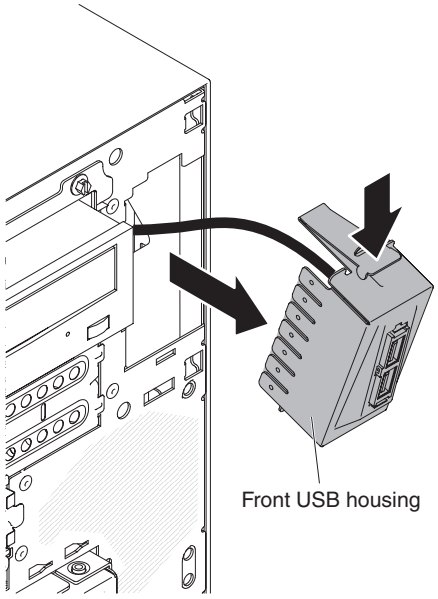


Figure 166. Front USB connector assembly removal for 5U server model with hot-swap power supplies (1)

11. Squeeze the spring clips on the sides of the front USB connector assembly and pull the assembly out of the back of the housing.

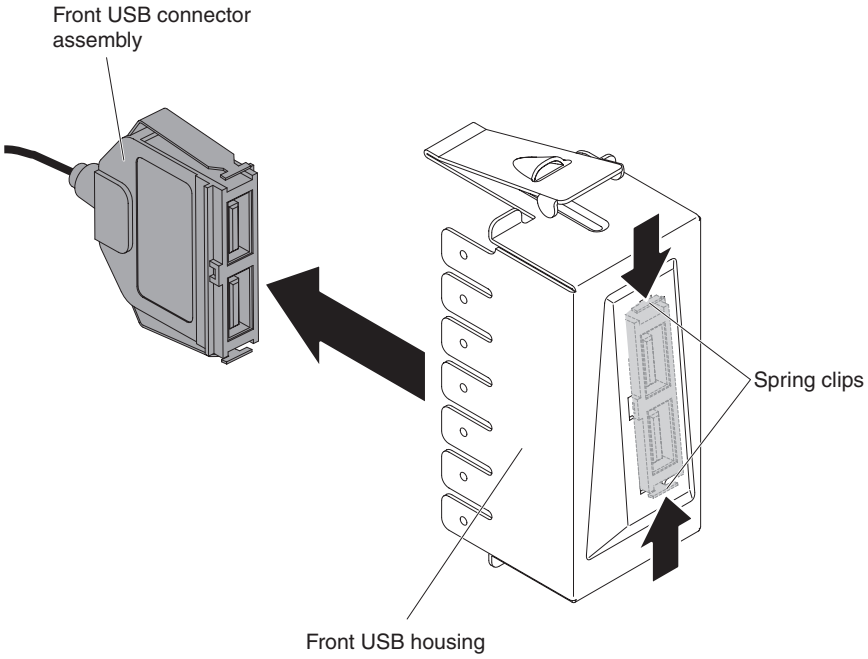


Figure 167. Front USB connector assembly removal for 5U server model with hot-swap power supplies (2)

12. Carefully pull the front USB cable out of the opening in the chassis.
13. If you are instructed to return the front USB connector assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the front USB connector assembly

Use this information to replace the front USB connector assembly

To install the front USB connector assembly on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Carefully insert the front USB cable through the opening in the front of the chassis.
3. Place the tab on the bottom edge of the USB housing into the bottom of the opening in the chassis.

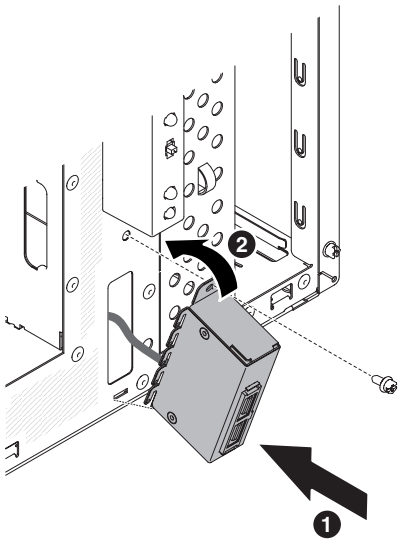


Figure 168. Front USB connector assembly installation for 4U server model with non-hot-swap power supplies

4. Tilt the top of the USB housing into position to the end.
5. Secure the front USB housing with the screw.
6. Reroute and connect the front USB cable to the front USB connector on the system board (see “System-board internal connectors” on page 30 for the location of the front USB connector).

   Note: Disconnection of the SATA cables is suggested if any of them interferes with the process.

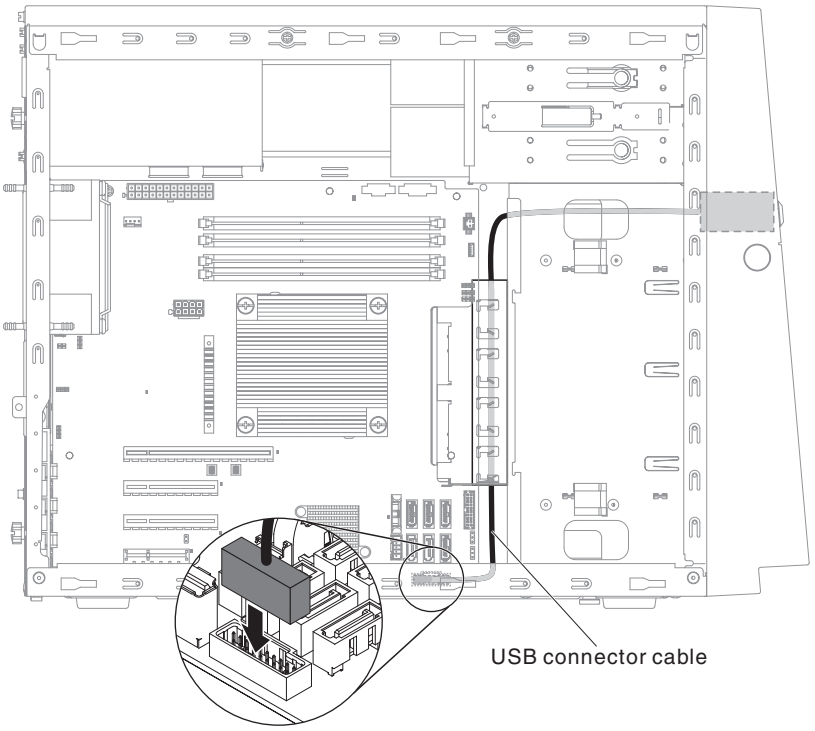


Figure 169. Front USB cable installation for 4U server model with non-hot-swap power supplies

7. Install the air baffle (see “Replacing the air baffle” on page 176).
8. Install the side cover (see “Removing the side cover” on page 36).
9. Stand the server back up in its vertical position.
10. Install bezel (see “Replacing the bezel” on page 180).
11. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the front USB connector assembly on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Carefully insert the front USB cable through the opening in the front of the chassis.
3. Squeeze the spring clips on the sides of the front USB connector assembly and insert the assembly into the housing through the back of the housing.

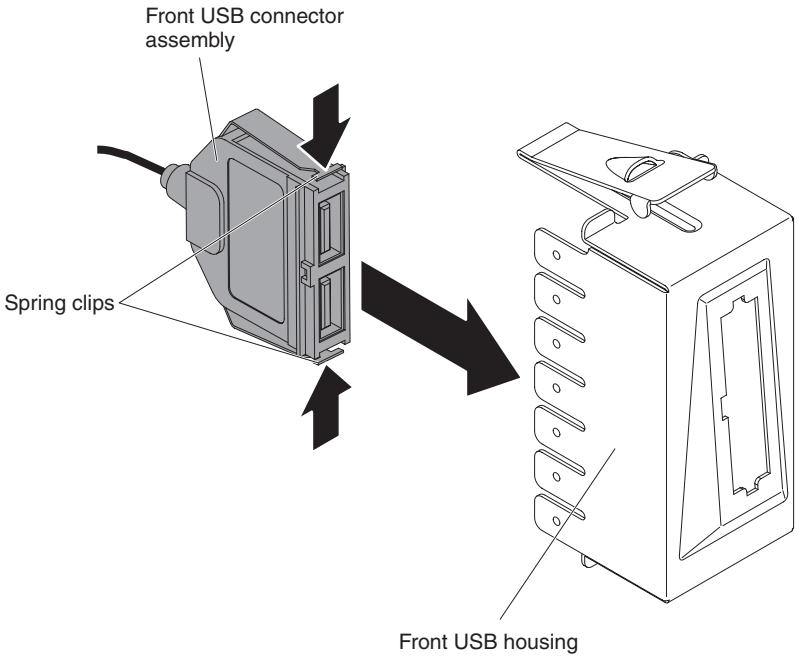


Figure 170. Front USB connector assembly installation for 5U server model with hot-swap power supplies (1)

4. Place the bottom edge of the housing into the bottom of the opening in the chassis; then, tilt the top of the housing into position until it clicks into place.

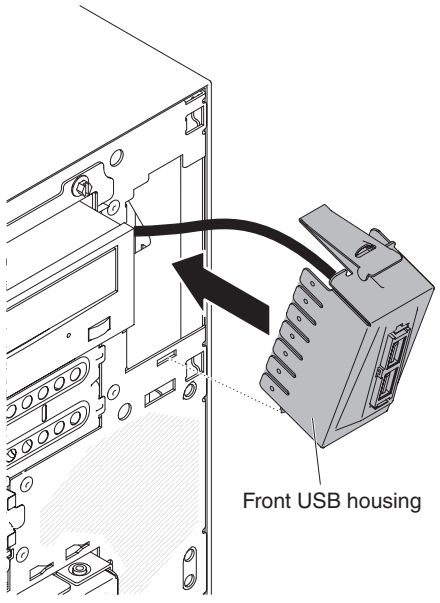


Figure 171. Front USB connector assembly installation for 5U server model with hot-swap power supplies (2)

5. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.

6. Reroute and connect the front USB cable to the front USB connector on the system board (see "System-board internal connectors" on page 30 for the location of the front USB connector).

Note: Remember to route the cabling through the cable clips.

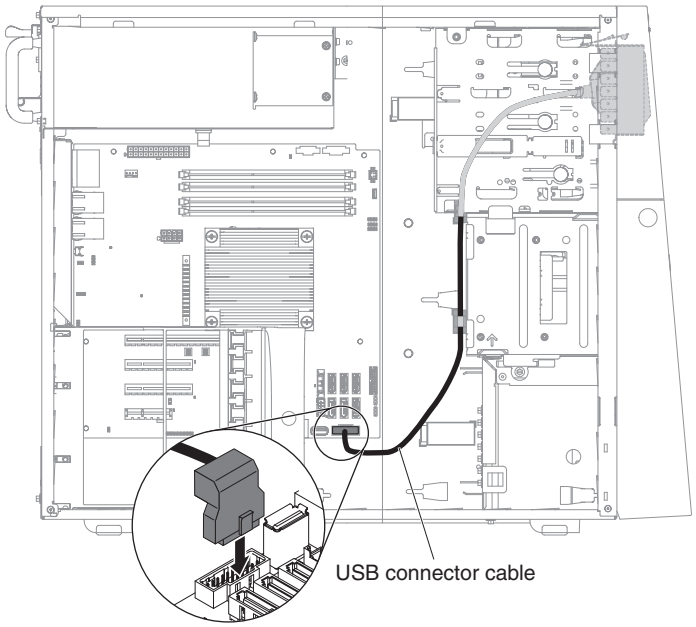


Figure 172. Front USB cable installation for 5U server model with hot-swap power supplies

7. Install the hard disk drive fan duct (see "Replacing the hard disk drive fan duct" on page 216).
8. Stand the server back up in its vertical position.
9. Install the upper bezel (see "Replacing the upper bezel" on page 183).
10. Install the lower bezel (see "Replacing the lower bezel" on page 181).
11. Install and lock the side cover (see "Replacing the side cover" on page 173).
12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the rear adapter retention bracket

This procedure applies only to the 5U server model with hot-swap power supplies.

To remove the rear adapter-retention bracket on the 5U server model with hot-swap power supplies, complete the following steps.

1. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
2. Unlock and remove the side cover (see "Removing the side cover" on page 36).
3. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
4. Remove all adapters (if necessary) and place the adapters on a static-protective surface (see "Removing an adapter" on page 257).

   Note: You might find it helpful to note where each adapter is installed before you remove the adapters.
5. Rotate the rear adapter-retention bracket to the open (unlocked) position.
6. Grasp the bracket on one side at the hinge point and pull inward (while you rotate the bracket slightly toward the front of the server) until the bracket is

free of the hinge pin; then, grasp the bracket on the other side at the hinge point, pull inward until the bracket is free of the hinge pin, and remove the rear adapter-retention bracket from the server.

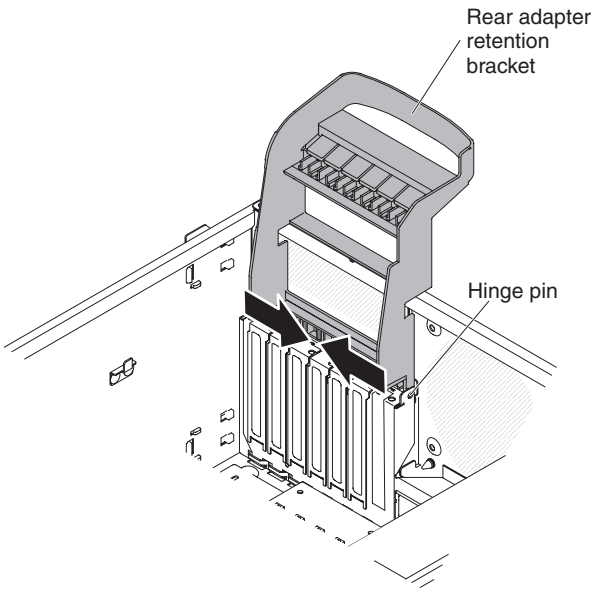


Figure 173. Rear adapter-retention bracket removal for 5U server model with hot-swap power supplies

Replacing the rear adapter retention bracket

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the rear adapter-retention bracket on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Position the rear adapter-retention bracket so that the hole in one of the hinge points is aligned with the hinge pin on the chassis; then, place the hinge pin through the hole on the chassis.
3. Rotate the rear adapter-retention bracket into place so that the hole in the opposite hinge point snaps into place over the hinge pin on the chassis.

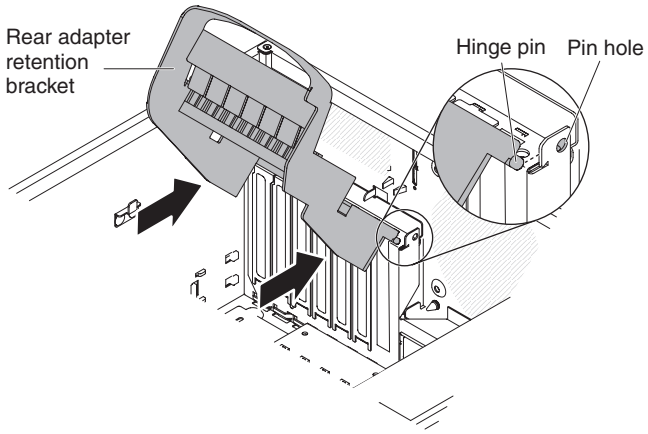


Figure 174. Rear adapter-retention bracket installation for 5U server model with hot-swap power supplies

4. Install the adapters.
5. Stand the server back up in its vertical position.
6. Install and lock the side cover (see "Replacing the side cover" on page 173).
7. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the non-hot-swap power supply

This procedure applies only to 4U server models with non-hot-swap power supplies.

When you remove or install a fixed power supply, observe the following precautions.

Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

To remove a non-hot-swap power supply on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see “Removing the side cover” on page 36).
5. Remove the air baffle (see “Removing the air baffle” on page 38).
6. Disconnect the hard disk power cables from the backplate.
7. Disconnect the cables from the power supply to the system board and all internal components. Note the routing of all power-supply cables; you will need to route the power-supply cables the same way when you install the power supply.
8. While you support the power supply, remove the six screws that secure it to the chassis; then, lift the power supply out of the chassis. Save the screws to use when you install the replacement power supply.

   Attention: It is important to support the power supply while you remove the mounting screws. After all six screws are removed, the power supply is loose and can damage other components in the server.

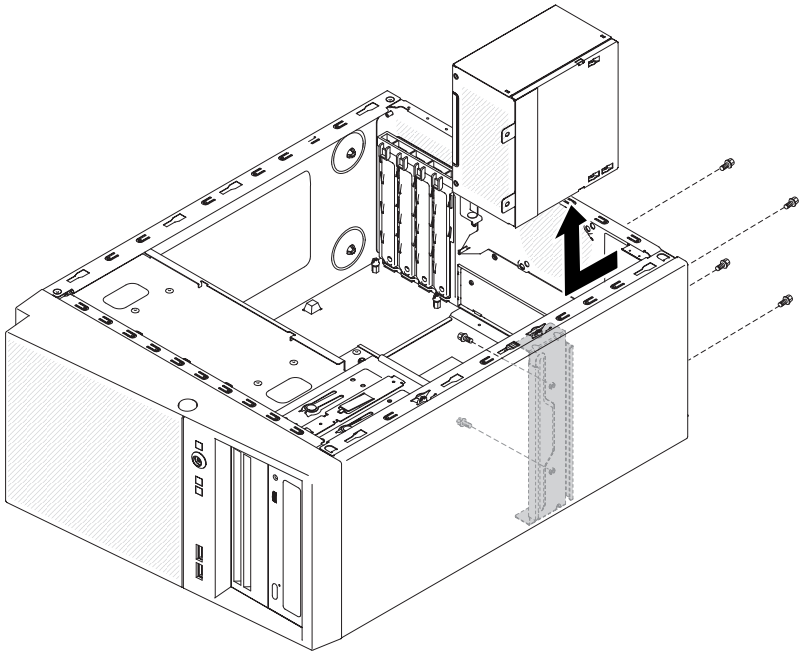


Figure 175. Non-hot-swap power supply screw removal for 4U server model with non-hot-swap power supplies

Note: You may find it easier to remove the power supply by pushing the bottom upward. Do not pull the cables.

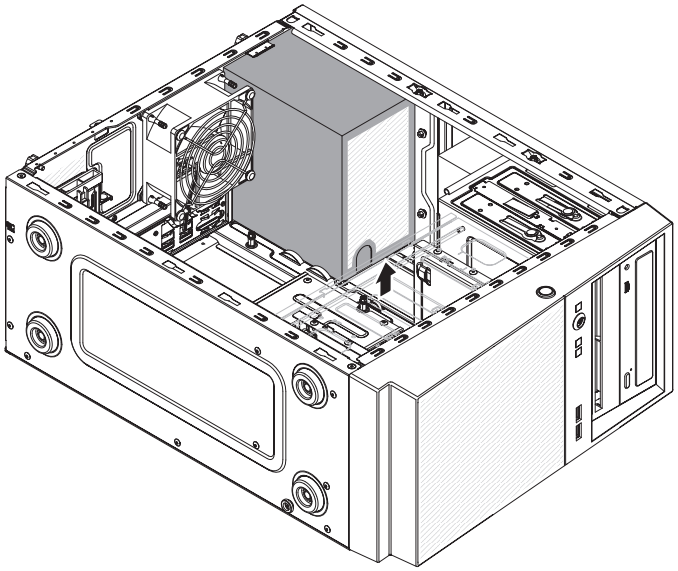


Figure 176. Non-hot-swap power supply removal for 4U server model with non-hot-swap power supplies

9. If you are instructed to return the power supply, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the non-hot-swap power supply

This procedure applies only to 4U server models with non-hot-swap power supplies.

Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

To install a non-hot-swap power supply on 4U server models with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.

2. Position the power supply in the chassis so that the screw holes in the power supply are aligned with the corresponding holes in the rear of the chassis.

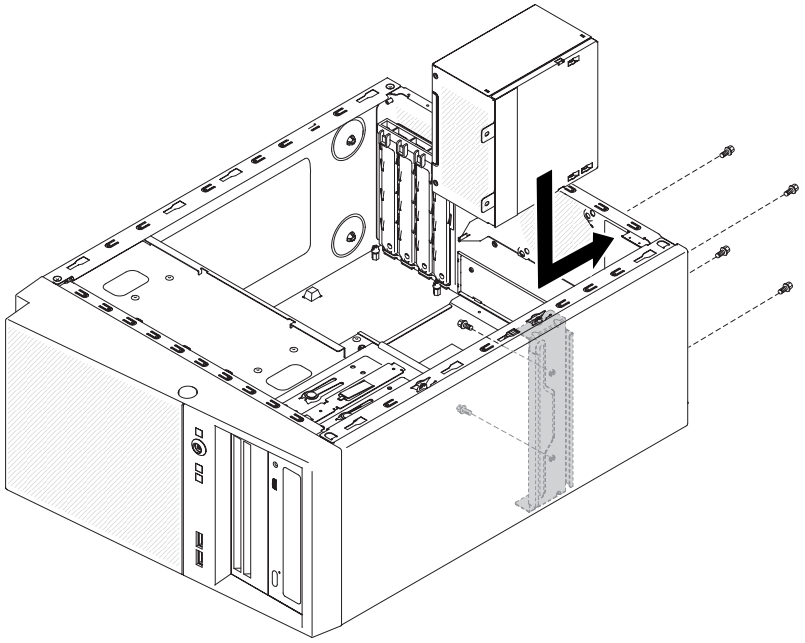


Figure 177. Non-hot-swap power supply installation for 4U server model with non-hot-swap power supplies (1)

Note: Make sure the top and the bottom of the power supply align with the upper and lower tabs on the opening.

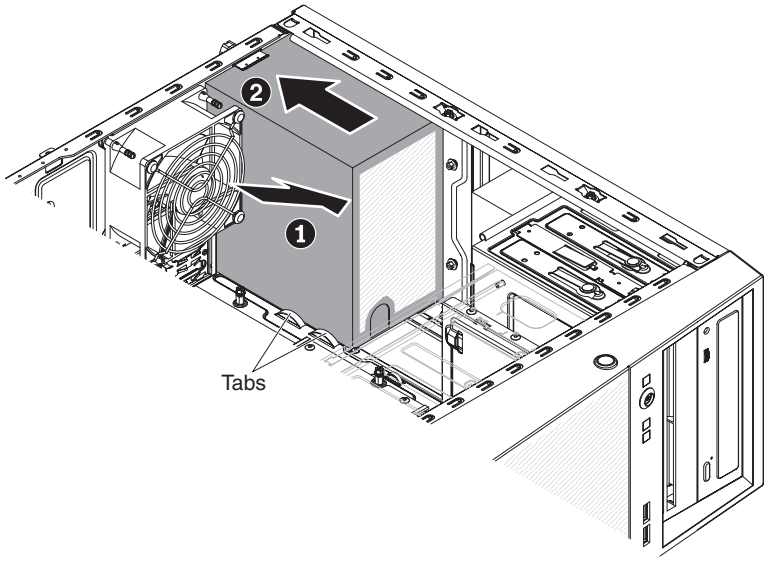


Figure 178. Non-hot-swap power supply installation for 4U server model with non-hot-swap power supplies (2)

3. Install the six screws to secure the power supply to the chassis.
4. Install the air baffle (see "Replacing the air baffle" on page 176).
5. Install the side cover (see "Replacing the side cover" on page 173).
6. Stand the server back up in its vertical position.

7. Install the bezel (see “Replacing the bezel” on page 180).
8. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

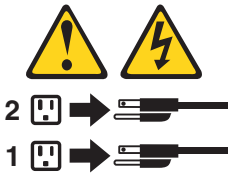
Removing the hot-swap power supply

This procedure applies only to the 5U server model with hot-swap power supplies.

When you remove or install a hot-swap power supply, observe the following precautions.

Statement 5

CAUTION:
The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Attention: During normal operation, each power-supply bay must contain either a hot-swap power supply or a hot-swap power-supply filler for proper cooling.

To remove a hot-swap power supply on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Disconnect the power cord from the power supply that is to be removed.
3. Press down on the orange release lever and pull the power supply out of the bay, using the handle.

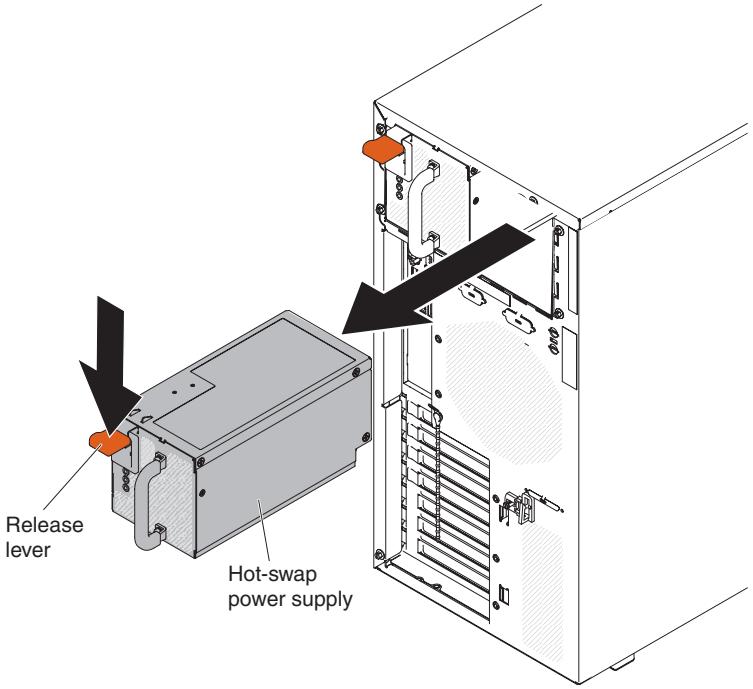


Figure 179. Hot-swap power supply removal for 5U server model with hot-swap power supplies

4. If you are instructed to return the power supply, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the hot-swap power supply

This procedure applies only to the 5U server model with hot-swap power supplies.

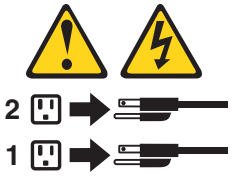
The following items describe the type of power supply that the server supports and other information that you must consider when you install a power supply:

- To confirm that the server supports the power supply that you are installing, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us.
- The server comes standard with one 430-watt hot-swap power supply. The input voltage is 110 V ac or 220 V ac auto-sensing.
- These power supplies are designed for parallel operation. In the event of a power-supply failure, the redundant power supply continues to power the system. The server supports a maximum of two power supplies.
- The server can run fully configured with one power supply. For redundancy support, you must install the second hot-swap power supply.

Note: You cannot mix high-efficiency and non-high-efficiency power supplies in the server.

Statement 5

CAUTION:
rThe power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8

CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

Attention: During normal operation, each power-supply bay must contain either a power supply or power-supply filler for proper cooling.

To install a hot-swap power supply on the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Place the power supply into the bay guides.
3. Using the handle, push the power supply toward the front of the chassis until it locks into place.

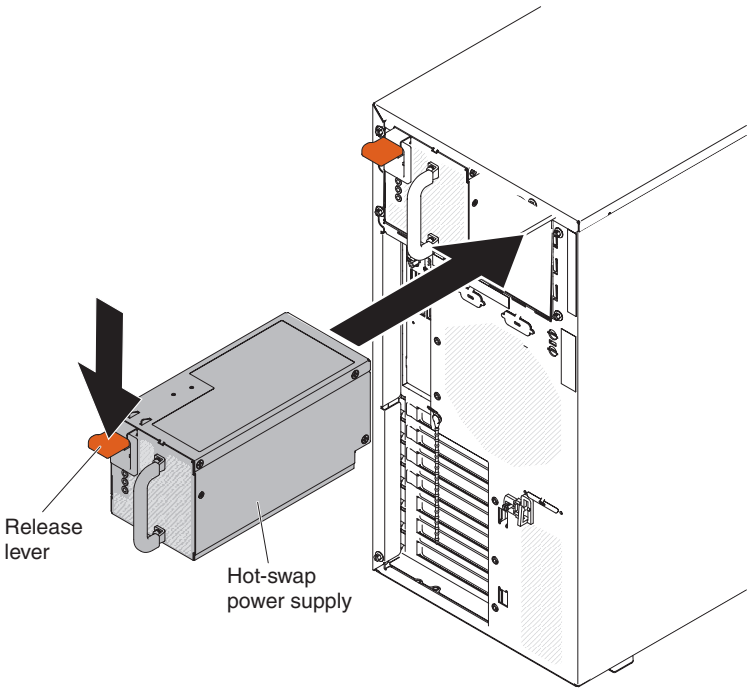


Figure 180. Hot-swap power supply installation for 5U server model with hot-swap power supplies

4. Connect one end of the power cord into the connector on the back of the power supply and connect the other end of the power cord into a properly grounded electrical outlet.
5. Make sure that both the ac and dc power LEDs on the rear of the power supply are lit, indicating that the power supply is operating correctly.

Removing an adapter

Use this information to remove an adapter

To remove an adapter on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Disconnect any cables from the adapter or any cables that impede access to the ServeRAID adapter.
7. Lift the end of the rear adapter retention bracket till the tab disengages the hole on the chassis.

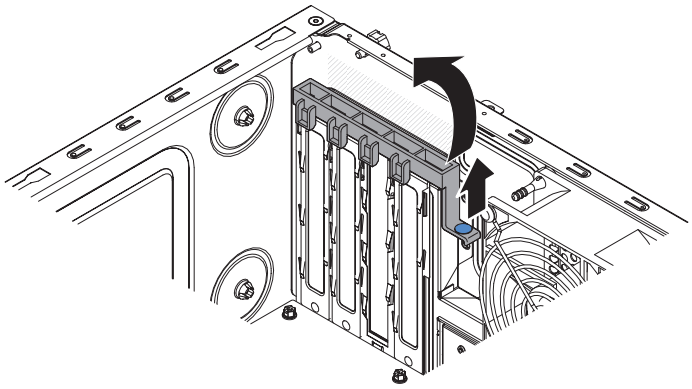


Figure 181. Rear adapter retention bracket removal for 4U server model with non-hot-swap power supplies

8. Remove the expansion-slot screw at the rear of the adapter if any.
9. Carefully grasp the adapter by its top edge or upper corners; then, pull the adapter to remove it from the server.

   Attention: Expansion-slot covers must be installed in all empty slots. This maintains the electronic emissions standards of the computer and ensures proper ventilation of computer components.

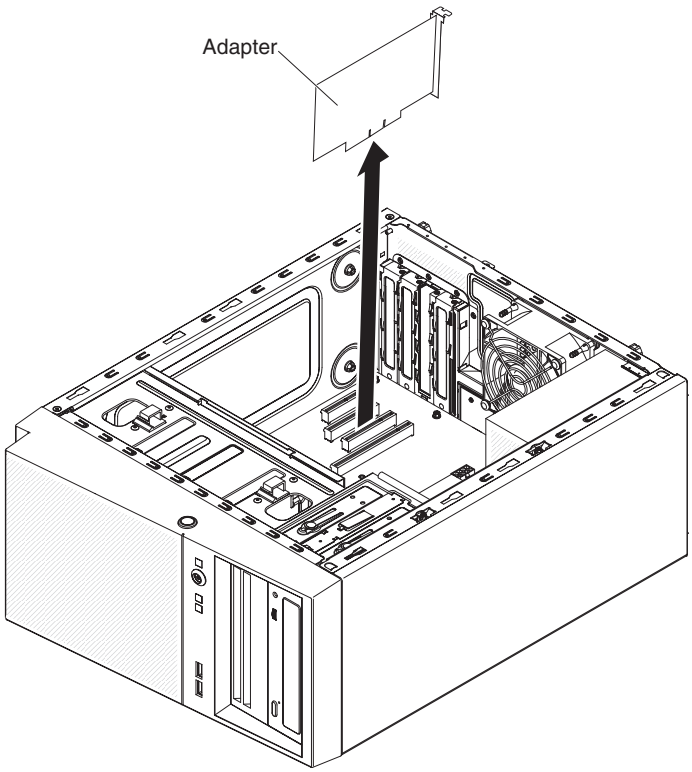


Figure 182. Adapter removal for 4U server model with non-hot-swap power supplies

10. If you are not replacing the adapter, install an expansion-slot cover in the expansion-slot opening.
11. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove an adapter on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up. Do not allow the server to fall over.

   Attention: Do not allow the server to fall over.
5. Disconnect any cables from the adapter or any cables that impede access to the adapter.
6. Rotate the rear adapter-retention bracket to the open (unlocked) position.
7. Carefully grasp the adapter by its top edge or upper corners, and pull the adapter from the server.

   Attention: Expansion-slot covers must be installed in all empty slots. This maintains the electronic emissions standards of the computer and ensures proper ventilation of computer components.

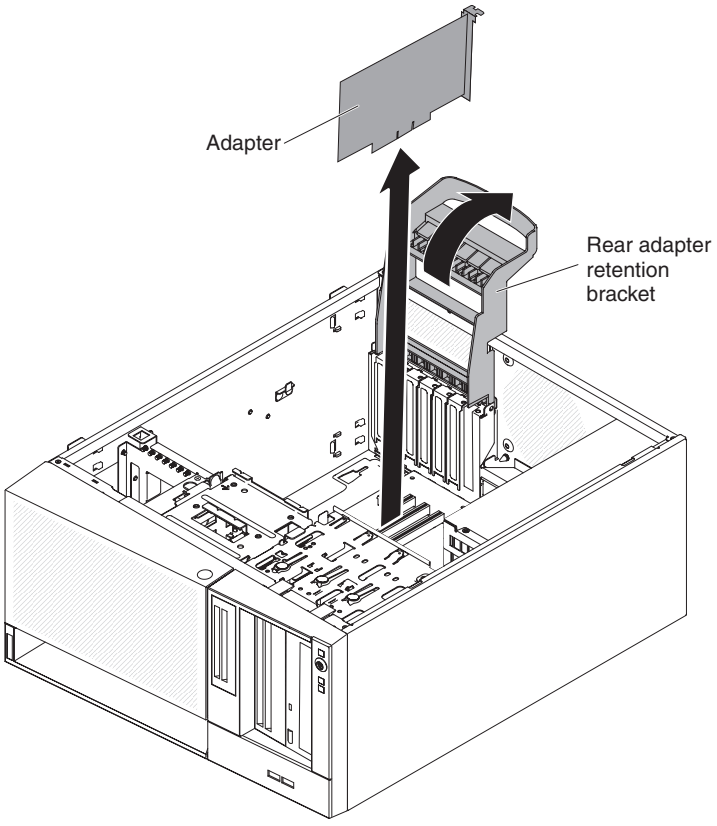


Figure 183. Adapter removal for 5U server model with hot-swap power supplies

8. If you are not replacing the adapter, install an expansion-slot cover in the expansion-slot opening.
9. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing an adapter

Use this information to replace an adapter

Attention: When installing the Intel x520 Dual Port 10GbE SFP+ adapter (option part number is 49Y7960), the maximum number that can be installed in the server is two.

For the locations of the expansion slots and connectors, please see "System-board internal connectors" on page 30.

To install a replacement adapter on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Check the instructions that come with the adapter for any requirements, restrictions, or cabling instructions. It might be easier to route cables before you install the adapter.
3. Follow the instructions that come with the adapter to set jumpers or switches, if any.
4. Touch the static-protective package that contains the adapter to any unpainted metal surface on the server. Then, remove the adapter from the static-protective package. Avoid touching the components and gold-edge connectors on the adapter.
5. Follow the cabling instructions, if any, that come with the adapter. Route the adapter cables before you install the adapter.
6. Follow the instructions that come with the adapter to set jumpers or switches, if any.
7. Remove the expansion-slot cover by unscrewing the screw that secures it to the chassis. Store the expansion-slot cover and screw in a safe place for future use.

   Note: Expansion-slot covers must be installed on all vacant slots. This maintains the electronic emissions standards of the server and ensures proper ventilation of server components.
8. Carefully grasp the adapter by the top edge or upper corners, and align it with the expansion slot guides; then, press the adapter *firmly* into the expansion slot.

   Attention: Make sure that the adapter is correctly seated in the expansion slot before you turn on the server. Incomplete installation of an adapter might damage the system board or the adapter.

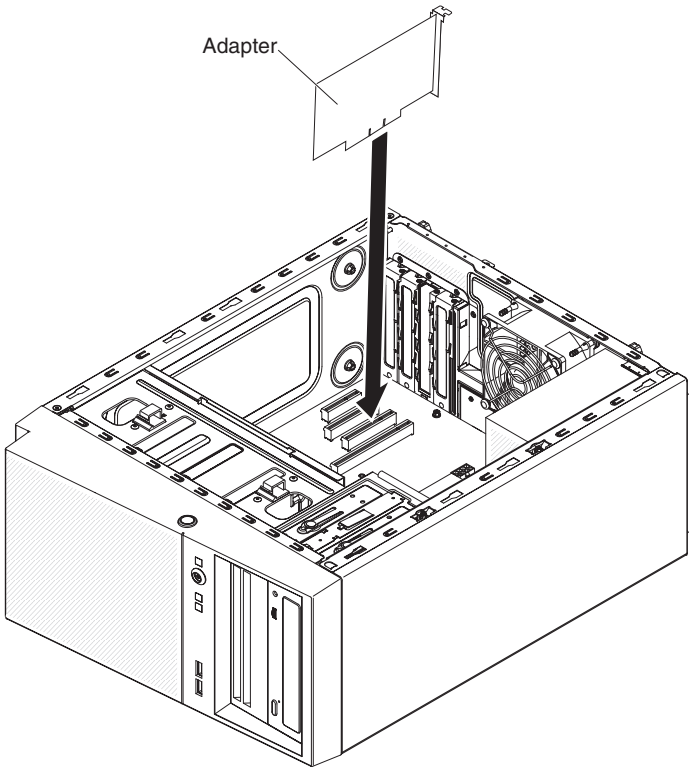


Figure 184. Adapter installation for 4U server model with non-hot-swap power supplies

9. Position the rear adapter retention bracket so that the hole in one of the hinge points is aligned with the hinge pin on the chassis; then, place the hinge pin through the hole on the chassis.

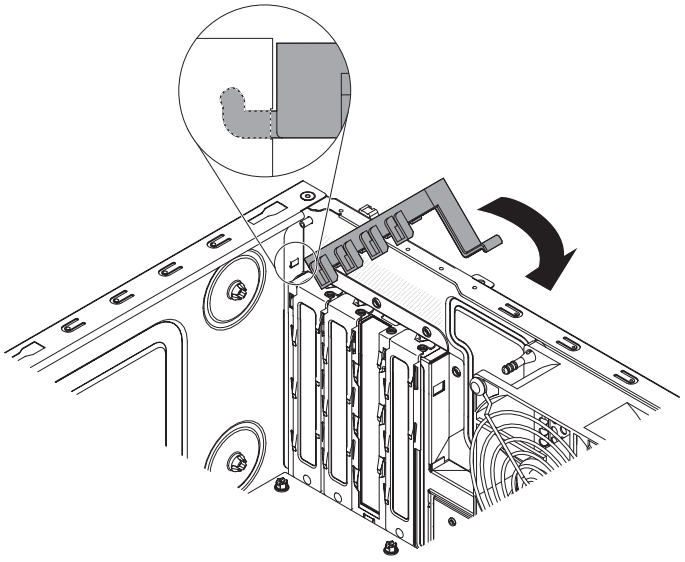


Figure 185. Rear adapter retention bracket installation for 4U server model with non-hot-swap power supplies

10. Rotate the rear adapter retention bracket into place so that the hole in the opposite hinge point snaps into place over the hinge pin on the chassis.

11. Connect any required cables to the adapter. Route the cables so that they do not block the flow of air from the system fan.
12. Install the air baffle (see “Replacing the air baffle” on page 176).
13. Install the side cover (see “Replacing the side cover” on page 173).
14. Stand the server back up in its vertical position.
15. Install the bezel (see “Replacing the bezel” on page 180).
16. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install a replacement adapter on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Check the instructions that come with the adapter for any requirements, restrictions, or cabling instructions. It might be easier to route cables before you install the adapter.
3. Follow the instructions that come with the adapter to set jumpers or switches, if any.
4. Touch the static-protective package that contains the adapter to any unpainted metal surface on the server. Then, remove the adapter from the static-protective package. Avoid touching the components and gold-edge connectors on the adapter.
5. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
6. Remove the expansion-slot cover by unscrewing the screw that secures it to the chassis. Store the expansion-slot cover and screw in a safe place for future use.

   Note: Expansion-slot covers must be installed on all vacant slots. This maintains the electronic emissions standards of the server and ensures proper ventilation of server components.
7. Carefully grasp the adapter by the top edge or upper corner, and move the adapter directly from the static-protective package to the expansion slot. Align the adapter with the expansion slot guides; then, press the adapter *firmly* into the expansion slot.

   Attention: Make sure that the adapter is correctly seated in the expansion slot before you turn on the server. Incomplete installation of an adapter might damage the system board or the adapter.

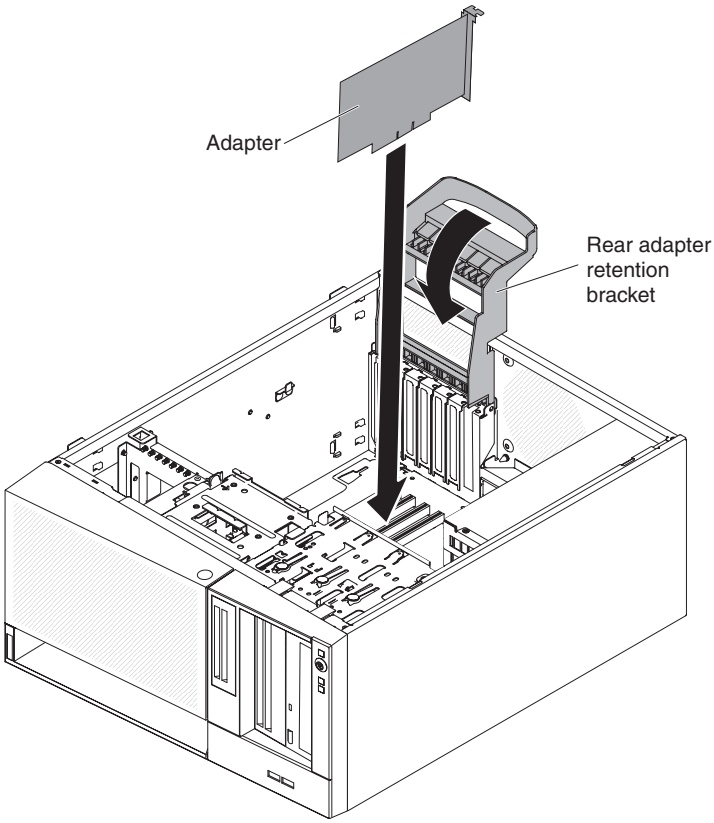


Figure 186. Adapter installation for 5U server model with hot-swap power supplies

8. Connect the required cables to the adapter. Route cables so that they do not block the air flow from the fan.
9. Rotate the rear adapter-retention bracket to the closed (locked) position.
10. Stand the server back up in its vertical position.
11. Install and lock the side cover see "Replacing the side cover" on page 173).
12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing a memory module

Use this information to remove a memory module.

To remove a dual inline memory module (DIMM) on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Locate the DIMM connector that contains the DIMM that is to be replaced (see "System-board internal connectors" on page 30).

Attention: To avoid breaking the DIMM retaining clips or damaging the DIMM connectors, open and close the clips gently.

7. Carefully open the retaining clips on each end of the DIMM connector and remove the DIMM.

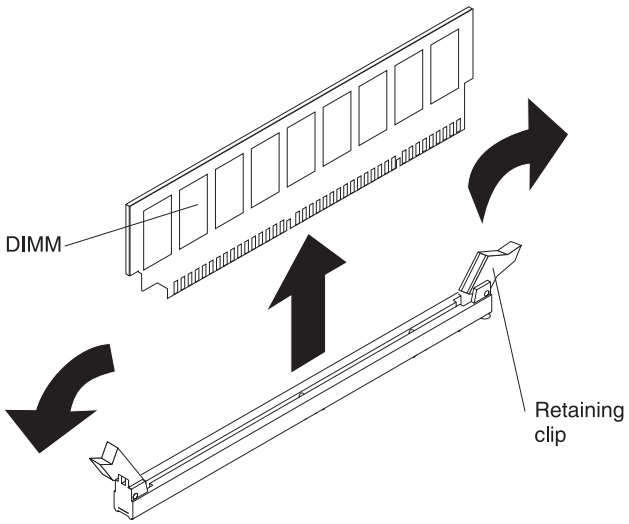


Figure 187. DIMM removal

8. If you are instructed to return the DIMM, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove a dual inline memory module (DIMM) on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Locate the DIMM connector that contains the DIMM that is to be replaced (see “System-board internal connectors” on page 30).

   Attention: To avoid breaking the DIMM retaining clips or damaging the DIMM connectors, open and close the clips gently.
6. Carefully open the retaining clips on each end of the DIMM connector and remove the DIMM.

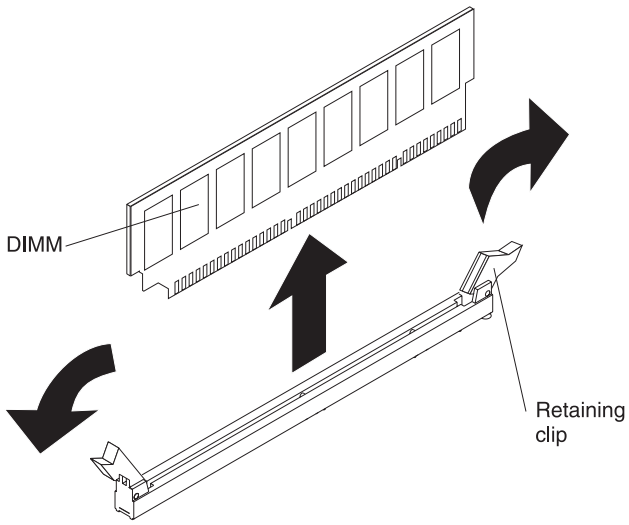


Figure 188. DIMM removal

7. If you are instructed to return the DIMM, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a memory module

Use this information to replace a memory module

The following notes describe the types of dual inline memory modules (DIMMs) that the server supports and other information that you must consider when you install DIMMs (see "System-board internal connectors" on page 30).

If you are replacing a drive, make sure that:

- The server supports industry-standard, 1066, 1333 and 1600 MHz, PC3-12800 (single-rank or dual-rank) double-data-rate 3 (DDR3), registered or unbuffered, synchronous dynamic random-access memory (SDRAM) dual inline memory modules (DIMMs) with error correcting code (ECC). For a list of supported options for the server, see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us; then, select your country and navigate to the list of options for the server.
- The maximum amount of memory that the server supports is dependent on the type of memory that you install in the server.
- The amount of usable memory is reduced, depending on the system configuration. A certain amount of memory must be reserved for system resources. To view the total amount of installed memory and the amount of configured memory, run the Setup utility. For additional information, see Using the Setup utility.
- The maximum operating speed of the server is determined by the slowest DIMM in the server.
- If you install a pair of DIMMs in DIMM connectors 1 and 3, the size and speed of the DIMMs that you install in DIMM connectors 1 and 3 must match each other. However, they do not have to be the same size and speed as the DIMMs that are installed in DIMM connectors 2 and 4.
- You can use compatible DIMMs from various manufacturers in the same pair.
- When you install or remove DIMMs, the server configuration information changes. When you restart the server, the system displays a message that indicates that the memory configuration has changed.Static electricity that is

released to internal server components when the server is powered-on might cause the server to stop, which could result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when working inside the server with the power on.

Attention: Static electricity that is released to internal server components when the server is powered-on might cause the server to stop, which could result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when working inside the server with the power on.

- The specifications of a DDR3 DIMM are on a label on the DIMM, in the following format.

  *ggg e*Rx*ff*-PC3-*wwwwwm-aa-bb-cc*

  where:

  – *ggg* is the total capacity of the DIMM (for example, 1GB, 2GB, or 4GB)
  – *e* is the number of ranks
    - 1 = single-rank
    - 2 = dual-rank
    - 4 = quad-rank
  – *ff* is the device organization (bit width)
    - 4 = x4 organization (4 DQ lines per SDRAM)
    - 8 = x8 organization
    - 16 = x16 organization
  – *wwwww* is the DIMM bandwidth, in MBps
    - 8500 = 8.53 GBps (PC3-1066 SDRAMs, 8-byte primary data bus)
    - 10600 = 10.66 GBps (PC3-1333 SDRAMs, 8-byte primary data bus)
    - 12800 = 12.8 GBps (PC3-1600 SDRAMs, 8-byte primary data bus)
  – *m* is the DIMM type
    - E = Unbuffered DIMM (UDIMM) with ECC (x72-bit module data bus)
    - R = Registered DIMM (RDIMM)
    - U = Unbuffered DIMM with no ECC (x64-bit primary data bus)
  – *aa* is the CAS latency, in clocks at maximum operating frequency
  – *bb* is the JEDEC SPD Revision Encoding and Additions level
  – *cc* is the reference design file for the design of the DIMM
  – *d* is the revision number of the reference design of the DIMM

  Note: To determine the type of a DIMM, see the label on the DIMM. The information on the label is in the format xxxxx nRxxx PC3-xxxxx-xx-xx-xxx. The numeral in the sixth numerical position indicates whether the DIMM is single-rank (n=1) or dual-rank (n=2).

Unbuffered DIMMs (UDIMMs):

The following notes provide information that you must consider when you install UDIMMs:

- The memory channels run at the lowest common frequency of the DIMMs installed.
- The UDIMM options that are available for the server are 1 GB, 2 GB, 4 GB, and 8 GB (when available) DIMMs.
- The server supports up to two single-rank or dual-rank UDIMMs per channel.

The following table lists the supported UDIMM population.

Table 35. Supported UDIMM population per channel

DIMM connectors per channel	DIMMs installed in each channel	DIMM type	DIMM speed	Ranks per DIMM (any combination)
2	1	Unbuffered DDR3 ECC	1333, 1600	Single-rank, dual-rank
2	2	Unbuffered DDR3 ECC	1333, 1600	Single-rank, dual-rank

The following table lists the maximum DIMM population using ranked UDIMMs.

Table 36. Maximum memory population using ranked UDIMMs (depending on your model)

Number of UDIMMs	DIMM type	Size	Total memory
4	Single-rank UDIMMs	1 GB	4 GB
4	Dual-rank UDIMMs	2 GB	8 GB
4	Dual-rank UDIMMs	4 GB	16 GB
4	Dual-rank UDIMMs	8 GB (when available)	32 GB

The following table shows the UDIMM memory population rule to optimize the system performance.

Table 37. UDIMM population rule

DIMM connector 1	DIMM connector 2	DIMM connector 3	DIMM connector 4
Populated	Empty	Empty	Empty
Populated	Empty	Populated	Empty
Populated	Populated	Populated	Populated

The following illustration shows the location of the DIMM connectors on the system board.

Note: The illustrations in this document might differ slightly from your model.

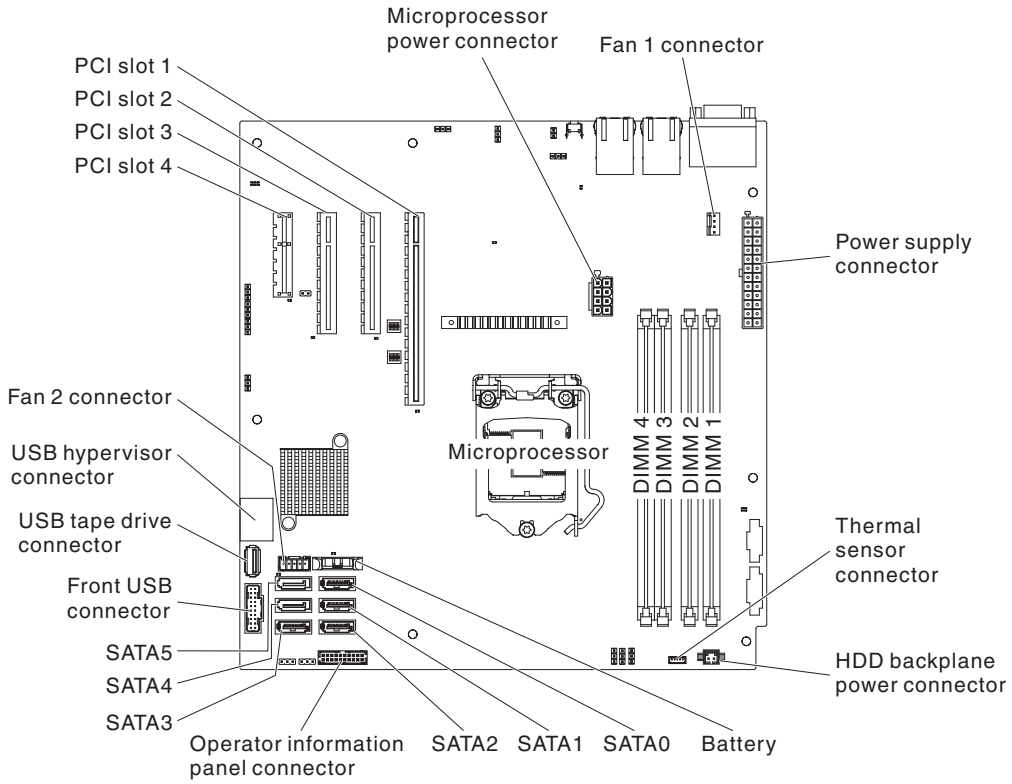


Figure 189. DIMM connectors on system board

Attention: Static electricity that is released to internal server components when the server is powered on might cause the server to halt, which might result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server with the power on.

To install a DIMM on 4U server models with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Locate the DIMM connectors on the system board. Determine the connectors into which you will install the DIMMs. Install the DIMMs in the sequence shown in the following table.

Table 38. DIMM installation sequence

Number of DIMMs	Installation sequence (connectors)
First pair of DIMMs	1, 3
Second pair of DIMMs	2, 4

3. Open the retaining clips and, if necessary, remove any existing DIMM.

   Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.

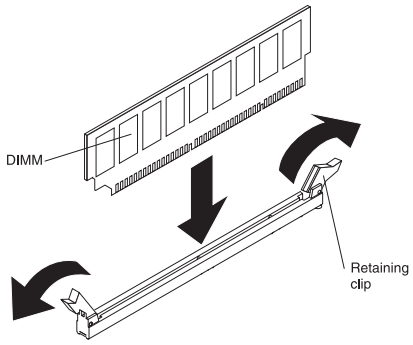


Figure 190. DIMM installation

4. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the outside of the server. Then, remove the DIMM from the package.
5. Turn the DIMM so that the DIMM keys align correctly with the connector.
6. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector.
7. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector.

   Note: If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly inserted; open the retaining clips, remove the DIMM, and then reinsert it.
8. Install the air baffle (see "Replacing the air baffle" on page 176).
9. Install the side cover (see "Replacing the side cover" on page 173).
10. Stand the server back up in its vertical position.
11. Install the bezel (see "Replacing the bezel" on page 180).
12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install a DIMM on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Locate the DIMM connectors on the system board. Determine the connectors into which you will install the DIMMs. Install the DIMMs in the sequence shown in the following table.

Table 39. DIMM installation sequence

Number of DIMMs	Installation sequence (connectors)
First pair of DIMMs	1, 3
Second pair of DIMMs	2, 4

3. Open the retaining clips and, if necessary, remove any existing DIMM.

   Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.

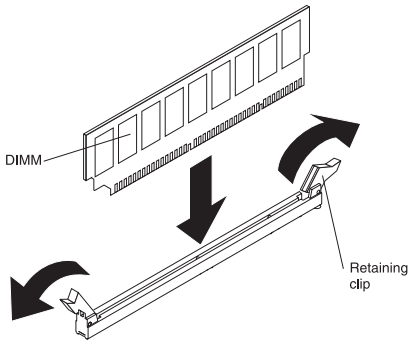


Figure 191. DIMM installation

4. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the server. Then, remove the new DIMM from the package.
5. Turn the DIMM so that the DIMM keys align correctly with the connector.
6. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector. If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly installed. Open the retaining clips, remove the DIMM, and then reinsert it.
7. Stand the server back up in its vertical position.
8. Install and lock the side cover (see "Replacing the side cover" on page 173).
9. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the system battery

Use this information to remove a system battery.

The following notes describe information that you must consider when replacing the battery:

- Lenovo has designed this product with your safety in mind. The lithium battery must be handled correctly to avoid possible danger. If you replace the battery, you must adhere to the following instructions.

  Note: In the U. S., call 1-800-IBM-4333 for information about battery disposal.
- If you replace the original lithium battery with a heavy-metal battery or a battery with heavy-metal components, be aware of the following environmental consideration. Batteries and accumulators that contain heavy metals must not be disposed of with normal domestic waste. They will be taken back free of charge by the manufacturer, distributor, or representative, to be recycled or disposed of in a proper manner.
- To order replacement batteries, call 1-800-IBM-SERV within the United States, and 1-800-465-7999 or 1-800-465-6666 within Canada. Outside the U.S. and Canada, call your support center or business partner.

  Note: After you replace the battery, you must reconfigure the server and reset the system date and time.

  Statement 2

CAUTION:
When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- **Throw or immerse into water**
- **Heat to more than 100°C (212°F)**
- **Repair or disassemble**

Dispose of the battery as required by local ordinances or regulations.

To remove the battery on the 4U server model with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Locate the battery on the system board (see "System-board internal connectors" on page 30).
7. Remove the battery:
   a. Use one finger to tilt the battery horizontally out of its socket, pushing it away from the socket.
   b. Lift and remove the battery from the socket.

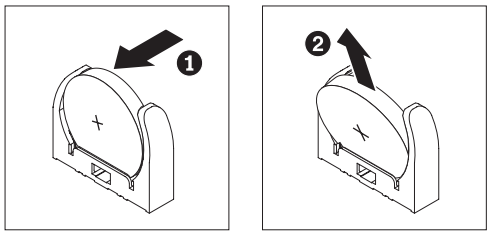


Figure 192. System battery removal for 4U server model with non-hot-swap power supplies

To remove the battery on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.

2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Locate the battery on the system board (see “System-board internal connectors” on page 30).
6. Remove the battery:
   a. Use one finger to tilt the battery horizontally out of its socket, pushing it away from the socket.
   b. Lift and remove the battery from the socket.

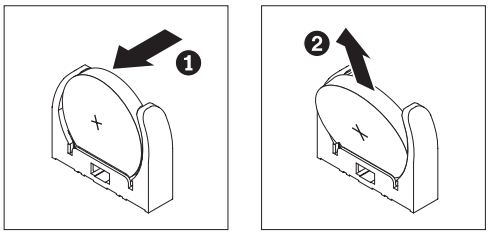


Figure 193. System battery removal for 5U server model with hot-swap power supplies

Replacing the system battery

Use this information to replace the system battery

The following notes describe information that you must consider when replacing the system-board battery in the server.

- When replacing the system-board battery, you must replace it with a lithium battery of the same type from the same manufacturer.
- To order replacement batteries, call 1-800-426-7378 within the United States, and 1-800-465-7999 or 1-800-465-6666 within Canada. Outside the U.S. and Canada, call your Lenovo marketing representative or authorized reseller.
- After you replace the system-board battery, you must reconfigure the server and reset the system date and time.
- To avoid possible danger, read and follow the following safety statement.

Statement 2

CAUTION:
When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- **Throw or immerse into water**
- **Heat to more than 100°C (212°F)**
- **Repair or disassemble**

Dispose of the battery as required by local ordinances or regulations.

To install the replacement battery on the 4U server model with non-hot-swap power supplies, complete the following steps. For the 5U server model with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Follow any special handling and installation instructions that come with the replacement battery.
3. Insert the battery:
   a. Hold the battery in a vertical orientation so that the smaller side is facing the socket.
   b. Tilt the battery and slide the battery into its socket; then, press the battery toward the socket until it clicks into place. Make sure that the battery clip holds the battery securely.

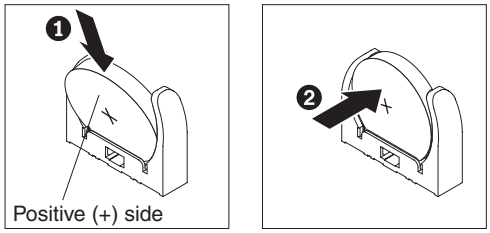


Figure 194. System battery installation for 4U server model with non-hot-swap power supplies

4. Install the air baffle (see "Replacing the air baffle" on page 176).
5. Install the side cover (see "Replacing the side cover" on page 173).
6. Stand the server back up in its vertical position.
7. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.
8. Start the Configuration/Setup Utility program and reset the configuration:
   - Set the system date and time.
   - Set the power-on password.
   - Reconfigure the server.

   See "Setup utility menu choices" on page 94 for details.

To install the replacement battery on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Follow any special handling and installation instructions that come with the replacement battery.
3. Insert the battery:
   a. Orient the battery so that the positive side faces up.
   b. Tilt the battery and slide the battery into its socket.

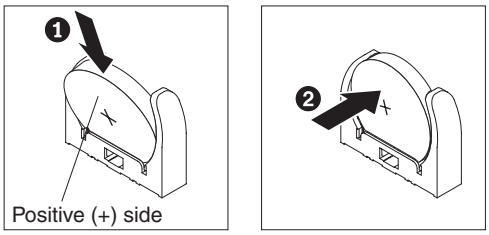


Figure 195. System battery installation for 5U server model with hot-swap power supplies

   c. Press the battery down into the socket until it clicks into place. Make sure that the battery clip holds the battery securely.
4. Stand the server back up in its vertical position.
5. Install and lock the side cover (see "Replacing the side cover" on page 173).
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.
7. Start the Configuration/Setup Utility program and reset the configuration:
   - Set the system date and time.
   - Set the power-on password.
   - Reconfigure the server.

   See "Setup utility menu choices" on page 94 for details.

Removing the rear system fan

This procedure applies only to 4U server models with non-hot-swap power supplies.

To remove the rear system fan on the 4U server model with non-hot-swap power supplies, complete the following steps.

1. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
2. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
3. Remove the side cover (see "Removing the side cover" on page 36).
4. Remove the air baffle (see "Removing the air baffle" on page 38).
5. Remove any adapters that impede access to the fan and the fan connector on the system board (see "Removing an adapter" on page 257).
6. Remove the system fan:

a. Disconnect the fan cable from the system board (see “System-board internal connectors” on page 30).
b. While you support the system fan with one hand, pull the rubber grommet away from the chassis to make it thinner; then, pull the fan toward the front of the server to remove the rubber grommet through the hole on the chassis. Repeat this step till all the remaining rubber grommets are removed.
c. Lift the system fan up and out of the chassis.

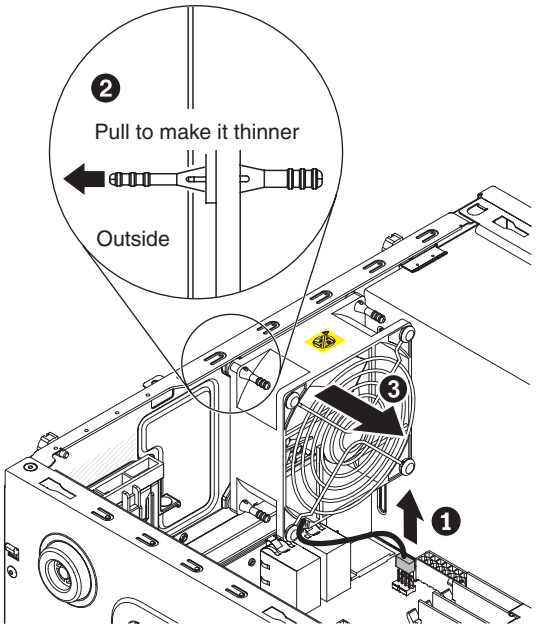


Figure 196. System fan removal for 4U server model with non-hot-swap power supplies

7. If you are instructed to return the fan, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the rear system fan

This procedure applies only to 4U server models with non-hot-swap power supplies.

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the rear system fan on the 4U server model with non-hot-swap power supplies, complete the following steps.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. The replacement fan comes with the rubber grommets installed; however, they might have come out during shipment. If any of the rubber grommets are missing from the fan, install them on the fan before you continue. Use needle-nosed pliers to pull the grommets through the holes in the fan.
3. Position the fan so that the grommets protrude through the holes in the chassis; then, use needle-nosed pliers to pull the grommets through the holes from outside the chassis.

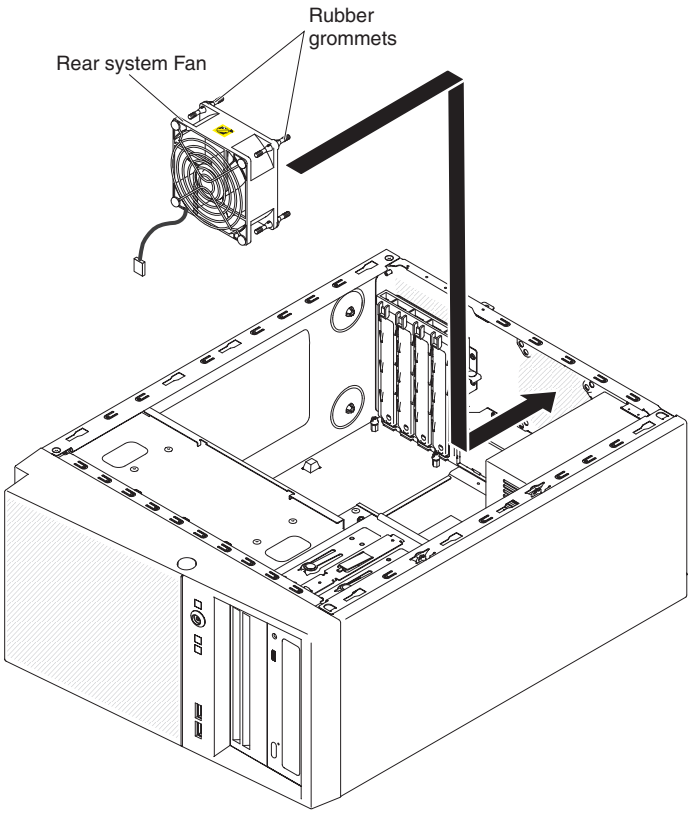


Figure 197. System fan installation for 4U server model with non-hot-swap power supplies (1)

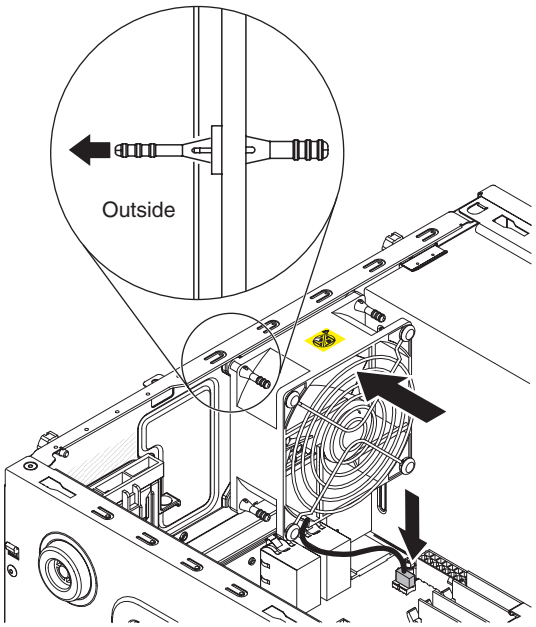


Figure 198. System fan installation for 4U server model with non-hot-swap power supplies (2)

4. Connect the fan cable to the system board (see "System-board internal connectors" on page 30 for the location of the rear fan connector).
5. Install any adapters that you removed (see "Replacing an adapter" on page 260).

6. Install the air baffle (see “Replacing the air baffle” on page 176).
7. Install the side cover (see “Replacing the side cover” on page 173).
8. Stand the server back up in its vertical position.
9. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the thermal solution fan kit

Use this information to remove the thermal solution fan kit

To remove the thermal solution fan kit on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see “Removing the side cover” on page 36).
5. Remove the air baffle (see “Removing the air baffle” on page 38).
6. Remove the thermal solution fan kit:

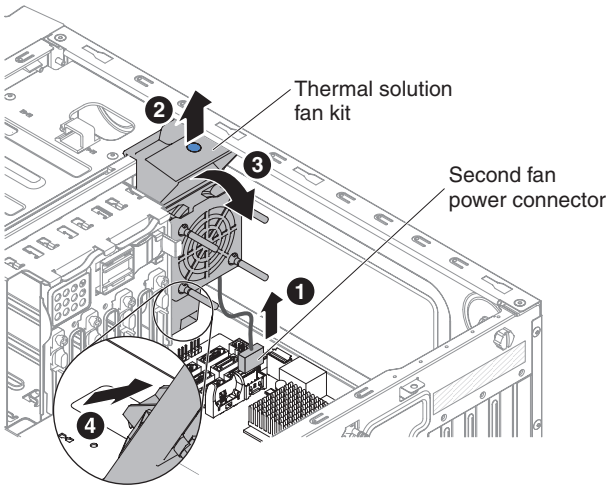


Figure 199. Thermal solution fan kit removal for 4U server model with non-hot-swap power supplies

   a. Disconnect the fan cable from the system board (see “System-board internal connectors” on page 30).
   b. While you support the system fan with one hand, pull the rubber grommet away from the chassis to make it thinner; then, pull the fan toward the front of the server to remove the rubber grommet through the hole on the chassis. Repeat this step till all the remaining rubber grommets are removed.
   c. Lift the system fan up and out of the chassis.
7. If you are instructed to return the thermal solution fan kit, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the thermal solution fan kit on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
5. Remove the thermal solution fan kit:

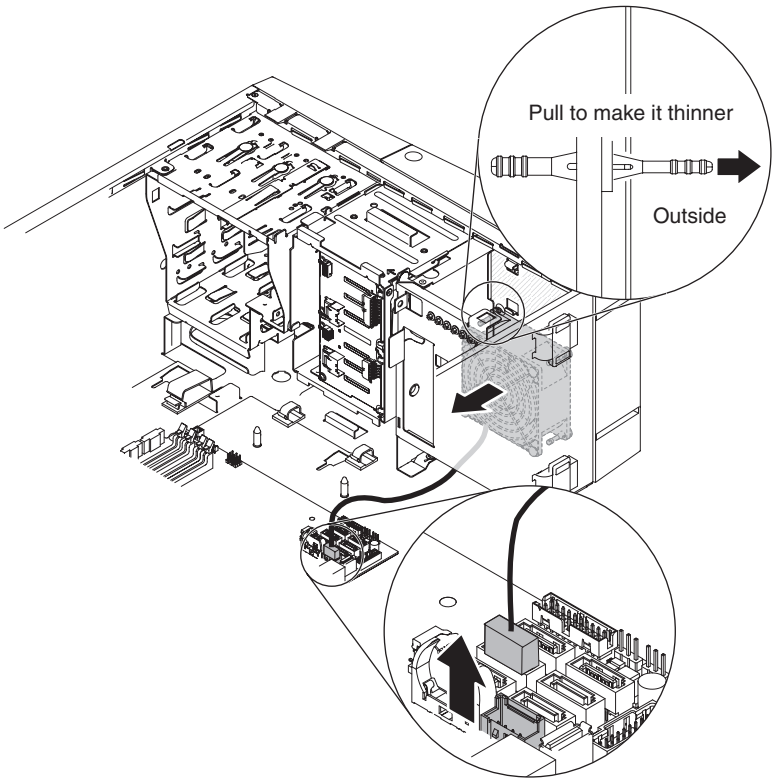


Figure 200. Thermal solution fan kit removal for 5U server model with hot-swap power supplies

   a. Disconnect the fan cable from the system board (see "System-board internal connectors" on page 30).
   b. Grasp the system fan by the blue point and pull up to lift it out of the chassis.
6. If you are instructed to return the thermal solution fan kit, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the thermal solution fan kit

Use this information to replace the thermal solution fan kit

Attention:

1. To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.
2. When you install a second adapter in the adapter slots on the system board, you must install the Lenovo Thermal Solution Fan kit option to ensure proper cooling and airflow to the system. For 4U server models with non-hot-swap power supplies, the part number is 46W9177. For 5U server models with hot-swap power supplies, the part number is 00Y8200.

To install the thermal solution fan kit on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Insert the thermal solution fan kit:
   a. Grasp the system fan by the blue point and lower it into the server, making sure it latches on to the chassis.
   b. Connect the fan cable to the system board (see "System-board internal connectors" on page 30).

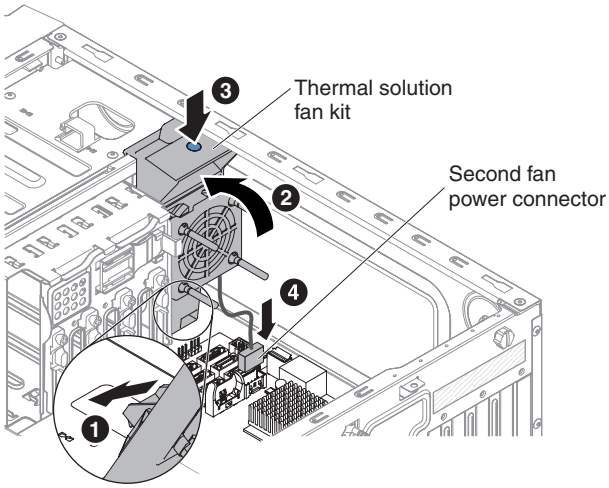


Figure 201. Thermal solution fan kit installation for 4U server model with non-hot-swap power supplies

3. Install the air baffle (see "Replacing the air baffle" on page 176).
4. Install the side cover (see "Replacing the side cover" on page 173).
5. Stand the server back up in its vertical position.
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the thermal solution fan kit on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.

2. Insert the thermal solution fan kit:

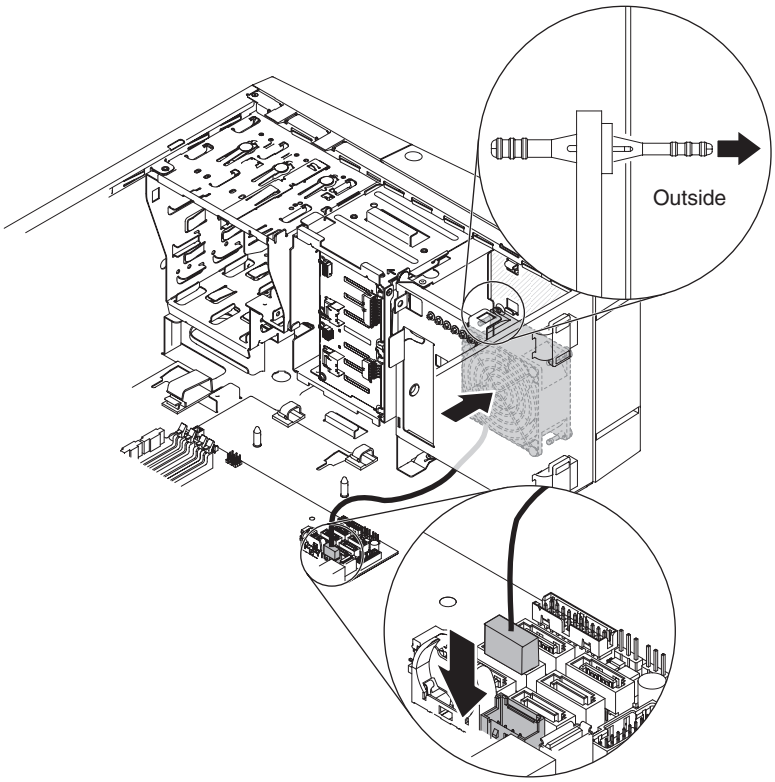


Figure 202. Thermal solution fan kit installation for 5U server model with hot-swap power supplies

   a. Position the fan so that the grommets protrude through the holes in the chassis; then, use needle-nosed pliers to pull the grommets through the holes from outside the chassis.
   b. Connect the fan cable into the system board (see "System-board internal connectors" on page 30).
3. Stand the server back up in its vertical position.
4. Install and lock the side cover (see "Replacing the side cover" on page 173).
5. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the operating temperature enhancement kit

Use this information to remove the operating temperature enhancement kit

To remove the operating temperature enhancement kit on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Remove the bezel (see "Removing the bezel" on page 39).
4. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.

5. Remove the side cover (see “Removing the side cover” on page 36).
6. Disconnect the thermal sensor connector from the system board and open the cable clips.

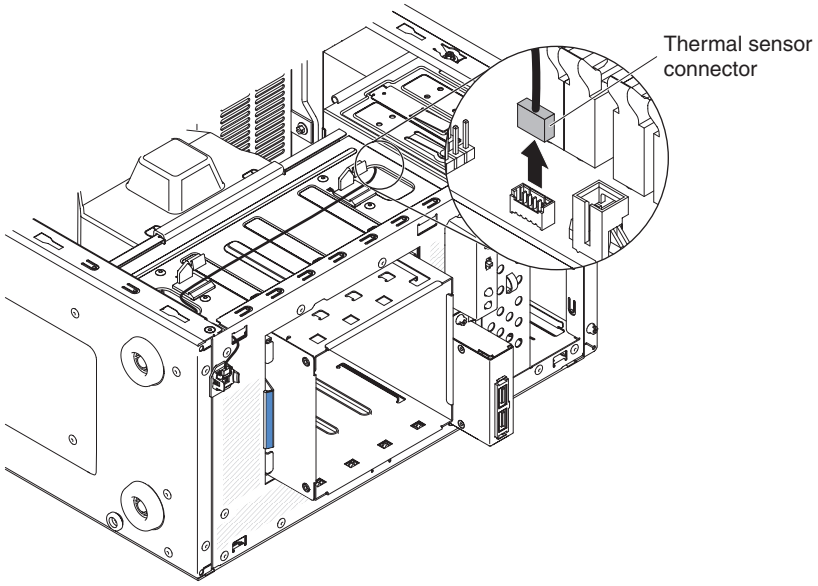


Figure 203. Thermal sensor connector removal from system board for 4U server model with non-hot-swap power supplies

7. Remove the thermal sensor board by pulling apart the securing clips of the thermal sensor board holder.

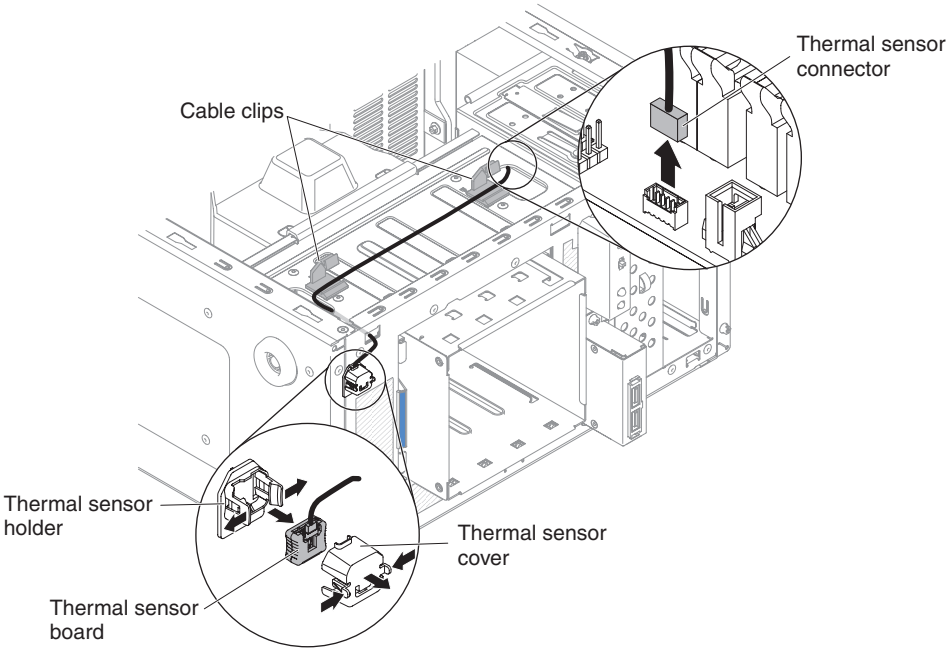


Figure 204. Thermal sensor board removal for 4U server model with non-hot-swap power supplies

8. If you are instructed to return the thermal solution fan kit, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the operating temperature enhancement kit on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see “Removing the side cover” on page 36).
4. Remove the lower bezel (see “Removing the lower bezel” on page 41).
5. Remove the upper bezel (see “Removing the upper bezel” on page 41).
6. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
7. Disconnect the thermal sensor connector from the system board and open the cable clips.

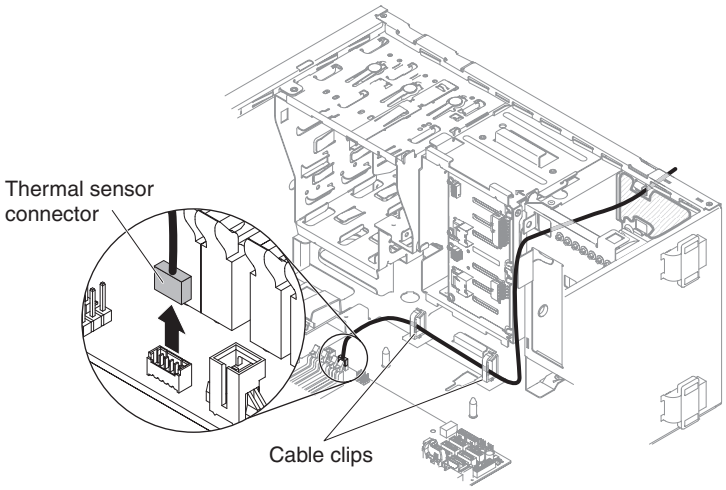


Figure 205. Thermal sensor connector removal from system board for 5U server model with hot-swap power supplies

8. Remove the thermal sensor board by pulling apart the securing clips of the thermal sensor board holder.

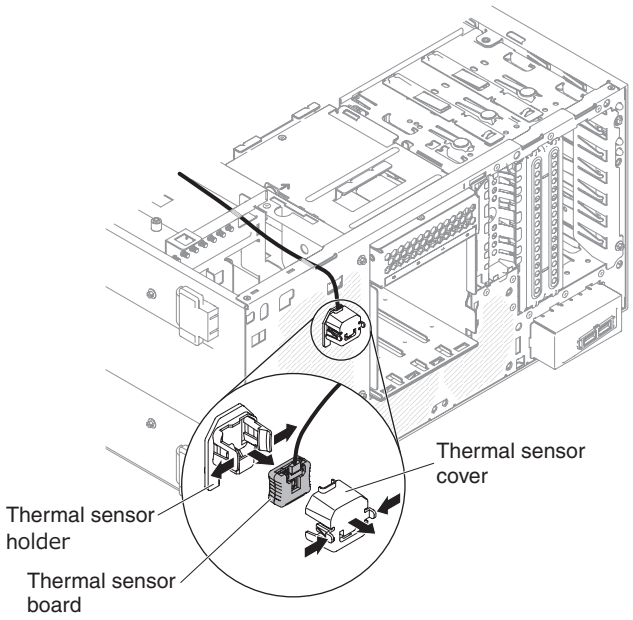


Figure 206. Thermal sensor board removal for 5U server model with hot-swap power supplies

9. If you are instructed to return the thermal solution fan kit, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the operating temperature enhancement kit

Use this information to replace the operating temperature enhancement kit

Attention: To ensure proper cooling and airflow, do not operate the server for more than 30 minutes with the side cover removed.

To install the operating temperature enhancement kit on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Insert the thermal sensor board into the thermal sensor holder. Make sure the cabling goes through the hole as shown in the illustration and connect the thermal sensor connector to the system board. Remember to close the cable clips to secure the cable.

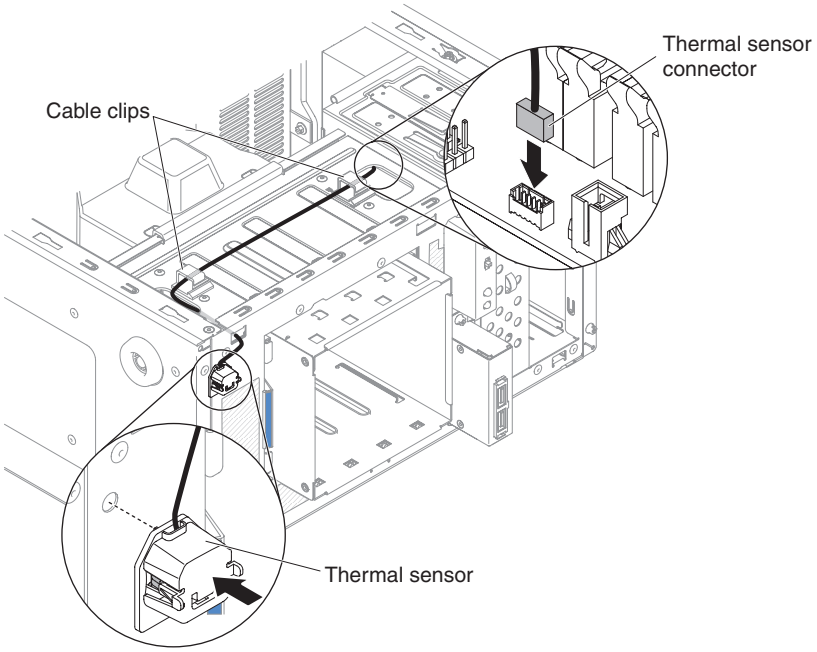


Figure 207. Thermal sensor board installation for 4U server model with non-hot-swap power supplies

3. Install the side cover (see "Replacing the side cover" on page 173).
4. Stand the server back up in its vertical position.
5. Install the bezel (see "Replacing the bezel" on page 180).
6. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the operating temperature enhancement kit on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Insert the thermal sensor board into the thermal sensor holder and then install the holder onto the chassis. Make sure the cabling goes through the respective holes as shown in the illustration.

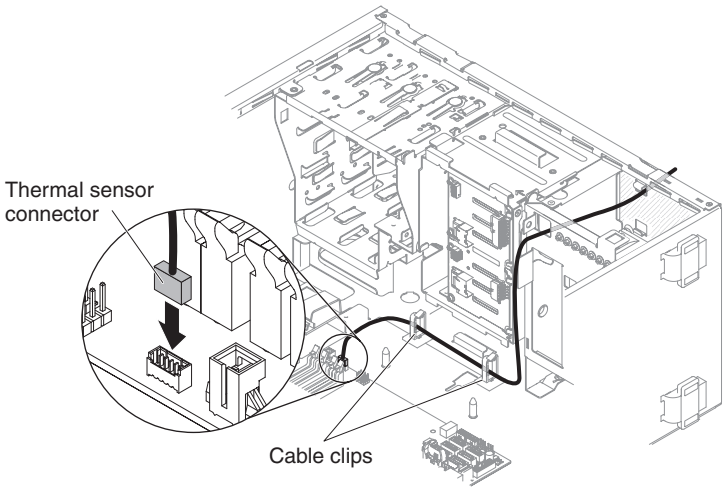


Figure 208. Thermal sensor board installation for 5U server model with hot-swap power supplies

3. Connect the thermal sensor connector to the system board. Remember to close the cable clips to secure the cable.

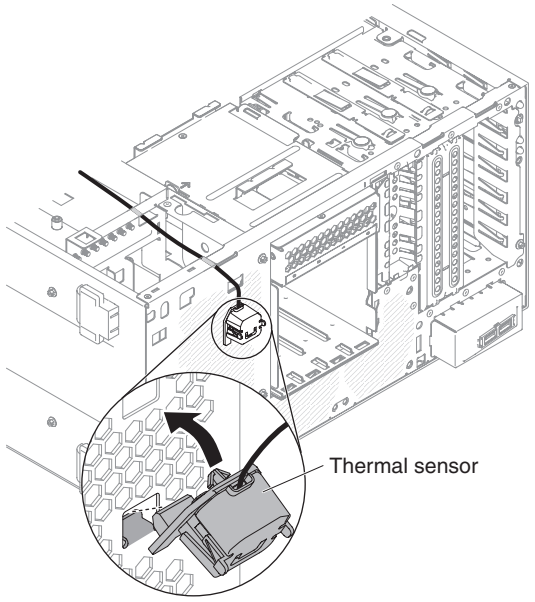


Figure 209. Installing thermal sensor connector to system board for 5U server model with non-hot-swap power supplies

4. Stand the server back up in its vertical position.
5. Install the upper bezel (see "Replacing the upper bezel" on page 183).
6. Install the lower bezel (see "Replacing the lower bezel" on page 181).
7. Install and lock the side cover (see "Replacing the side cover" on page 173).
8. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing and replacing Tier 2 CRUs

You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.

The illustrations in this document might differ slightly from your hardware.

Removing the hot-swap power supply cage

This procedure applies only to the 5U server model with hot-swap power supplies.

To remove the hot-swap power-supply cage from the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Remove the hot-swap power supplies (see "Removing the hot-swap power supply" on page 254).
5. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
6. Disconnect the cables from the power-supply cage to the system board and all internal components. Rotate the hard disk drive cage out of the chassis to remove the power cable from the backplane.

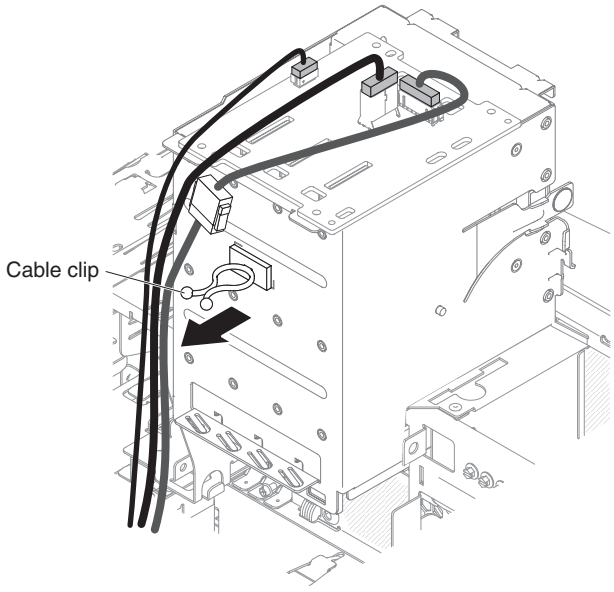


Figure 210. Power cable removal from backplane for 5U server model with hot-swap power supplies (1)

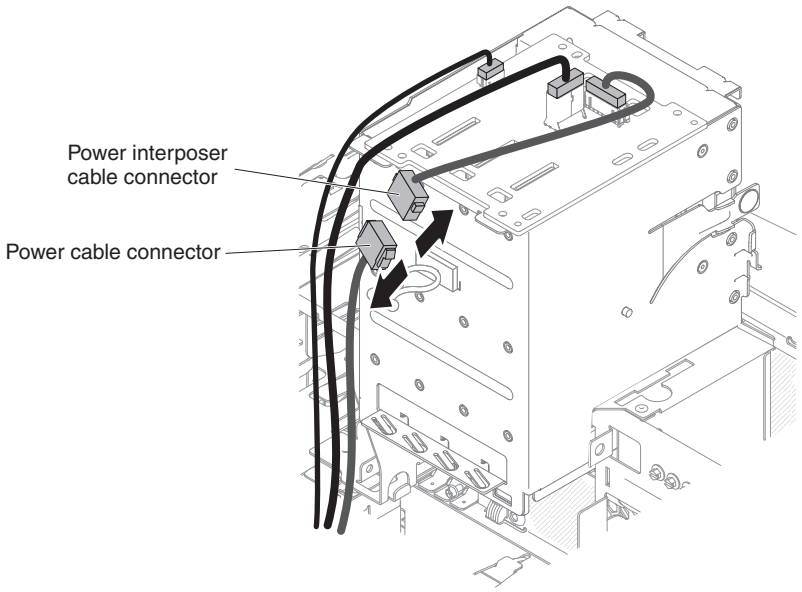


Figure 211. Power cable removal from backplane for 5U server model with hot-swap power supplies (2)

7. Remove the two screws that secure the power-supply cage to the chassis; the two screws are located in the front of the hot-swap power supply cage.

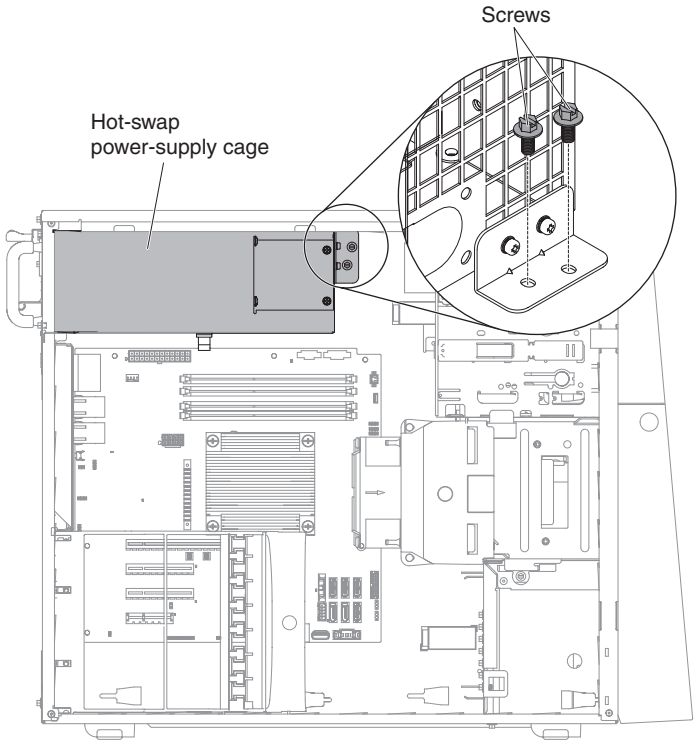


Figure 212. Hot-swap power supply cage screw removal for 5U server model with hot-swap power supplies

8. Remove the other four screws that also secure the power-supply cage to the chassis; then, slide the cage toward the front of the server to disengage the retaining clips from the top of the chassis and lift the cage out of the chassis.

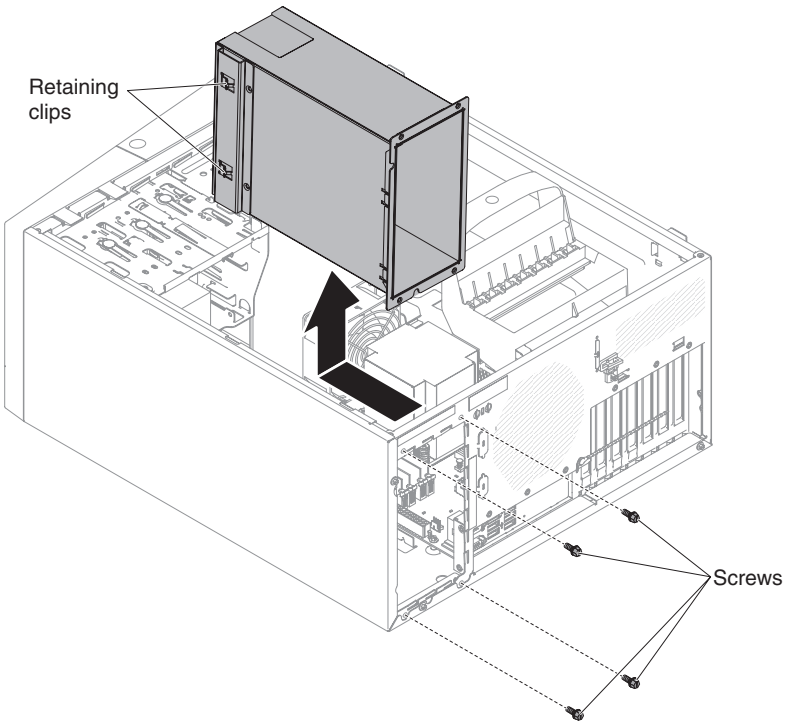


Figure 213. Hot-swap power supply cage and screw removal for 5U server model with hot-swap power supplies

9. If you are instructed to return the power-supply cage, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the hot-swap power supply cage

This procedure applies only to the 5U server model with hot-swap power supplies.

To install the hot-swap power supply cage in the 5U server model with hot-swap power supplies, complete the following steps.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Place the power-supply cage into the chassis and slide it toward the rear of the server until the retaining clips engage the top of the chassis, then install the four screws to secure the power-supply cage to the chassis.

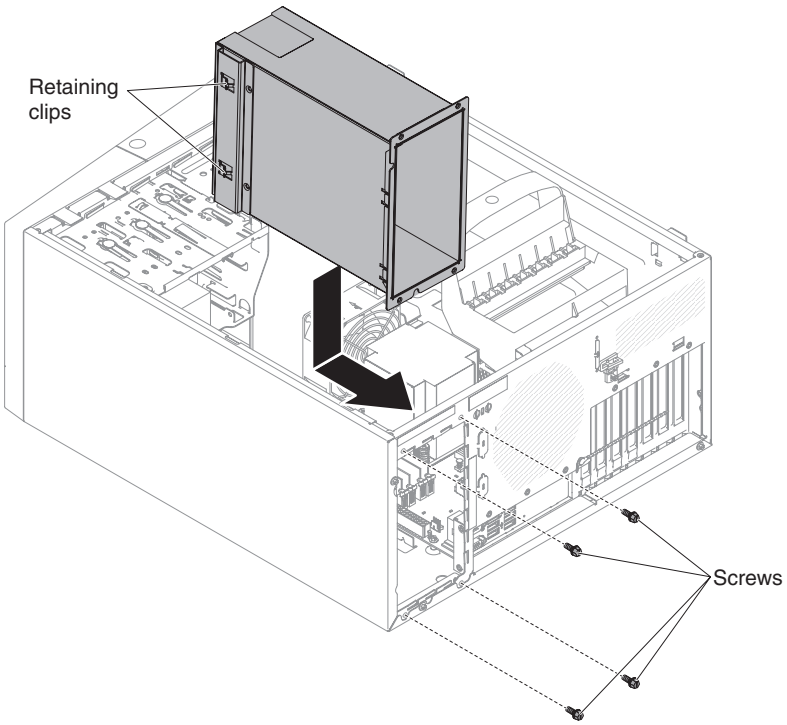


Figure 214. Hot-swap power supply cage and screw installation for 5U server model with hot-swap power supplies

3. Install the other two screws to further secure the power-supply cage to the chassis, which is located on the front of the power-supply cage.

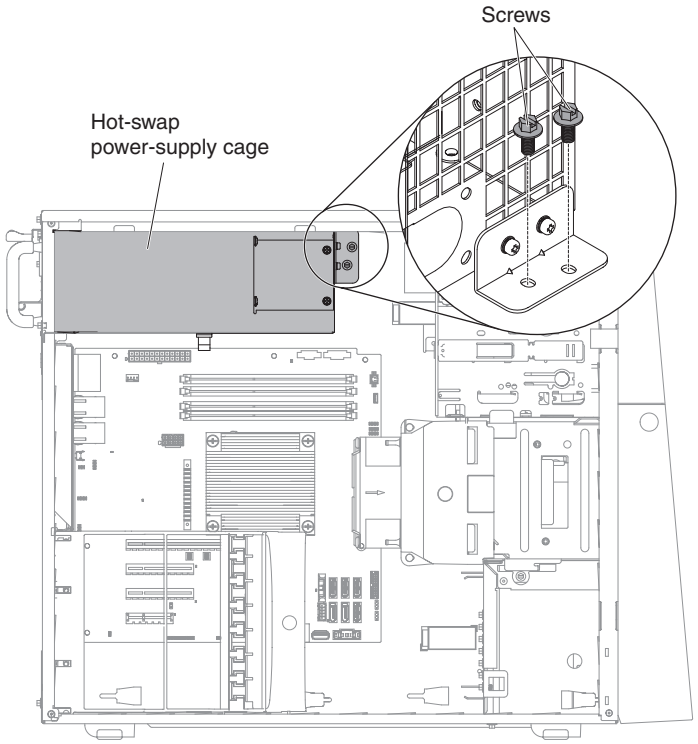


Figure 215. Hot-swap power supply cage screw installation for 5U server model with hot-swap power supplies

4. Connect the cables from the power-supply cage to the system board and all internal components (see “System-board internal connectors” on page 30 for the locations of the internal connectors). Rotate the hard disk drive cage out of the chassis to insert the power cable to the backplane.

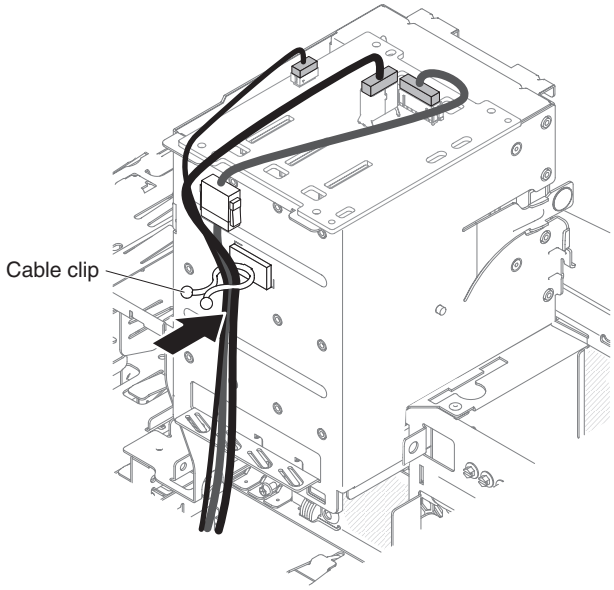


Figure 216. Power cable insertion to the backplane for 5U server model with hot-swap power supplies (1)

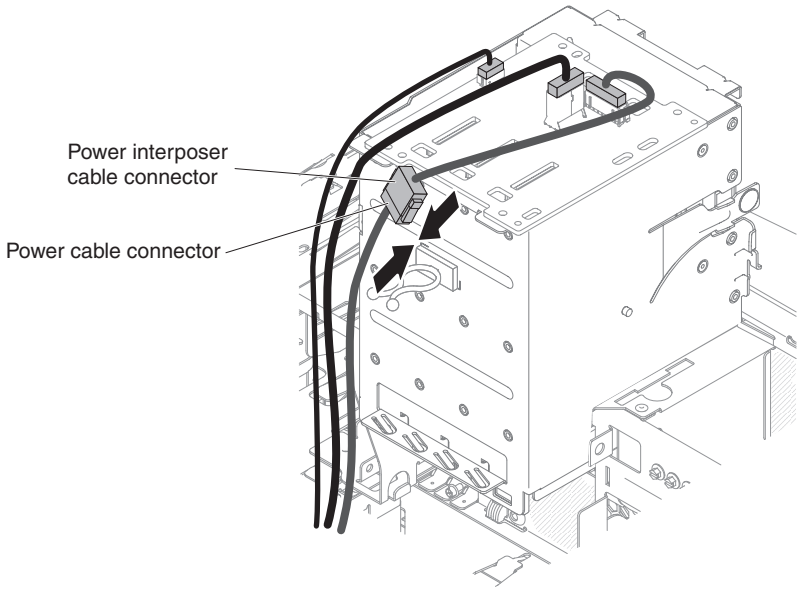


Figure 217. Power cable insertion to the backplane for 5U server model with hot-swap power supplies (2)

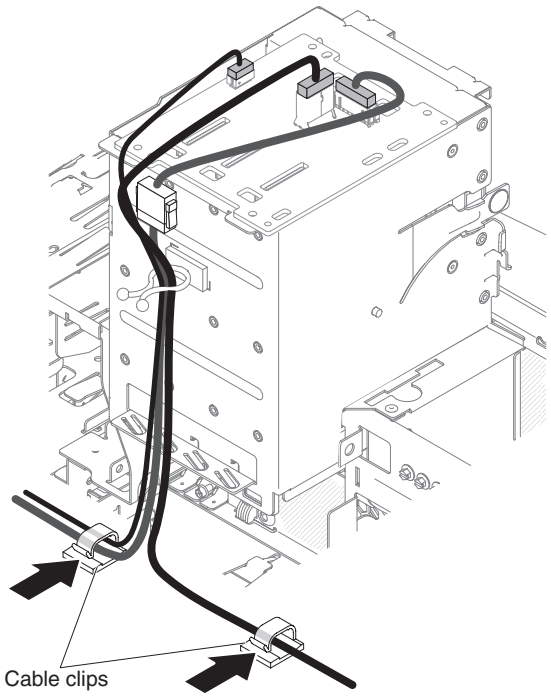


Figure 218. Power cable insertion to the backplane for 5U server model with hot-swap power supplies (3)

5. Stand the server back up in its vertical position.
6. Reinstall the hot-swap power supplies (see "Replacing the hot-swap power supply" on page 255).
7. Install and lock the side cover (see "Replacing the side cover" on page 173).
8. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Removing the microprocessor and heat sink

Use this information to remove the microprocessor and heat sink

To remove the microprocessor and heat sink on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see "Removing the side cover" on page 36).
5. Remove the air baffle (see "Removing the air baffle" on page 38).
6. Remove the heat sink from the microprocessor:

   CAUTION:
   The heat sink may become very hot during normal operation. Allow time for the heat sink to cool down before you touch it.

a. Loosen the screws and alternate among the screws until they break the seal with the microprocessor.
b. Press firmly on the captive screws and loosen them with a screwdriver.
c. Use your fingers to gently pull the heat sink from the microprocessor.

Important: Be careful when you handle the microprocessor and heat sink. If the microprocessor and heat sink will be reused, do not contaminate the thermal material between them.

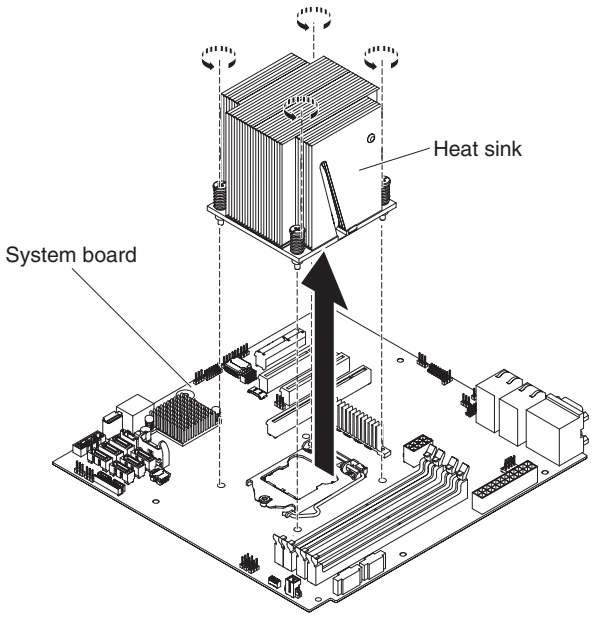


Figure 219. Heat sink removal for 4U server model with non-hot-swap power supplies

Attention: The microprocessor retention latch is spring-loaded when the microprocessor is in place. Releasing the latch too quickly or allowing it to spring upward can damage the microprocessor and surrounding components.

7. Release the microprocessor retention latch by pressing down on the end, moving it to the side, and slowly releasing it to the open (up) position.

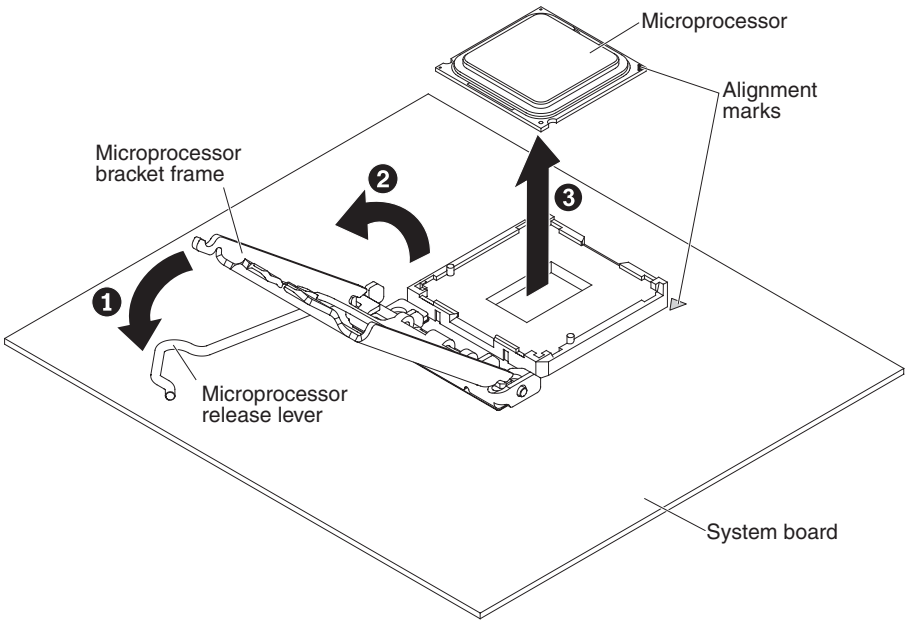


Figure 220. Microprocessor socket levers and retainer disengagement for 4U server model with non-hot-swap power supplies

8. Open the microprocessor bracket frame by lifting up the tab on the top edge.
9. Carefully lift the microprocessor straight up and out of the socket, and place it on a static-protective surface.
10. If you are instructed to return the microprocessor and heat sink, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

To remove the microprocessor and heat sink on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Rotate the rear adapter-retention bracket to the open (unlocked) position.
6. Remove the heat sink from the microprocessor:

   CAUTION:
   The heat sink may become very hot during normal operation. Allow time for the heat sink to cool down before you touch it.

   a. Loosen the screws and alternate among the screws until they break the seal with the microprocessor.
   b. Press firmly on the captive screws and loosen them with a screwdriver.
   c. Use your fingers to gently pull the heat sink from the microprocessor.

Important: Be careful when you handle the microprocessor and heat sink. If the microprocessor and heat sink will be reused, do not contaminate the thermal material between them.

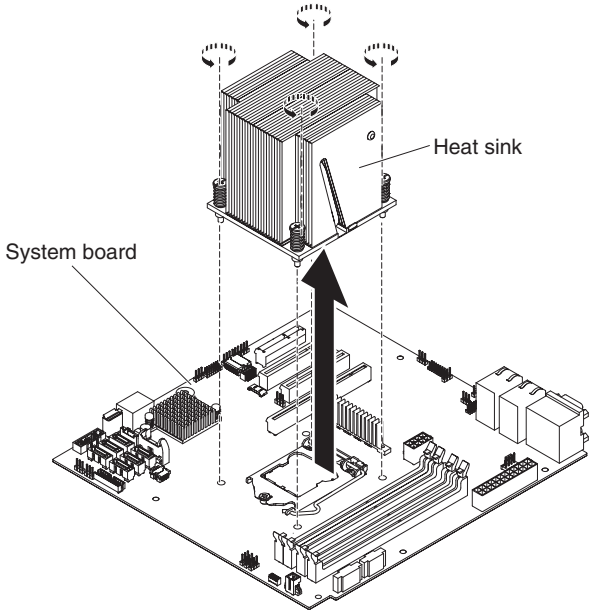


Figure 221. Heat sink removal for 5U server model with hot-swap power supplies

Attention: The microprocessor retention latch is spring-loaded when the microprocessor is in place. Releasing the latch too quickly or allowing it to spring upward can damage the microprocessor and surrounding components.

7. Release the microprocessor retention latch by pressing down on the end, moving it to the side, and slowly releasing it to the open (up) position.

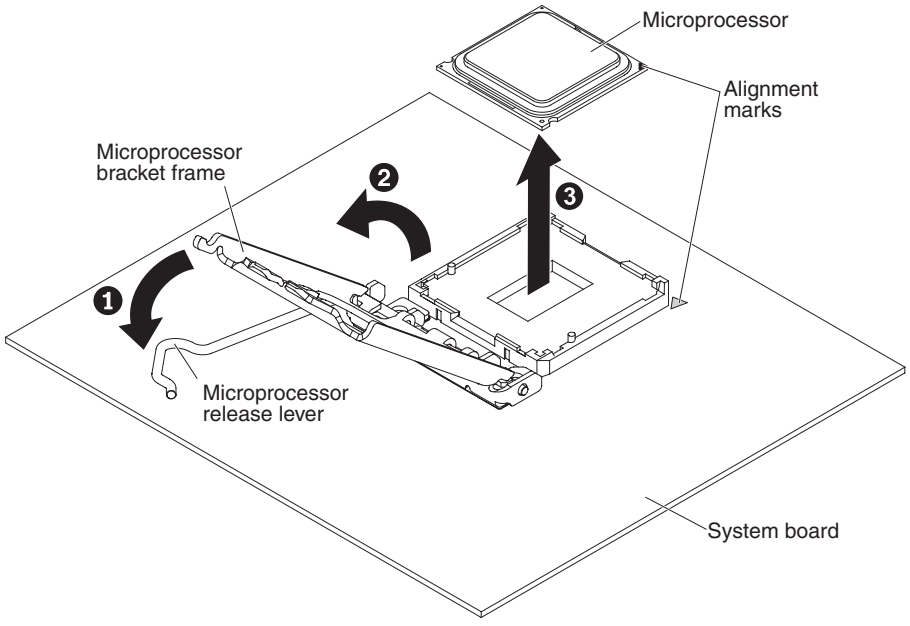


Figure 222. Microprocessor socket levers and retainer disengagement for 5U server model with hot-swap power supplies

8. Open the microprocessor bracket frame by lifting up the tab on the top edge.
9. Carefully lift the microprocessor straight up and out of the socket, and place it on a static-protective surface.
10. If you are instructed to return the microprocessor and heat sink, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the microprocessor and heat sink

Use this information to replace the microprocessor and heat sink

To install the microprocessor and heat sink on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the microprocessor to any unpainted metal surface on the server. Then, remove the microprocessor from the package.
3. Remove the protective cover, tape, or label from the surface of the microprocessor socket, if any is present.
4. Rotate the release lever on the microprocessor socket to the fully open position.

   Attention: Make sure that the release lever on the microprocessor socket is in the fully open position before you insert the microprocessor in the socket. Failure to do so might result in permanent damage to the microprocessor, microprocessor socket, and system board.
5. Carefully grasp the microprocessor and place the microprocessor into the microprocessor socket.

   Note: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:
   - The microprocessor has two notches that are keyed to two tabs on the sides of the socket.
   - A triangle-shaped indicator on one corner of the microprocessor points to a 45-degree angle on the system board.
   - Do not use excessive force when you press the microprocessor into the socket.
6. Close the microprocessor bracket frame; then, close the microprocessor retention latch and lock it securely in place.

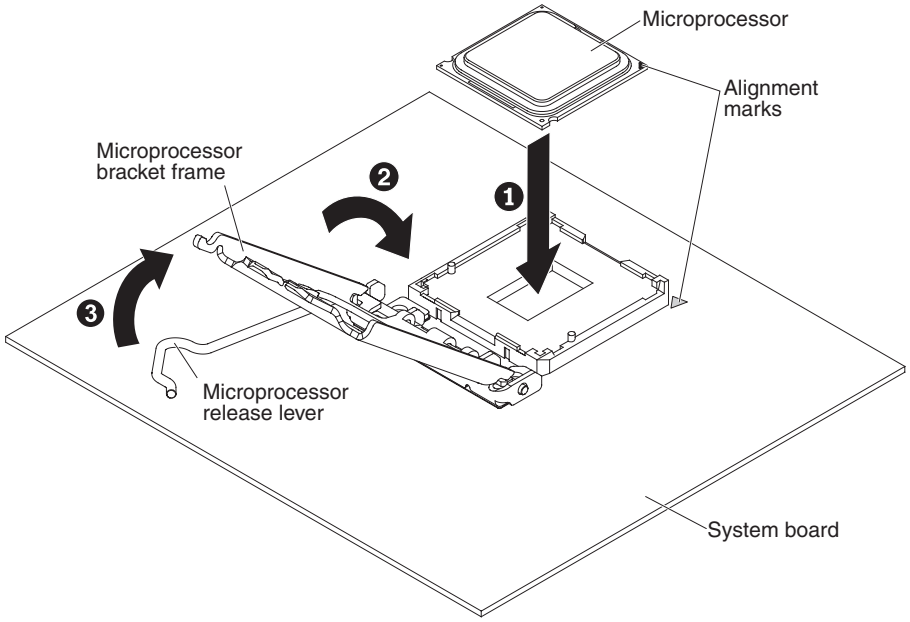


Figure 223. Microprocessor socket levers and retainer engagement for 4U server model with non-hot-swap power supplies

7. Install the heat sink:

   Attention: Do not touch the thermal material on the bottom of the heat sink. Touching the thermal material will contaminate it. If the thermal material on the microprocessor or heat sink becomes contaminated, contact your service technician.

   a. Align the screw holes on the heat sink with the holes on the system board.
   b. Tighten the screws with a screwdriver, alternating among the screws until they are tight. If possible, each screw should be rotated two full rotations at a time. Repeat until the screws are tight. Do not overtighten the screws by using excessive force.

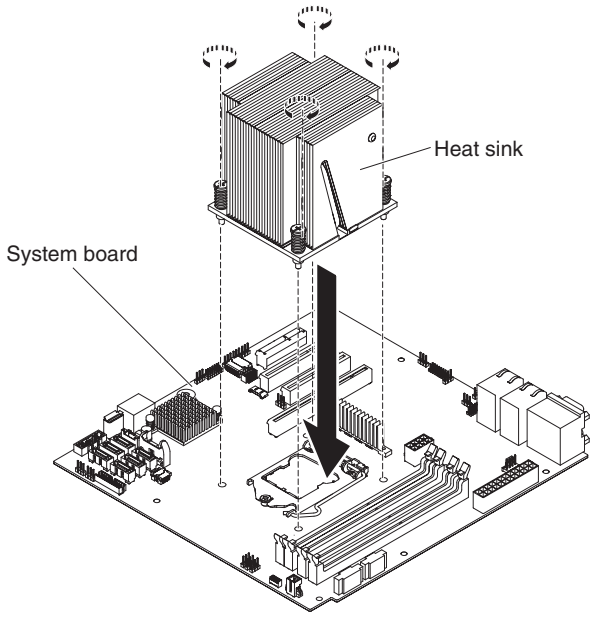


Figure 224. Heat sink installation for 4U server model with non-hot-swap power supplies

8. Reconnect any cables that you disconnected during the removal of the old microprocessor.
9. Secure the SATA signal cables with the retention-clips.
10. Install the air baffle (see "Replacing the air baffle" on page 176).
11. Install the side cover (see "Replacing the side cover" on page 173).
12. Stand the server back up in its vertical position.
13. Install the bezel (see "Replacing the bezel" on page 180).
14. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

To install the microprocessor and heat sink on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the microprocessor to any unpainted metal surface on the server. Then, remove the microprocessor from the package.
3. Remove the protective cover, tape, or label from the surface of the microprocessor socket, if any is present.
4. Rotate the release lever on the microprocessor socket to the fully open position.

   Attention: Make sure that the release lever on the microprocessor socket is in the fully open position before you insert the microprocessor in the socket. Failure to do so might result in permanent damage to the microprocessor, microprocessor socket, and system board.
5. Carefully grasp the microprocessor and place the microprocessor into the microprocessor socket.

   Note: To maintain correct orientation between the microprocessor and the microprocessor socket during installation, observe the following information:

- The microprocessor has two notches that are keyed to two tabs on the sides of the socket.
- A triangle-shaped indicator on one corner of the microprocessor points to a 45-degree angle on the system board.
- Do not use excessive force when you press the microprocessor into the socket.

6. Close the microprocessor bracket frame; then, close the microprocessor retention latch and lock it securely in place.

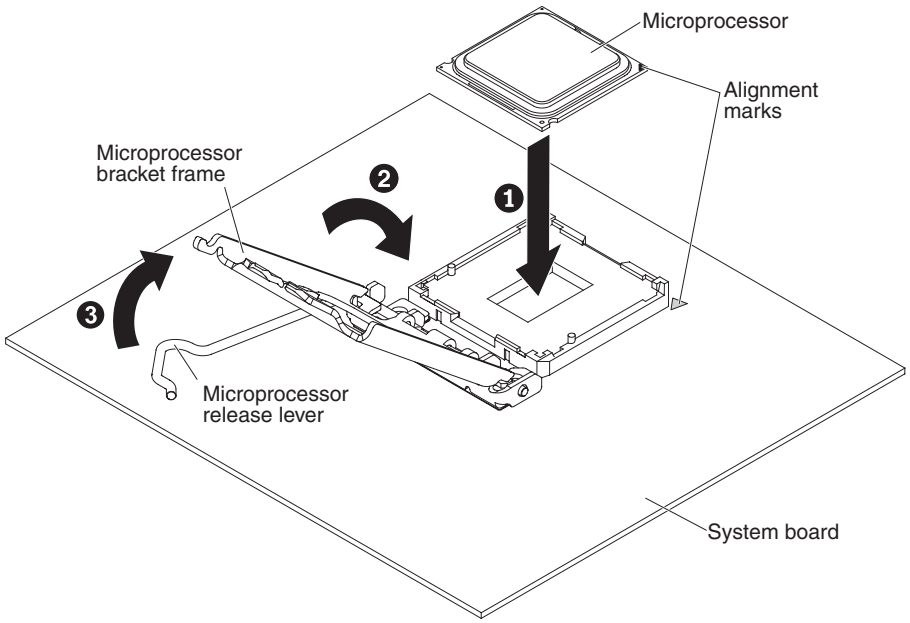


Figure 225. Microprocessor socket levers and retainer engagement for 5U server model with hot-swap power supplies

7. Install the heat sink:

   Attention: Do not touch the thermal material on the bottom of the heat sink. Touching the thermal material will contaminate it. If the thermal material on the microprocessor or heat sink becomes contaminated, contact your service technician.

   a. Align the screw holes on the heat sink with the holes on the system board.
   b. Tighten the screws with a screwdriver, alternating among the screws until they are tight. If possible, each screw should be rotated two full rotations at a time. Repeat until the screws are tight. Do not overtighten the screws by using excessive force.

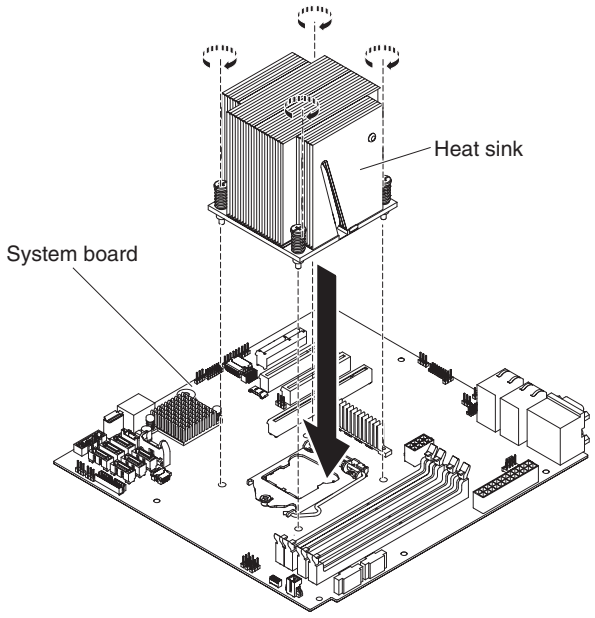


Figure 226. Heat sink installation for 5U server model with hot-swap power supplies

8. Reconnect any cables that you disconnected during the removal of the old microprocessor.
9. Rotate the rear adapter-retention bracket to the closed (locked) position.
10. Stand the server back up in its vertical position.
11. Install and lock the side cover (see "Replacing the side cover" on page 173).
12. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Thermal grease:

The thermal grease must be replaced whenever the heat sink has been removed from the top of the microprocessor and is going to be reused or when debris is found in the grease. Use this information to replace damaged or contaminated thermal grease on the microprocessor and heat sink.

When you are installing the heat sink on the same microprocessor that is was removed from, make sure that the following requirements are met:

- The thermal grease on the heat sink and microprocessor is not contaminated.
- Additional thermal grease is not added to the existing thermal grease on the heat sink and microprocessor.

Notes:

- Read the safety information in "Safety" on page v.
- Read the "Installation guidelines" on page 33.
- Read "Handling static-sensitive devices" on page 36.

To replace damaged or contaminated thermal grease on the microprocessor and heat sink, complete the following steps:

1. Place the heat sink on a clean work surface.
2. Remove the cleaning pad from its package and unfold it completely.

3. Use the cleaning pad to wipe the thermal grease from the bottom of the heat sink.

   Note: Make sure that all of the thermal grease is removed.
4. Use a clean area of the cleaning pad to wipe the thermal grease from the microprocessor; then, dispose of the cleaning pad after all of the thermal grease is removed.
5. Use the thermal-grease syringe to place 9 uniformly spaced dots of 0.02 mL each on the top of the microprocessor. The outermost dots must be within approximately 5 mm of the edge of the microprocessor; this is to ensure uniform distribution of the grease.

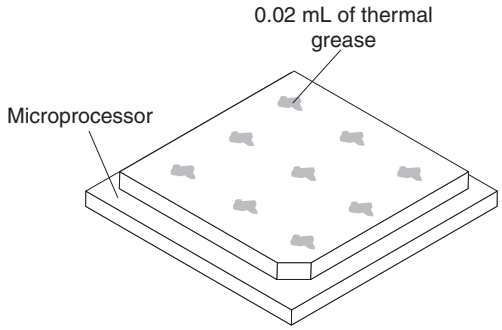


Figure 227. Thermal grease distribution

Note: If the grease is properly applied, approximately half of the grease will remain in the syringe.

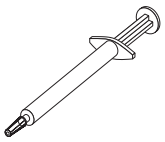


Figure 228. Syringe

6. Install the heat sink onto the microprocessor as described in "Replacing the microprocessor and heat sink" on page 295.

Removing the system board

Use this information to remove the system board.

Before you remove the system board from the server, take the following steps to save data, firmware, and configuration data:

- Record all system configuration information, such as IMM IP addresses, vital product data, and the machine type, model number, serial number, Universally Unique Identifier, and asset tag of the server.
- Using the Advanced Settings Utility (ASU), save the system configuration to external media.
- Save the system-event log to external media.

Note: When you replace the system board, you must either update the server with the latest firmware or restore the pre-existing firmware that the customer provides on a CD or DVD image. Make sure that you have the latest firmware or a copy of the pre-existing firmware before you proceed.

To remove the system board on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Turn off the server and all peripheral devices; then, disconnect the power cords and all external cables.
3. Carefully turn the server on its side so that it is lying flat, with the cover facing up.

   Attention: Do not allow the server to fall over.
4. Remove the side cover (see “Removing the side cover” on page 36).
5. Remove the air baffle (see “Removing the air baffle” on page 38).
6. Remove the microprocessor and heat sink (see “Removing the microprocessor and heat sink” on page 291).

   Attention: Remove the socket covers from the microprocessor sockets on the new system board and place them on the microprocessor sockets of the system board you are removing.
7. Pull the hard disk drive cage half out of the chassis.

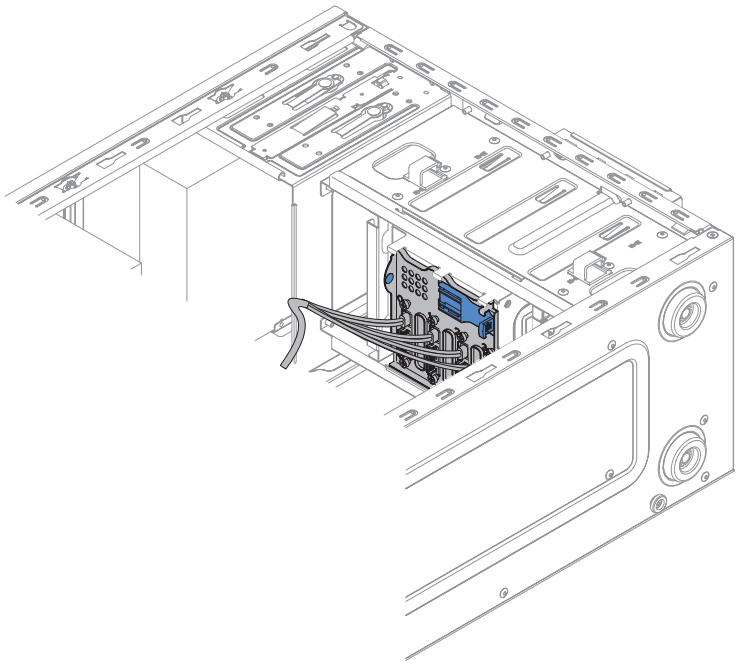


Figure 229. Pulling hard disk drive cage half out of chassis for 4U server model with non-hot-swap power supplies

8. Disengage the cables from any retention-clips.
9. Note where each cable is connected; then, disconnect all cables from the system board.

   Attention: Disengage all latches, release tabs or locks on cable connectors when you disconnect all cables from the system board. Failing to release them before removing the cables will damage the cable sockets on the system board. The cable sockets on the system board are fragile. Any damage to the cable sockets may require replacing the system board.

10. Remove any of the following components (in addition to others that might not be listed) that are installed on the system board and put them in a safe, static-protective place:
    - Adapters (see “Removing an adapter” on page 257).
    - DIMMs (see “Replacing a memory module” on page 265).
    - Battery (see “Removing the system battery” on page 270).
    - USB embedded hypervisor flash device (see “Removing the USB embedded hypervisor flash device” on page 218).
11. Remove the seven screws that secure the system board to the chassis.

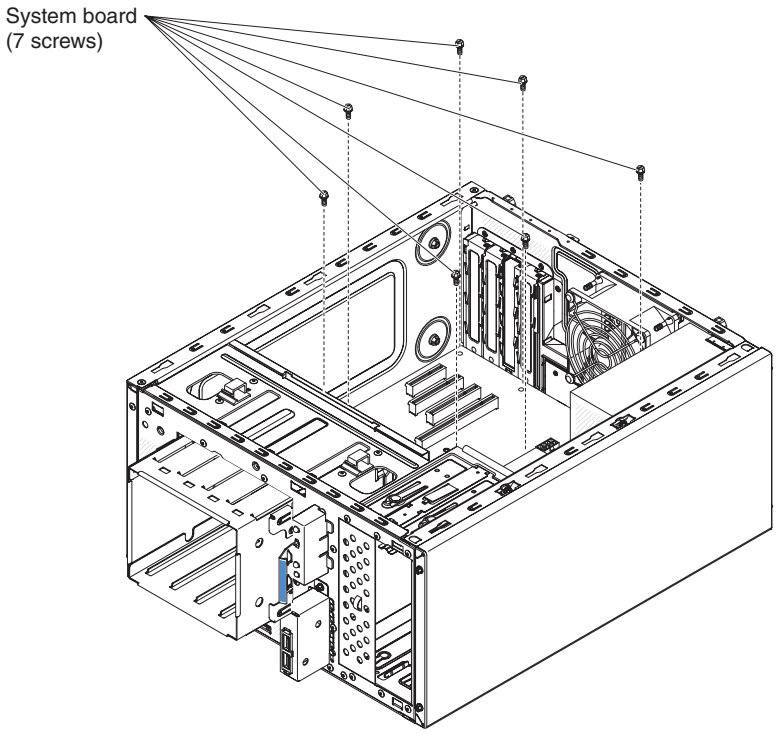


Figure 230. System board screw removal for 4U server model with non-hot-swap power supplies

12. Slightly lift the system board at the side that is near the hard disk drive cage to create a small angle of elevation between the system board and chassis.

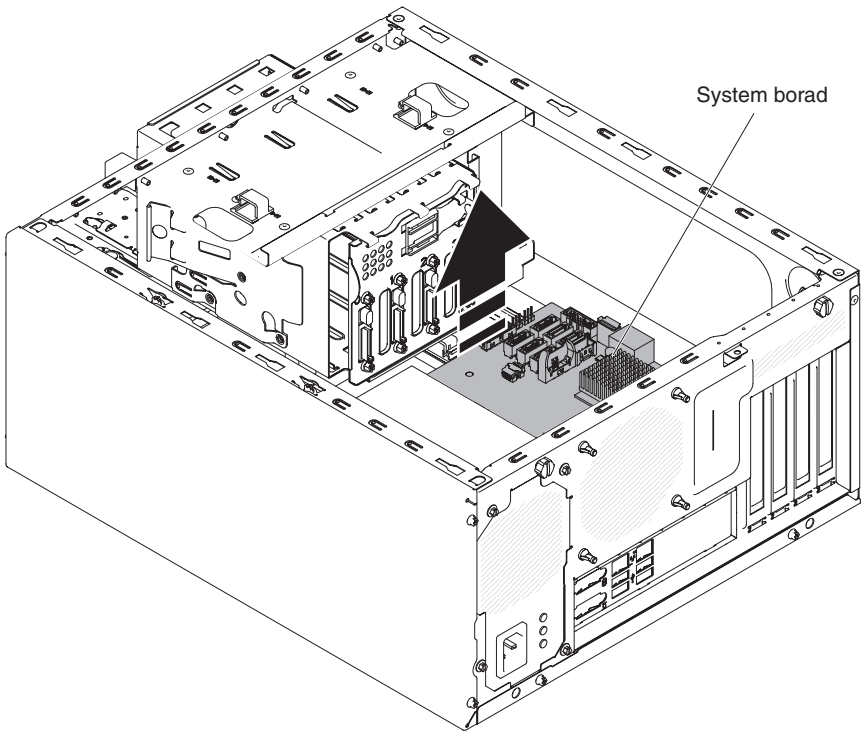


Figure 231. Slightly lifting system board for 4U server model with non-hot-swap power supplies

13. Gently push the external input/output connectors out of their respective holes in the chassis.

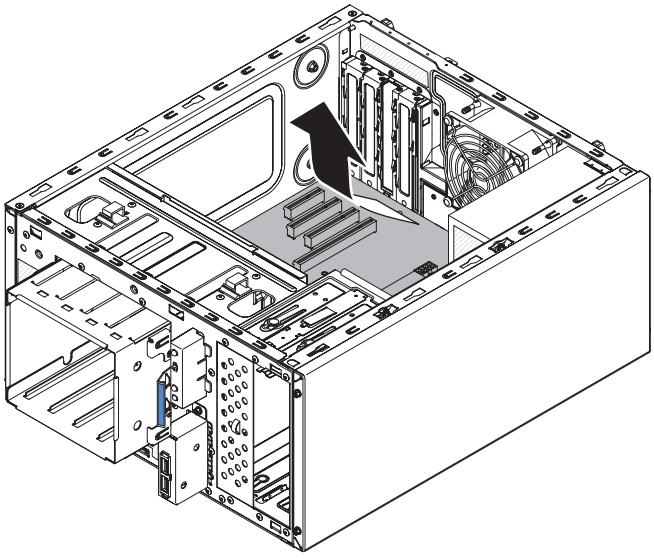


Figure 232. Pushing external input/output connectors out of chassis for 4U server model with non-hot-swap power supplies

14. Grasp the system board by the edges; then, carefully lift up the system board and remove it from the chassis, being careful not to damage any surrounding components.

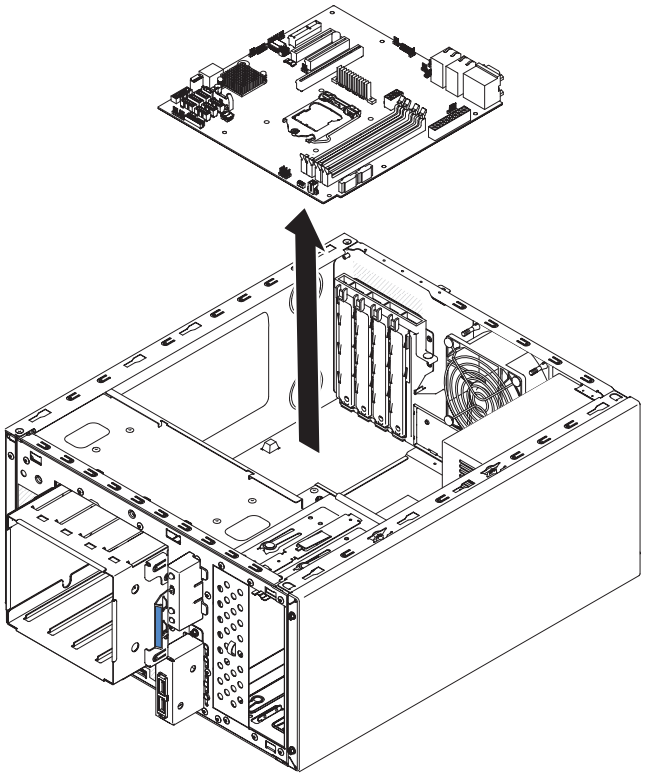


Figure 233. System board removal for 4U server model with non-hot-swap power supplies

15. If you are instructed to return the system board, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

    Attention: Make sure to place the socket covers for the microprocessor sockets on the system board before returning the system board.

To remove the system board on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in "Safety" on page v and "Installation guidelines" on page 33.
2. Turn off the server and all attached devices; then, disconnect all power cords and external cables.
3. Unlock and remove the side cover (see "Removing the side cover" on page 36).
4. Carefully turn the server on its side so that it is lying flat, with the system board facing up.

   Attention: Do not allow the server to fall over.
5. Rotate the rear adapter-retention bracket to the open (unlocked) position.
6. Remove the hard disk drive fan duct (see "Removing the hard disk drive fan duct" on page 213).
7. Remove the microprocessor and heat sink (see "Removing the microprocessor and heat sink" on page 291).

   Attention: Remove the socket covers from the microprocessor sockets on the new system board and place them on the microprocessor sockets of the system board you are removing.

8. Disengage the cables from any retention-clips.
9. Note where each cable is connected; then, disconnect all cables from the system board.

   Attention: Disengage all latches, release tabs or locks on cable connectors when you disconnect all cables from the system board. Failing to release them before removing the cables will damage the cable sockets on the system board. The cable sockets on the system board are fragile. Any damage to the cable sockets may require replacing the system board.
10. Remove any of the following components (in addition to others that might not be listed) that are installed on the system board and put them in a safe, static-protective place:
    - Adapters (see "Removing an adapter" on page 257).
    - DIMMs (see "Replacing a memory module" on page 265).
    - Battery (see "Removing the system battery" on page 270).
    - USB embedded hypervisor flash device (see "Removing the USB embedded hypervisor flash device" on page 218).
11. Remove the seven screws that secure the system board to the chassis.

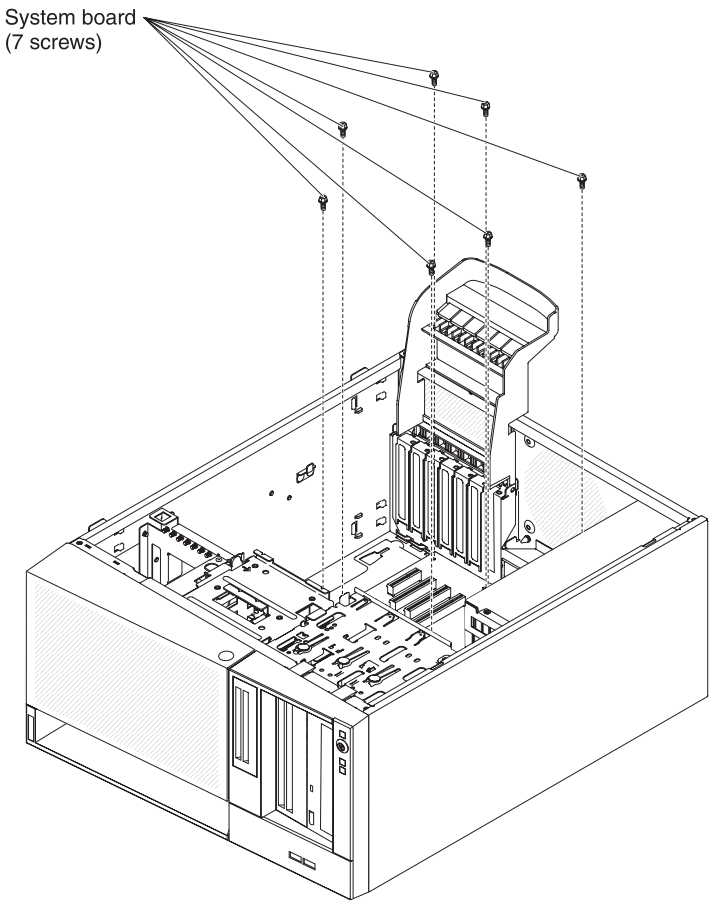


Figure 234. System board screw removal for 5U server model with hot-swap power supplies

12. Slightly lift the system board at the side that is near the hard disk drive cage to create a small angle of elevation between the system board and chassis.

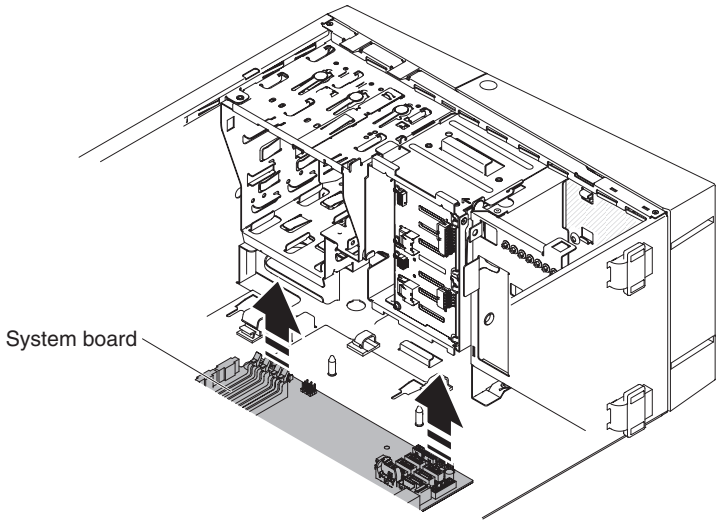


Figure 235. Slightly lifting system board for 5U server model with hot-swap power supplies

13. Gently push the external input/output connectors out of their respective holes in the chassis.

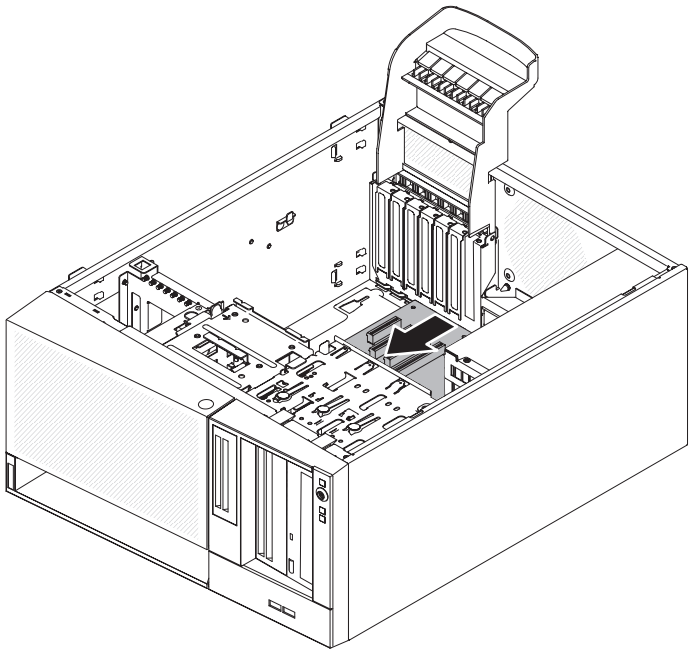


Figure 236. Pushing external input/output connectors out of chassis for 5U server model with hot-swap power supplies

14. Grasp the system board by the edges; then, carefully lift up the system board and remove it from the chassis, being careful not to damage any surrounding components.

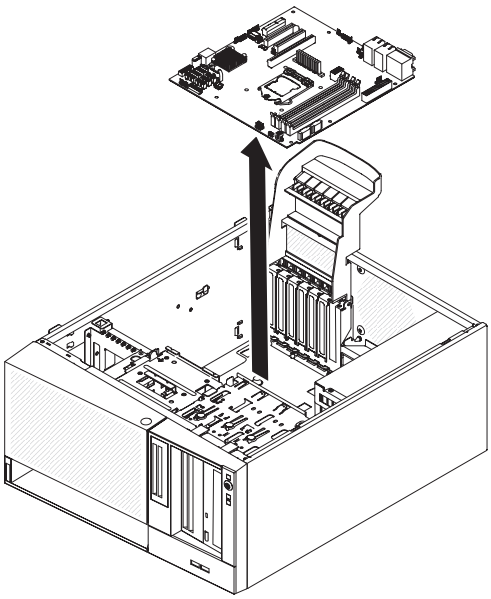


Figure 237. System board removal for 5U server model with hot-swap power supplies

15. If you are instructed to return the system board, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

    Attention: Make sure to place the socket covers for the microprocessor sockets on the system board before returning the system board.

Replacing the system board

Use this information to replace the system board.

Note:

1. When you reassemble the components in the server, be sure to route all cables carefully so that they are not exposed to excessive pressure.
2. When you replace the system board, you must either update the server with the latest firmware or restore the pre-existing firmware that the customer provides on a diskette or CD image. The vital product data (VPD) must also be updated. Make sure that you have the latest firmware or a copy of the pre-existing firmware before you proceed. See "Updating the firmware" on page 89 and (see "Updating the DMI/SMBIOS data" on page 110) for more information.

   Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.
3. Reactivate any Features on Demand features. Instructions for automating the activation of features and installing activation keys is in the Lenovo System x Features on Demand User's Guide. To download the document, go to /http://www.ibm.com/systems/x/fod/, log in, and click **Help**.

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code

To install the system board on the 4U server model with non-hot-swap power supplies, complete the following steps. For 5U server models with hot-swap power supplies, please see the next sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Pull the hard disk drive cage half out of the chassis.

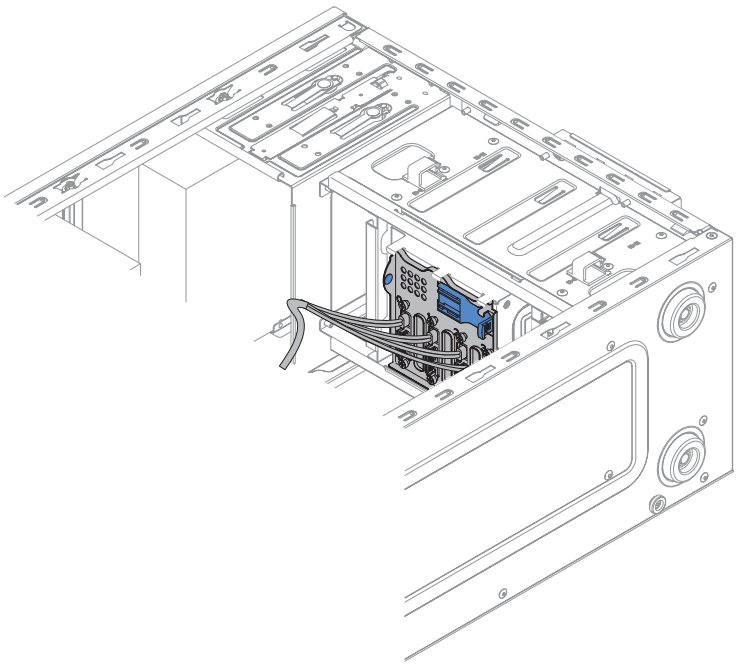


Figure 238. Pulling hard disk drive cage half out of chassis for 4U server model with non-hot-swap power supplies

3. Touch the static-protective package that contains the system board to any unpainted metal surface on the server. Then, remove the system board from the package.
4. Lower the system board into the chassis. Pay attention to the positions of the standoffs as they will be used later.

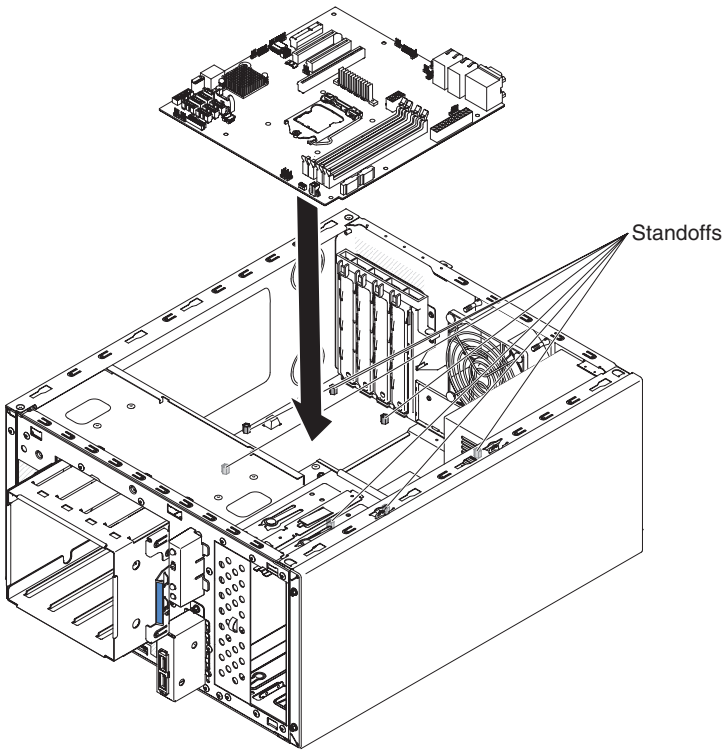


Figure 239. System board installation for 4U server model with non-hot-swap power supplies

5. Gently push the system board by the side nearest to the fan cage to insert the external input/output connectors into their respective holes in the chassis.

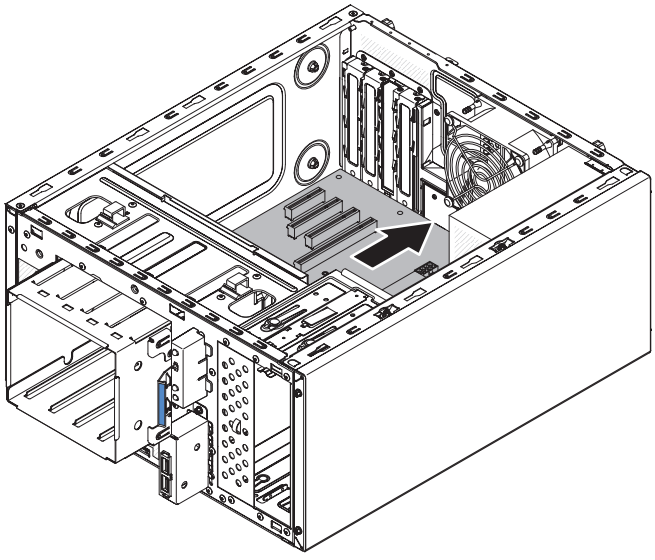


Figure 240. Pushing external input/output connectors into chassis for 4U server model with non-hot-swap power supplies

Attention: When inserting the system board external input/output connectors into their respective holes in the chassis, make sure the EMC springs are not inserted into the holes. Inserting the EMC springs into the holes in the chassis could damage the EMC springs.

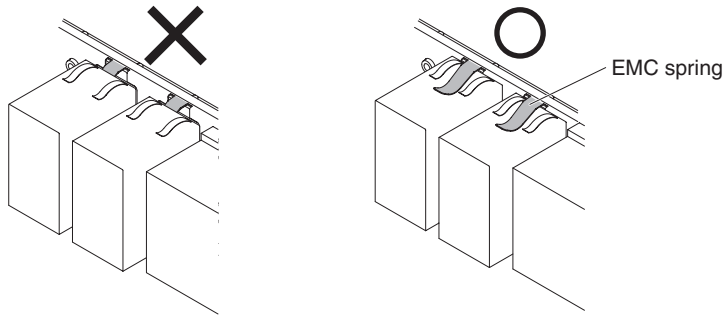


Figure 241. How to correctly insert EMC springs

6. Align the holes (seven in total) on the system board with the respective standoffs on the chassis.

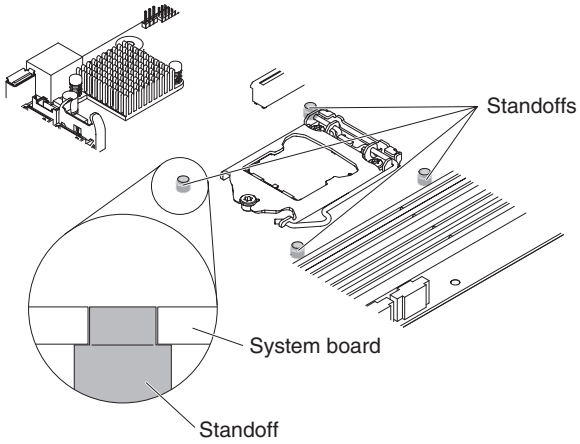


Figure 242. System board alignment with respective standoffs on chassis for 4U server model with non-hot-swap power supplies

7. Install the seven screws that secure the system board to the chassis.

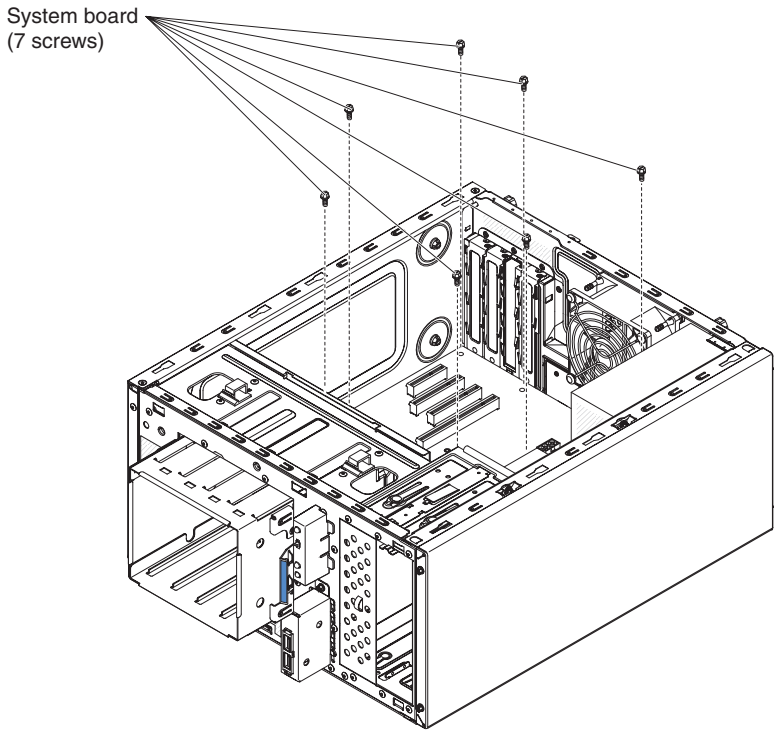


Figure 243. System board screw installation for 4U server model with non-hot-swap power supplies

8. Install any of the following components that you removed from the system board:
   - Battery (see "Replacing the system battery" on page 272).
   - DIMMs (see "Replacing a memory module" on page 265).
   - Microprocessor and heat sink (see "Replacing the microprocessor and heat sink" on page 295).
   - Adapters (see "Replacing an adapter" on page 260).
   - USB embedded hypervisor flash device (see "Replacing the USB embedded hypervisor flash device" on page 221).
9. Reconnect any cables to the system board that you disconnected during removal (see "System-board internal connectors" on page 30).
10. Secure the cables with the retention-clips.
11. Press the hard disk drive cage in until the release latches click into place.
12. Install the air baffle (see "Replacing the air baffle" on page 176).
13. Install the side cover (see "Replacing the side cover" on page 173).
14. Stand the server back up in its vertical position.
15. Install bezel (see "Replacing the bezel" on page 180).
16. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

    Important: Perform the following updates:
    - Either update the server with the latest RAID firmware or restore the pre-existing firmware from a diskette or CD image.
    - Update the UUID (see "Updating the Universal Unique Identifier (UUID)" on page 107).

- Update the DMI/SMBIOS (see “Updating the DMI/SMBIOS data” on page 110).
- Reactivate any Features on Demand features.

To install the system board on the 5U server model with hot-swap power supplies, complete the following steps. For 4U server models with non-hot-swap power supplies, please see the above sub-section.

1. Read the safety information in “Safety” on page v and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the system board to any unpainted metal surface on the server. Then, remove the system board from the package.
3. Lower the system board into the chassis. Pay attention to the positions of the standoffs as they will be used later.

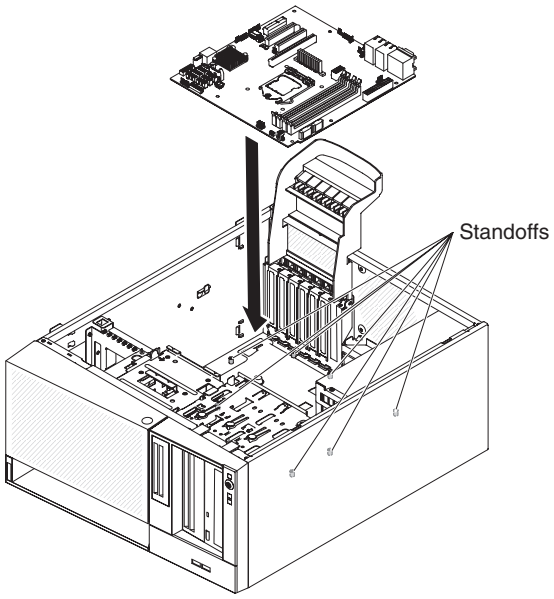


Figure 244. System board installation for 5U server model with hot-swap power supplies

4. Gently push the system board by the side nearest to the fan cage to insert the external input/output connectors into their respective holes in the chassis.

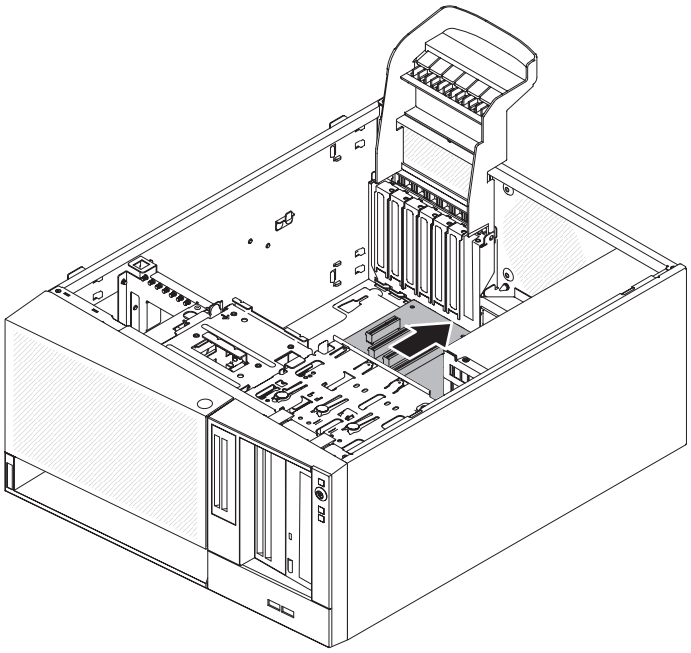


Figure 245. Pushing external input/output connectors into chassis for 5U server model with hot-swap power supplies

Attention: When inserting the system board external input/output connectors into their respective holes in the chassis, make sure the EMC springs are not inserted into the holes. Inserting the EMC springs into the holes in the chassis could damage the EMC springs.

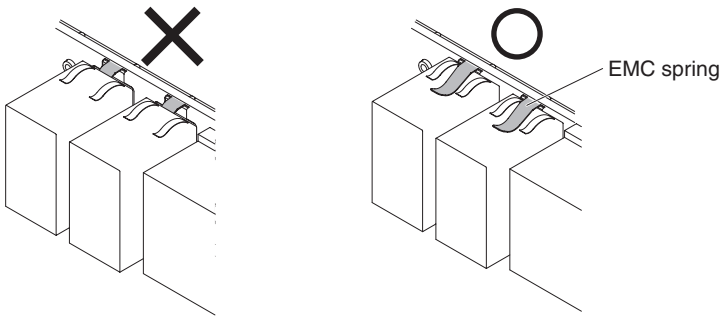


Figure 246. How to correctly insert EMC springs

5. Align the holes (seven in total) on the system board with the respective standoffs on the chassis.

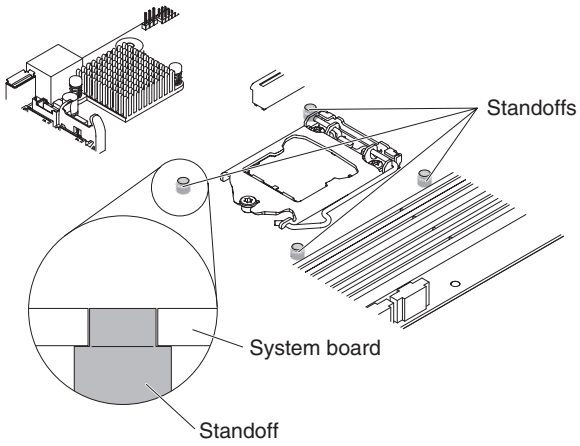


Figure 247. System board alignment with respective standoffs on chassis for 5U server model with hot-swap power supplies

6. Install the seven screws that secure the system board to the chassis.

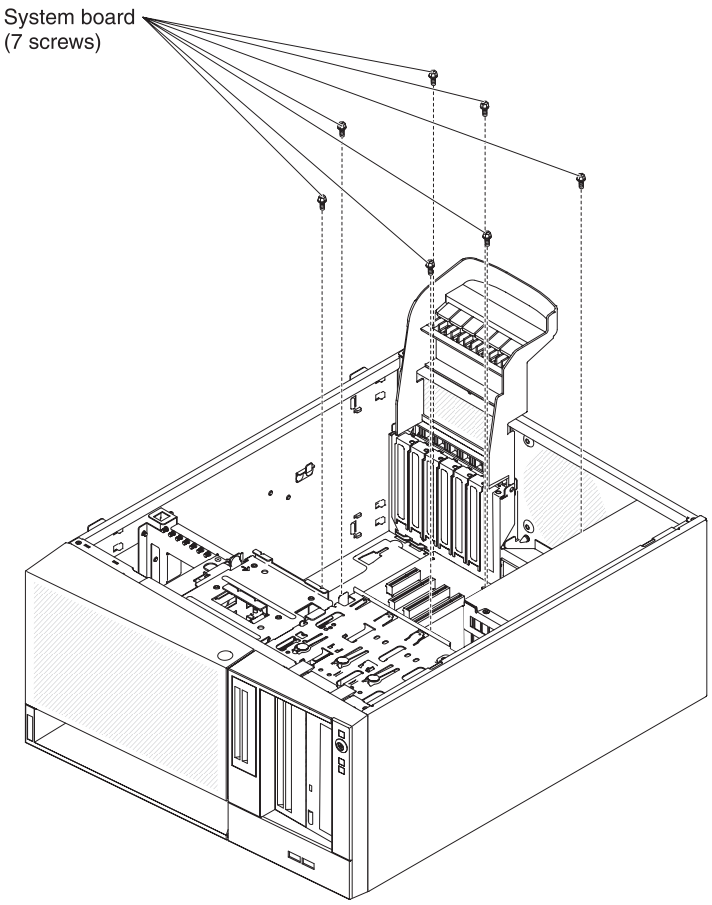


Figure 248. System board screw installation for 5U server model with hot-swap power supplies

7. Install any of the following components that you removed from the system board:
   - Adapters (see "Replacing an adapter" on page 260).
   - Battery (see "Replacing the system battery" on page 272).

- DIMMs (see “Replacing a memory module” on page 265).
- Microprocessor and heat sink (see “Replacing the microprocessor and heat sink” on page 295).
- USB embedded hypervisor flash device (see “Replacing the USB embedded hypervisor flash device” on page 221).

8. Reconnect any cables to the system board that you disconnected during removal (see “System-board internal connectors” on page 30).
9. Secure the cables with the retention-clips.
10. Install the hard disk drive fan duct (see “Replacing the hard disk drive fan duct” on page 216).
11. Rotate the rear adapter-retention bracket to the closed (locked) position.
12. Stand the server back up in its vertical position.
13. Install and lock the side cover (see “Replacing the side cover” on page 173).
14. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

    Important: Perform the following updates:
    - Either update the server with the latest RAID firmware or restore the pre-existing firmware from a diskette or CD image.
    - Update the UUID (see “Updating the Universal Unique Identifier (UUID)” on page 107).
    - Update the DMI/SMBIOS (see “Updating the DMI/SMBIOS data” on page 110).
    - Reactivate any Features on Demand features.

Appendix A. Integrated management module II (IMM2) error messages

When a hardware event is detected by the IMM on the server, the IMM logs that event in the system-event log in the server.

For each event code, the following fields are displayed:

Event identifier
A hexadecimal identifier that uniquely identifies an event or class of events. In this documentation, the event identifiers are prefixed with 0x and followed by eight characters.

Event description
The logged message string that appears for an event. When the event string is displayed in the system-event log, information such as a specific component is displayed. In this documentation, that additional information appears as variables, such as [arg1] or [arg2].

Explanation
Additional information to explain why the event occurred.

Severity
An indication of the level of concern for the condition. In the system-event log, severity is abbreviated to the first character. The following severities can be displayed.

Info: The event was recorded for audit purposes, usually a user action or a change of states that is normal behavior.

Warning:
The event is not as severe as an error, but if possible, the condition should be corrected before it becomes an error. It might also be a condition that requires additional monitoring or maintenance.

Error: The event is a failure or critical condition that impairs service or an expected function.

Alert Category
Similar events are grouped together in categories. The alert category is in the following format:

severity - device

severity is one of the following severity levels:

- **Critical:** A key component in the server is no longer functioning.
- **Warning:** The event might progress to a critical level.
- **System:** The event is the result of a system error or a configuration change.

device is the specific device in the server that caused the event to be generated.

Serviceable
Whether user action is required to correct the problem.

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CIM Information
The prefix of the message ID and the sequence number that is used by the CIM message registry.

SNMP Trap ID
The SNMP trap ID that is found in the SNMP alert management information base (MIB).

Automatically contact Service
If this field is set to **Yes**, and you have enabled Electronic Service Agent™ (ESA), IBM® Support will be notified automatically if the event is generated.

While you wait for IBM Support to call, you can perform the recommended actions for the event.

User response
The actions that you should perform to solve the event.

Perform the steps listed in this section in the order shown until the problem is solved. After you perform all of the actions that are described in this field, if you cannot solve the problem, contact IBM Support.

Note: This list includes error codes and messages that might not apply to this machine type and model.

The following is the list of IMM2 error messages and suggested actions to correct the detected server problems. For more information about IMM2, see the *Integrated Management Module II User's Guide* at http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086346.

IMM Events that automatically notify Support

You can configure the Integrated Management Module II (IMM2) to automatically notify Support (also known as *call home*) if certain types of errors are encountered. If you have configured this function, see the table for a list of events that automatically notify Support.

Table 40. Events that automatically notify Support

Event ID	Message String	Automatically Notify Support
40000086-00000000	Test Call Home Generated by user [arg1].	Yes
40000087-00000000	Manual Call Home by user [arg1]: [arg2].	Yes
80010202-0701ffff	Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (CMOS Battery)	Yes
80010902-0701ffff	Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted.	Yes
806f0021-2201ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (No Op ROM Space)	Yes

Table 40. Events that automatically notify Support (continued)

Event ID	Message String	Automatically Notify Support
806f0021-2582ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (All PCI Error / One of PCI Error)	Yes
806f0021-3001ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 1)	Yes
806f0021-3002ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 2)	Yes
806f0021-3003ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 3)	Yes
806f0021-3004ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 4)	Yes
806f0108-0a01ffff	[PowerSupplyElementName] has Failed. (Power Supply 1)	Yes
806f0108-0a02ffff	[PowerSupplyElementName] has Failed. (Power Supply 2)	Yes
806f010c-2001ffff	Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)	Yes
806f010c-2002ffff	Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)	Yes
806f010c-2003ffff	Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)	Yes
806f010c-2004ffff	Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)	Yes
806f010c-2581ffff	Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)	Yes
806f010d-0400ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 0)	Yes
806f010d-0401ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 1)	Yes

Table 40. Events that automatically notify Support (continued)

Event ID	Message String	Automatically Notify Support
806f010d-0402ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 2)	Yes
806f010d-0403ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 3)	Yes
806f010d-0404ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 4)	Yes
806f010d-0405ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 5)	Yes
806f010d-0406ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 6)	Yes
806f010d-0407ffff	The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 7)	Yes
806f0207-0301ffff	[ProcessorElementName] has Failed with FRB1/BIST condition. (CPU 1)	Yes
806f020d-0400ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 0)	Yes
806f020d-0401ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 1)	Yes
806f020d-0402ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 2)	Yes
806f020d-0403ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 3)	Yes
806f020d-0404ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 4)	Yes
806f020d-0405ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 5)	Yes
806f020d-0406ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 6)	Yes
806f020d-0407ffff	Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 7)	Yes
806f050c-2001ffff	Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)	Yes

Table 40. Events that automatically notify Support (continued)

Event ID	Message String	Automatically Notify Support
806f050c-2002ffff	Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)	Yes
806f050c-2003ffff	Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)	Yes
806f050c-2004ffff	Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)	Yes
806f050c-2581ffff	Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)	Yes
806f060d-0400ffff	Array [ComputerSystemElementName] has failed. (Drive 0)	Yes
806f060d-0401ffff	Array [ComputerSystemElementName] has failed. (Drive 1)	Yes
806f060d-0402ffff	Array [ComputerSystemElementName] has failed. (Drive 2)	Yes
806f060d-0403ffff	Array [ComputerSystemElementName] has failed. (Drive 3)	Yes
806f060d-0404ffff	Array [ComputerSystemElementName] has failed. (Drive 4)	Yes
806f060d-0405ffff	Array [ComputerSystemElementName] has failed. (Drive 5)	Yes
806f060d-0406ffff	Array [ComputerSystemElementName] has failed. (Drive 6)	Yes
806f060d-0407ffff	Array [ComputerSystemElementName] has failed. (Drive 7)	Yes
806f0813-2581ffff	A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (DIMMs)	Yes
806f0813-2582ffff	A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (PCIs)	Yes
806f0813-2584ffff	A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (CPUs)	Yes

40000001-00000000 Management Controller [arg1] Network Initialization Complete.

Explanation: This message is for the use case where a Management Controller network has completed initialization.

May also be shown as 4000000100000000 or 0x4000000100000000

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0001

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

40000002-00000000 Certificate Authority [arg1] has detected a [arg2] Certificate Error.

Explanation: This message is for the use case when there is an error with an SSL Server, SSL Client, or SSL Trusted CA Certificate.

May also be shown as 4000000200000000 or 0x4000000200000000

Severity: Error

Alert Category: System - SSL certification

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0002

SNMP Trap ID: 22

Automatically notify Support: No

User response: Make sure that the certificate that you are importing is correct and properly generated.

40000003-00000000 Ethernet Data Rate modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where a user modifies the Ethernet Port data rate.

May also be shown as 4000000300000000 or 0x4000000300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0003

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000004-00000000 Ethernet Duplex setting modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where A user modifies the Ethernet Port duplex setting.

May also be shown as 4000000400000000 or 0x4000000400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0004

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000005-00000000 Ethernet MTU setting modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where a user modifies the Ethernet Port MTU setting.

May also be shown as 4000000500000000 or 0x4000000500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0005

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000006-00000000 Ethernet locally administered MAC address modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where a user modifies the Ethernet Port MAC address setting.

May also be shown as 4000000600000000 or 0x4000000600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0006

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000007-00000000 Ethernet interface [arg1] by user [arg2].

Explanation: This message is for the use case where a user enables or disabled the ethernet interface.

May also be shown as 4000000700000000 or 0x4000000700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0007

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000008-00000000 Hostname set to [arg1] by user [arg2].

Explanation: This message is for the use case where user modifies the Hostname of a Management Controller.

May also be shown as 4000000800000000 or 0x4000000800000000

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0008

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

40000009-00000000 IP address of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where user modifies the IP address of a Management Controller.

May also be shown as 4000000900000000 or 0x4000000900000000

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0009

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

4000000a-00000000 IP subnet mask of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where a user modifies the IP subnet mask of a Management Controller.

May also be shown as 4000000a00000000 or 0x4000000a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0010

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000b-00000000 IP address of default gateway modified from [arg1] to [arg2] by user [arg3].

Explanation: This message is for the use case where a user modifies the default gateway IP address of a Management Controller.

May also be shown as 4000000b00000000 or 0x4000000b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0011

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000c-00000000 OS Watchdog response [arg1] by [arg2] .

Explanation: This message is for the use case where an OS Watchdog has been enabled or disabled by a user.

May also be shown as 4000000c00000000 or 0x4000000c00000000

Severity: Warning

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0012

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000d-00000000 DHCP[[arg1]] failure, no IP address assigned.

Explanation: This message is for the use case where a DHCP server fails to assign an IP address to a Management Controller.

May also be shown as 4000000d00000000 or 0x4000000d00000000

Severity: Warning

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0013

SNMP Trap ID:

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the IMM network cable is connected.
2. Make sure that there is a DHCP server on the network that can assign an IP address to the IMM.

4000000e-00000000 Remote Login Successful. Login ID: [arg1] from [arg2] at IP address [arg3].

Explanation: This message is for the use case where a user successfully logs in to a Management Controller.

May also be shown as 4000000e00000000 or 0x4000000e00000000

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0014

SNMP Trap ID: 30

Automatically notify Support: No

User response: Information only; no action is required.

4000000f-00000000 Attempting to [arg1] server [arg2] by user [arg3].

Explanation: This message is for the use case where a user is using the Management Controller to perform a power function on the system.

May also be shown as 4000000f00000000 or 0x4000000f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0015

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000010-00000000 Security: Userid: [arg1] had [arg2] login failures from WEB client at IP address [arg3].

Explanation: This message is for the use case where a user has failed to log in to a Management Controller from a web browser.

May also be shown as 4000001000000000 or 0x4000001000000000

Severity: Warning

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0016

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

40000011-00000000 Security: Login ID: [arg1] had [arg2] login failures from CLI at [arg3].

Explanation: This message is for the use case where a user has failed to log in to a Management Controller from the Legacy CLI.

May also be shown as 4000001100000000 or 0x4000001100000000

Severity: Warning

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0017

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

40000012-00000000 Remote access attempt failed. Invalid userid or password received. Userid is [arg1] from WEB browser at IP address [arg2].

Explanation: This message is for the use case where a remote user has failed to establish a remote control session from a Web browser session.

May also be shown as 4000001200000000 or 0x4000001200000000

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0018

SNMP Trap ID: 30

Automatically notify Support: No

User response: Make sure that the correct login ID and password are being used.

40000013-00000000 Remote access attempt failed. Invalid userid or password received. Userid is [arg1] from TELNET client at IP address [arg2].

Explanation: This message is for the use case where a user has failed to log in to a Management Controller from a telnet session.

May also be shown as 4000001300000000 or 0x4000001300000000

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0019

SNMP Trap ID: 30

Automatically notify Support: No

User response: Make sure that the correct login ID and password are being used.

40000014-00000000 The [arg1] on system [arg2] cleared by user [arg3].

Explanation: This message is for the use case where a Management Controller Event Log on a system is cleared by a user.

May also be shown as 4000001400000000 or 0x4000001400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0020

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000015-00000000 Management Controller [arg1] reset was initiated by user [arg2].

Explanation: This message is for the use case where a Management Controller reset is initiated by a user.

May also be shown as 4000001500000000 or 0x4000001500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0021

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000016-00000000 ENET[[arg1]] DHCP-HSTN=[arg2], DN=[arg3], IP@=[arg4], SN=[arg5], GW@=[arg6], DNS1@=[arg7] .

Explanation: This message is for the use case where a Management Controller IP address and configuration has been assigned by the DHCP server.

May also be shown as 4000001600000000 or 0x4000001600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0022

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000017-00000000 ENET[[arg1]] IP-Cfg:HstName=[arg2], IP@=[arg3] ,NetMsk=[arg4], GW@=[arg5] .

Explanation: This message is for the use case where a Management Controller IP address and configuration has been assigned statically using user data.

May also be shown as 4000001700000000 or 0x4000001700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0023

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000018-00000000 LAN: Ethernet[[arg1]] interface is no longer active.

Explanation: This message is for the use case where a Management Controller ethernet interface is no longer active.

May also be shown as 4000001800000000 or 0x4000001800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0024

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000019-00000000 LAN: Ethernet[[arg1]] interface is now active.

Explanation: This message is for the use case where a Management Controller ethernet interface is now active.

May also be shown as 4000001900000000 or 0x4000001900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0025

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001a-00000000 DHCP setting changed to [arg1] by user [arg2].

Explanation: This message is for the use case where a user changes the DHCP setting.

May also be shown as 4000001a00000000 or 0x4000001a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0026

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001b-00000000 Management Controller [arg1]: Configuration restored from a file by user [arg2].

Explanation: This message is for the use case where a user restores a Management Controller configuration from a file.

May also be shown as 4000001b00000000 or 0x4000001b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0027

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001c-00000000 Watchdog [arg1] Screen Capture Occurred .

Explanation: This message is for the use case where an operating system error has occurred and the screen was captured.

May also be shown as 4000001c00000000 or 0x4000001c00000000

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0028

SNMP Trap ID: 22

Automatically notify Support: No

User response: If there was no operating-system error, complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.

2. Make sure that the IMM Ethernet-over-USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.

If there was an operating-system error, check the integrity of the installed operating system.

4000001d-00000000 Watchdog [arg1] Failed to Capture Screen.

Explanation: This message is for the use case where an operating system error has occurred and the screen capture failed.

May also be shown as 4000001d00000000 or 0x4000001d00000000

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0029

SNMP Trap ID: 22

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet over USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog. Check the integrity of the installed operating system.
5. Update the IMM firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

4000001e-00000000 Running the backup Management Controller [arg1] main application.

Explanation: This message is for the use case where a Management Controller has resorted to running the backup main application.

May also be shown as 4000001e00000000 or 0x4000001e00000000

Severity: Warning

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0030

SNMP Trap ID: 22

Automatically notify Support: No

User response: Update the IMM firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

4000001f-00000000 Please ensure that the Management Controller [arg1] is flashed with the correct firmware. The Management Controller is unable to match its firmware to the server.

Explanation: This message is for the use case where a Management Controller firmware version does not match the server.

May also be shown as 4000001f00000000 or 0x4000001f00000000

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0031

SNMP Trap ID: 22

Automatically notify Support: No

User response: Update the IMM firmware to a version that the server supports. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

40000020-00000000 Management Controller [arg1] Reset was caused by restoring default values.

Explanation: This message is for the use case where a Management Controller has been reset due to a user restoring the configuration to default values.

May also be shown as 4000002000000000 or 0x4000002000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0032

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000021-00000000 Management Controller [arg1] clock has been set from NTP server [arg2].

Explanation: This message is for the use case where a Management Controller clock has been set from the Network Time Protocol server.

May also be shown as 4000002100000000 or 0x4000002100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0033

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000022-00000000 SSL data in the Management Controller [arg1] configuruation data is invalid. Clearing configuration data region and disabling SSL.

Explanation: This message is for the use case where a Management Controller has detected invalid SSL data in the configuration data and is clearing the configuration data region and disabling the SSL.

May also be shown as 4000002200000000 or 0x4000002200000000

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0034

SNMP Trap ID: 22

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the certificate that you are importing is correct.
2. Try to import the certificate again.

40000023-00000000 Flash of [arg1] from [arg2] succeeded for user [arg3] .

Explanation: This message is for the use case where a user has successfully flashed the firmware component (MC Main Application, MC Boot ROM, BIOS, Diagnostics, System Power Backplane, Remote Expansion Enclosure Power Backplane, Integrated System Management Processor, or Remote Expansion Enclosure Processor) from the interface and IP address (%d.

May also be shown as 4000002300000000 or 0x4000002300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0035

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000024-00000000 Flash of [arg1] from [arg2] failed for user [arg3].

Explanation: This message is for the use case where a user has not flashed the firmware component from the interface and IP address due to a failure.

May also be shown as 4000002400000000 or 0x4000002400000000

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0036

SNMP Trap ID: 22

Automatically notify Support: No

User response: Information only; no action is required.

40000025-00000000 The [arg1] on system [arg2] is 75% full.

Explanation: This message is for the use case where a Management Controller Event Log on a system is 75% full.

May also be shown as 4000002500000000 or 0x4000002500000000

Severity: Info

Alert Category: System - Event Log 75% full

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0037

SNMP Trap ID: 35

Automatically notify Support: No

User response: Information only; no action is required.

40000026-00000000 The [arg1] on system [arg2] is 100% full.

Explanation: This message is for the use case where a Management Controller Event Log on a system is 100% full.

May also be shown as 4000002600000000 or 0x4000002600000000

Severity: Info

Alert Category: System - Event Log 75% full

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0038

SNMP Trap ID: 35

Automatically notify Support: No

User response: To avoid losing older log entries, save the log as a text file and clear the log.

40000027-00000000 Platform Watchdog Timer expired for [arg1].

Explanation: This message is for the use case when an implementation has detected a Platform Watchdog Timer Expired

May also be shown as 4000002700000000 or 0x4000002700000000

Severity: Error

Alert Category: System - OS Timeout

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0039

SNMP Trap ID: 21

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet-over-USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.
5. Check the integrity of the installed operating system.

40000028-00000000 Management Controller Test Alert Generated by [arg1].

Explanation: This message is for the use case where a user has generated a Test Alert.

May also be shown as 4000002800000000 or 0x4000002800000000

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0040

SNMP Trap ID: 22

Automatically notify Support: No

User response: Information only; no action is required.

40000029-00000000 Security: Userid: [arg1] had [arg2] login failures from an SSH client at IP address [arg3].

Explanation: This message is for the use case where a user has failed to log in to a Management Controller from SSH.

May also be shown as 4000002900000000 or 0x4000002900000000

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0041

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

4000002a-00000000 [arg1] firmware mismatch internal to system [arg2]. Please attempt to flash the [arg3] firmware.

Explanation: This message is for the use case where a specific type of firmware mismatch has been detected.

May also be shown as 4000002a00000000 or 0x4000002a00000000

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0042

SNMP Trap ID: 22

Automatically notify Support: No

User response: Reflash the IMM firmware to the latest version.

4000002b-00000000 Domain name set to [arg1].

Explanation: Domain name set by user

May also be shown as 4000002b00000000 or 0x4000002b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0043

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002c-00000000 Domain Source changed to [arg1] by user [arg2].

Explanation: Domain source changed by user

May also be shown as 4000002c00000000 or 0x4000002c00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0044

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002d-00000000 DDNS setting changed to [arg1] by user [arg2].

Explanation: DDNS setting changed by user

May also be shown as 4000002d00000000 or 0x4000002d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0045

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002e-00000000 DDNS registration successful. The domain name is [arg1].

Explanation: DDNS registation and values

May also be shown as 4000002e00000000 or 0x4000002e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0046

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002f-00000000 IPv6 enabled by user [arg1] .

Explanation: IPv6 protocol is enabled by user

May also be shown as 4000002f00000000 or 0x4000002f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0047

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000030-00000000 IPv6 disabled by user [arg1] .

Explanation: IPv6 protocol is disabled by user

May also be shown as 4000003000000000 or 0x4000003000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0048

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000031-00000000 IPv6 static IP configuration enabled by user [arg1].

Explanation: IPv6 static address assignment method is enabled by user

May also be shown as 4000003100000000 or 0x4000003100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0049

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000032-00000000 IPv6 DHCP enabled by user [arg1].

Explanation: IPv6 DHCP assignment method is enabled by user

May also be shown as 4000003200000000 or 0x4000003200000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0050

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000033-00000000 IPv6 stateless auto-configuration enabled by user [arg1].

Explanation: IPv6 statless auto-assignment method is enabled by user

May also be shown as 4000003300000000 or 0x4000003300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0051

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000034-00000000 IPv6 static IP configuration disabled by user [arg1].

Explanation: IPv6 static assignment method is disabled by user

May also be shown as 4000003400000000 or 0x4000003400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0052

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000035-00000000 IPv6 DHCP disabled by user [arg1].

Explanation: IPv6 DHCP assignment method is disabled by user

May also be shown as 4000003500000000 or 0x4000003500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0053

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000036-00000000 IPv6 stateless auto-configuration disabled by user [arg1].

Explanation: IPv6 statless auto-assignment method is disabled by user

May also be shown as 4000003600000000 or 0x4000003600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0054

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000037-00000000 ENET[[arg1]] IPv6-LinkLocal:HstName=[arg2], IP@=[arg3] ,Pref=[arg4] .

Explanation: IPv6 Link Local address is active

May also be shown as 4000003700000000 or 0x4000003700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0055

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000038-00000000 ENET[[arg1]] IPv6-Static:HstName=[arg2], IP@=[arg3] ,Pref=[arg4], GW@=[arg5] .

Explanation: IPv6 Static address is active

May also be shown as 4000003800000000 or 0x4000003800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0056

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000039-00000000 ENET[[arg1]] DHCPv6-HSTN=[arg2], DN=[arg3], IP@=[arg4], Pref=[arg5].

Explanation: IPv6 DHCP-assigned address is active

May also be shown as 4000003900000000 or 0x4000003900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0057

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003a-00000000 IPv6 static address of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: A user modifies the IPv6 static address of a Management Controller

May also be shown as 4000003a00000000 or 0x4000003a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0058

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003b-00000000 DHCPv6 failure, no IP address assigned.

Explanation: S DHCP6 server fails to assign an IP address to a Management Controller.

May also be shown as 4000003b00000000 or 0x4000003b00000000

Severity: Warning

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0059

SNMP Trap ID:

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the IMM network cable is connected.
2. Make sure that there is a DHCPv6 server on the network that can assign an IP address to the IMM.

4000003c-00000000 Platform Watchdog Timer expired for [arg1].

Explanation: An implementation has detected an OS Loader Watchdog Timer Expired

May also be shown as 4000003c00000000 or 0x4000003c00000000

Severity: Error

Alert Category: System - Loader timeout

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0060

SNMP Trap ID: 26

Automatically notify Support: No

User response:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet over USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.
5. Check the integrity of the installed operating system.

4000003d-00000000 Telnet port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the telnet port number

May also be shown as 4000003d00000000 or 0x4000003d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0061

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003e-00000000 SSH port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the SSH port number

May also be shown as 4000003e00000000 or 0x4000003e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0062

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003f-00000000 Web-HTTP port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Web HTTP port number

May also be shown as 4000003f00000000 or 0x4000003f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0063

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000040-00000000 Web-HTTPS port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Web HTTPS port number

May also be shown as 4000004000000000 or 0x4000004000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0064

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000041-00000000 CIM/XML HTTP port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the CIM HTTP port number

May also be shown as 4000004100000000 or 0x4000004100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0065

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000042-00000000 CIM/XML HTTPS port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the CIM HTTPS port number

May also be shown as 4000004200000000 or 0x4000004200000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0066

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000043-00000000 SNMP Agent port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the SNMP Agent port number

May also be shown as 4000004300000000 or 0x4000004300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0067

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000044-00000000 SNMP Traps port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the SNMP Traps port number

May also be shown as 4000004400000000 or 0x4000004400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0068

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000045-00000000 Syslog port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Syslog receiver port number

May also be shown as 4000004500000000 or 0x4000004500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0069

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000046-00000000 Remote Presence port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Remote Presence port number

May also be shown as 4000004600000000 or 0x4000004600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0070

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000047-00000000 LED [arg1] state changed to [arg2] by [arg3].

Explanation: A user has modified the state of an LED

May also be shown as 4000004700000000 or 0x4000004700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0071

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000048-00000000 Inventory data changed for device [arg1], new device data hash=[arg2], new master data hash=[arg3] .

Explanation: Something has caused the physical inventory to change

May also be shown as 4000004800000000 or 0x4000004800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0072

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000049-00000000 SNMP [arg1] enabled by user [arg2] .

Explanation: A user enabled SNMPv1 or SNMPv3 or Traps

May also be shown as 4000004900000000 or 0x4000004900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0073

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004a-00000000 SNMP [arg1] disabled by user [arg2] .

Explanation: A user disabled SNMPv1 or SNMPv3 or Traps

May also be shown as 4000004a00000000 or 0x4000004a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0074

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004b-00000000 SNMPv1 [arg1] set by user [arg2]: Name=[arg3], AccessType=[arg4], Address=[arg5], .

Explanation: A user changed the SNMP community string

May also be shown as 4000004b00000000 or 0x4000004b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0075

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004c-00000000 LDAP Server configuration set by user [arg1]: SelectionMethod=[arg2], DomainName=[arg3], Server1=[arg4], Server2=[arg5], Server3=[arg6], Server4=[arg7].

Explanation: A user changed the LDAP server configuration

May also be shown as 4000004c00000000 or 0x4000004c00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0076

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004d-00000000 LDAP set by user [arg1]: RootDN=[arg2], UIDSearchAttribute=[arg3], BindingMethod=[arg4], EnhancedRBS=[arg5], TargetName=[arg6], GroupFilter=[arg7], GroupAttribute=[arg8], LoginAttribute=[arg9].

Explanation: A user configured an LDAP Miscellaneous setting

May also be shown as 4000004d00000000 or 0x4000004d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0077

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004e-00000000 Serial Redirection set by user [arg1]: Mode=[arg2], BaudRate=[arg3], StopBits=[arg4], Parity=[arg5], SessionTerminateSequence=[arg6].

Explanation: A user configured the Serial Port mode

May also be shown as 4000004e00000000 or 0x4000004e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0078

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004f-00000000 Date and Time set by user [arg1]: Date=[arg2], Time-[arg3], DST Auto-adjust=[arg4], Timezone=[arg5].

Explanation: A user configured the Date and Time settings

May also be shown as 4000004f00000000 or 0x4000004f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0079

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000050-00000000 Server General Settings set by user [arg1]: Name=[arg2], Contact=[arg3], Location=[arg4], Room=[arg5], RackID=[arg6], Rack U-position=[arg7].

Explanation: A user configured the Location setting

May also be shown as 4000005000000000 or 0x4000005000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0080

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000051-00000000 Server Power Off Delay set to [arg1] by user [arg2].

Explanation: A user configured the Server Power Off Delay

May also be shown as 4000005100000000 or 0x4000005100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0081

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000052-00000000 Server [arg1] scheduled for [arg2] at [arg3] by user [arg4].

Explanation: A user configured a Server Power action at a specific time

May also be shown as 4000005200000000 or 0x4000005200000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0082

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000053-00000000 Server [arg1] scheduled for every [arg2] at [arg3] by user [arg4].

Explanation: A user configured a recurring Server Power Action

May also be shown as 4000005300000000 or 0x4000005300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0083

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000054-00000000 Server [arg1] [arg2] cleared by user [arg3].

Explanation: A user cleared a Server Power Action.

May also be shown as 4000005400000000 or 0x4000005400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0084

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000055-00000000 Synchronize time setting by user [arg1]: Mode=[arg2], NTPServerHost=[arg3]:[arg4],NTPUpdateFrequency=[arg5].

Explanation: A user configured the Date and Time synchronize settings

May also be shown as 4000005500000000 or 0x4000005500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0085

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000056-00000000 SMTP Server set by user [arg1] to [arg2]:[arg3].

Explanation: A user configured the SMTP server

May also be shown as 4000005600000000 or 0x4000005600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0086

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000057-00000000 Telnet [arg1] by user [arg2].

Explanation: A user enables or disables Telnet services

May also be shown as 4000005700000000 or 0x4000005700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0087

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000058-00000000 DNS servers set by user [arg1]: UseAdditionalServers=[arg2], PreferredDNStype=[arg3], IPv4Server1=[arg4], IPv4Server2=[arg5], IPv4Server3=[arg6], IPv6Server1=[arg7], IPv6Server2=[arg8], IPv6Server3=[arg9].

Explanation: A user configures the DNS servers

May also be shown as 4000005800000000 or 0x4000005800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0088

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000059-00000000 LAN over USB [arg1] by user [arg2].

Explanation: A user configured USB-LAN

May also be shown as 4000005900000000 or 0x4000005900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0089

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005a-00000000 LAN over USB Port Forwarding set by user [arg1]: ExternalPort=[arg2], USB-LAN port=[arg3].

Explanation: A user configured USB-LAN port forwarding

May also be shown as 4000005a00000000 or 0x4000005a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0090

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005b-00000000 Secure Web services (HTTPS) [arg1] by user [arg2].

Explanation: A user enables or disables Secure web services

May also be shown as 4000005b00000000 or 0x4000005b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0091

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005c-00000000 Secure CIM/XML(HTTPS) [arg1] by user [arg2].

Explanation: A user enables or disables Secure CIM/XML services

May also be shown as 4000005c00000000 or 0x4000005c00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0092

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005d-00000000 Secure LDAP [arg1] by user [arg2].

Explanation: A user enables or disables Secure LDAP services

May also be shown as 4000005d00000000 or 0x4000005d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0093

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005e-00000000 SSH [arg1] by user [arg2].

Explanation: A user enables or disables SSH services

May also be shown as 4000005e00000000 or 0x4000005e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0094

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005f-00000000 Server timeouts set by user [arg1]: EnableOSWatchdog=[arg2], OSWatchdogTimout=[arg3], EnableLoaderWatchdog=[arg4], LoaderTimeout=[arg5].

Explanation: A user configures Server Timeouts

May also be shown as 4000005f00000000 or 0x4000005f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0095

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000060-00000000 License key for [arg1] added by user [arg2].

Explanation: A user installs License Key

May also be shown as 4000006000000000 or 0x4000006000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0096

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000061-00000000 License key for [arg1] removed by user [arg2].

Explanation: A user removes a License Key

May also be shown as 4000006100000000 or 0x4000006100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0097

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000062-00000000 Global Login General Settings set by user [arg1]: AuthenticationMethod=[arg2], LockoutPeriod=[arg3], SessionTimeout=[arg4].

Explanation: A user changes the Global Login General Settings

May also be shown as 4000006200000000 or 0x4000006200000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0098

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000063-00000000 Global Login Account Security set by user [arg1]: PasswordRequired=[arg2], PasswordExpirationPeriod=[arg3], MinimumPasswordReuseCycle=[arg4], MinimumPasswordLength=[arg5], MinimumPasswordChangeInterval=[arg6], MaxmumLoginFailures=[arg7], LockoutAfterMaxFailures=[arg8], MinimumDifferentCharacters=[arg9], DefaultIDExpired=[arg10], ChangePasswordFirstAccess=[arg11].

Explanation: A user changes the Global Login Account Security Settings to Legacy

May also be shown as 4000006300000000 or 0x4000006300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0099

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000064-00000000 User [arg1] created.

Explanation: A user account was created

May also be shown as 4000006400000000 or 0x4000006400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0100

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000065-00000000 User [arg1] removed..

Explanation: A user account was deleted

May also be shown as 4000006500000000 or 0x4000006500000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0101

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000066-00000000 User [arg1] password modified.

Explanation: A user account was changed

May also be shown as 4000006600000000 or 0x4000006600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0102

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000067-00000000 User [arg1] role set to [arg2].

Explanation: A user account role assigned

May also be shown as 4000006700000000 or 0x4000006700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0103

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000068-00000000 User [arg1] custom privileges set: [arg2].

Explanation: User account priveleges assigned

May also be shown as 4000006800000000 or 0x4000006800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0104

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000069-00000000 User [arg1] for SNMPv3 set: AuthenticationProtocol=[arg2], PrivacyProtocol=[arg3], AccessType=[arg4], HostforTraps=[arg5].

Explanation: User account SNMPv3 settings changed

May also be shown as 4000006900000000 or 0x4000006900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0105

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006a-00000000 SSH Client key added for user [arg1].

Explanation: User locally defined an SSH Client key

May also be shown as 4000006a00000000 or 0x4000006a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0106

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006b-00000000 SSH Client key imported for user [arg1] from [arg2].

Explanation: User imported an SSH Client key

May also be shown as 4000006b00000000 or 0x4000006b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0107

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006c-00000000 SSH Client key removed from user [arg1].

Explanation: User removed an SSH Client key

May also be shown as 4000006c00000000 or 0x4000006c00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0108

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006d-00000000 Management Controller [arg1]: Configuration saved to a file by user [arg2].

Explanation: A user saves a Management Controller configuration to a file.

May also be shown as 4000006d00000000 or 0x4000006d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0109

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006e-00000000 Alert Configuration Global Event Notification set by user [arg1]: RetryLimit=[arg2], RetryInterval=[arg3], EntryInterval=[arg4].

Explanation: A user changes the Global Event Notification settings.

May also be shown as 4000006e00000000 or 0x4000006e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0110

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006f-00000000 Alert Recipient Number [arg1] updated: Name=[arg2], DeliveryMethod=[arg3], Address=[arg4], IncludeLog=[arg5], Enabled=[arg6], EnabledAlerts=[arg7], AllowedFilters=[arg8].

Explanation: A user adds or updates an Alert Recipient

May also be shown as 4000006f00000000 or 0x4000006f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0111

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000070-00000000 SNMP Traps enabled by user [arg1]: EnabledAlerts=[arg2], AllowedFilters=[arg3] .

Explanation: A user enabled the SNMP Traps configuration

May also be shown as 4000007000000000 or 0x4000007000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0112

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000071-00000000 The power cap value changed from [arg1] watts to [arg2] watts by user [arg3].

Explanation: Power Cap values changed by user

May also be shown as 4000007100000000 or 0x4000007100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0113

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000072-00000000 The minimum power cap value changed from [arg1] watts to [arg2] watts.

Explanation: Minimum Power Cap value changed

May also be shown as 4000007200000000 or 0x4000007200000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0114

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000073-00000000 The maximum power cap value changed from [arg1] watts to [arg2] watts.

Explanation: Maximum Power Cap value changed

May also be shown as 4000007300000000 or 0x4000007300000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0115

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000074-00000000 The soft minimum power cap value changed from [arg1] watts to [arg2] watts.

Explanation: Soft Minimum Power Cap value changed

May also be shown as 4000007400000000 or 0x4000007400000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0116

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000075-00000000 The measured power value exceeded the power cap value.

Explanation: Power exceeded cap

May also be shown as 4000007500000000 or 0x4000007500000000

Severity: Warning

Alert Category: Warning - Power

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0117

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000076-00000000 The new minimum power cap value exceeded the power cap value.

Explanation: Minimum Power Cap exceeds Power Cap

May also be shown as 4000007600000000 or 0x4000007600000000

Severity: Warning

Alert Category: Warning - Power

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0118

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000077-00000000 Power capping was activated by user [arg1].

Explanation: Power capping activated by user

May also be shown as 4000007700000000 or 0x4000007700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0119

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000078-00000000 Power capping was deactivated by user [arg1].

Explanation: Power capping deactivated by user

May also be shown as 4000007800000000 or 0x4000007800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0120

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000079-00000000 Static Power Savings mode has been turned on by user [arg1].

Explanation: Static Power Savings mode turned on by user

May also be shown as 4000007900000000 or 0x4000007900000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0121

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007a-00000000 Static Power Savings mode has been turned off by user [arg1].

Explanation: Static Power Savings mode turned off by user

May also be shown as 4000007a00000000 or 0x4000007a00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0122

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007b-00000000 Dynamic Power Savings mode has been turned on by user [arg1].

Explanation: Dynamic Power Savings mode turned on by user

May also be shown as 4000007b00000000 or 0x4000007b00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0123

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007c-00000000 Dynamic Power Savings mode has been turned off by user [arg1].

Explanation: Dynamic Power Savings mode turned off by user

May also be shown as 4000007c00000000 or 0x4000007c00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0124

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007d-00000000 Power cap and external throttling occurred.

Explanation: Power cap and external throttling occurred

May also be shown as 4000007d00000000 or 0x4000007d00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0125

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007e-00000000 External throttling occurred .

Explanation: External throttling occurred

May also be shown as 4000007e00000000 or 0x4000007e00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0126

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007f-00000000 Power cap throttling occurred.

Explanation: Power cap throttling occurrred

May also be shown as 4000007f00000000 or 0x4000007f00000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0127

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000080-00000000 Remote Control session started by user [arg1] in [arg2] mode.

Explanation: Remote Control session started

May also be shown as 4000008000000000 or 0x4000008000000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0128

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000081-00000000 PXE boot requested by user [arg1].

Explanation: PXE boot requested

May also be shown as 4000008100000000 or 0x4000008100000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0129

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000082-00000000 The measured power value has returned below the power cap value.

Explanation: Power exceeded cap recovered

May also be shown as 4000008200000000 or 0x4000008200000000

Severity: Info

Alert Category: Warning - Power

Serviceable: No

CIM Information: **Prefix:** IMM and **ID:** 0130

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000083-00000000 The new minimum power cap value has returned below the power cap value.

Explanation: Minimum Power Cap exceeds Power Cap recovered

May also be shown as 4000008300000000 or 0x4000008300000000

Severity: Info

Alert Category: Warning - Power

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0131

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000084-00000000 IMM firmware mismatch between nodes [arg1] and [arg2]. Please attempt to flash the IMM firmware to the same level on all nodes.

Explanation: A mismatch of IMM firmware has been detected between nodes

May also be shown as 4000008400000000 or 0x4000008400000000

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0132

SNMP Trap ID: 22

Automatically notify Support: No

User response: Attempt to flash the IMM firmware to the same level on all nodes.

40000085-00000000 FPGA firmware mismatch between nodes [arg1] and [arg2]. Please attempt to flash the FPGA firmware to the same level on all nodes.

Explanation: A mismatch of FPGA firmware has been detected between nodes

May also be shown as 4000008500000000 or 0x4000008500000000

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0133

SNMP Trap ID: 22

Automatically notify Support: No

User response: Attempt to flash the FPGA firmware to the same level on all nodes.

40000086-00000000 Test Call Home Generated by user [arg1].

Explanation: Test Call Home generated by user.

May also be shown as 4000008600000000 or 0x4000008600000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0134

SNMP Trap ID:

Automatically notify Support: Yes

User response: Information only; no action is required.

40000087-00000000 Manual Call Home by user [arg1]: [arg2].

Explanation: Manual Call Home by user.

May also be shown as 4000008700000000 or 0x4000008700000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0135

SNMP Trap ID:

Automatically notify Support: Yes

User response: IBM Support will address the problem.

40000088-00000000 Management Controller [arg1]: Configuration restoration from a file by user [arg2] completed.

Explanation: This message is for the use case where a user restores a Management Controller configuration from a file and it completes.

May also be shown as 4000008800000000 or 0x4000008800000000

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0136

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000089-00000000 Management Controller [arg1]: Configuration restoration from a file by user [arg2] failed to complete.

Explanation: This message is for the use case where a user restores a Management Controller configuration from a file and the restoration fails to complete.

May also be shown as 4000008900000000 or 0x4000008900000000

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0137

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Turn off the server and disconnect it from the power source. You must disconnect the server from ac power to reset the IMM.
2. After 45 seconds, reconnect the server to the power source and turn on the server.
3. Retry the operation.

4000008a-00000000 Management Controller [arg1]: Configuration restoration from a file by user [arg2] failed to start.

Explanation: This message is for the use case where a user restores a Management Controller configuration from a file and the restoration fails to start.

May also be shown as 4000008a00000000 or 0x4000008a00000000

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0138

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Turn off the server and disconnect it from the power source. You must disconnect the server from ac power to reset the IMM.
2. After 45 seconds, reconnect the server to the power source and turn on the server.
3. Retry the operation.

4000008b-00000000 One or more of the Storage Management IP addresses has changed.

Explanation: This message is for the use case where an IP address for the Storage Management has changed

May also be shown as 4000008b00000000 or 0x4000008b00000000

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: Prefix: IMM and **ID:** 0139

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

80010002-0701ffff Numeric sensor [NumericSensorElementName] going low (lower non-critical) has asserted. (CMOS Battery)

Explanation: This message is for the use case when an implementation has detected a Lower Non-critical sensor going low has asserted.

May also be shown as 800100020701ffff or 0x800100020701ffff

Severity: Warning

Alert Category: Warning - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0476

SNMP Trap ID: 13

Automatically notify Support: No

User response: Replace the system battery.

80010202-0701ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (CMOS Battery)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has asserted.

May also be shown as 800102020701ffff or 0x800102020701ffff

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0480

SNMP Trap ID: 1

Automatically notify Support: Yes

User response: If the specified sensor is CMOS battery, replace the system battery. If the specified sensor is Planar 3.3V or Planar 5V, (trained technician only) replace the system board. If the specified sensor is Planar 12V, complete the following steps until the problem is solved:

1. Check power supply n LED.
2. Remove the failing power supply.
3. Follow actions in "Power Problems and Solving Power Problems".
4. (Trained technician only) Replace the system board. (n = power supply number)

80010204-1d01ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (Fan 1 Tach)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has asserted.

May also be shown as 800102041d01ffff or 0x800102041d01ffff

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

1. Reseat the failing fan n, which is indicated by a lit LED near the fan connector on the system board.
2. Replace the failing fan. (n = fan number)

80010204-1d02ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (Fan 2 Tach)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has asserted.

May also be shown as 800102041d02ffff or 0x800102041d02ffff

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

1. Reseat the failing fan n, which is indicated by a lit LED near the fan connector on the system board.
2. Replace the failing fan. (n = fan number)

80010701-0701ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has asserted.

May also be shown as 800107010701ffff or 0x800107010701ffff

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010701-0702ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has asserted.

May also be shown as 800107010702ffff or 0x800107010702ffff

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010701-0703ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has asserted.

May also be shown as 800107010703ffff or 0x800107010703ffff

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010701-2701ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has asserted.

May also be shown as 800107012701ffff or 0x800107012701ffff

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010701-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has asserted.

May also be shown as 800107012d01ffff or 0x800107012d01ffff

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010901-0701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109010701ffff or 0x800109010701ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010901-0702ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109010702ffff or 0x800109010702ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010901-0703ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109010703ffff or 0x800109010703ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010901-2701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109012701ffff or 0x800109012701ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.

2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010901-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109012d01ffff or 0x800109012d01ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010902-0701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted.

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has asserted.

May also be shown as 800109020701ffff or 0x800109020701ffff

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0494

SNMP Trap ID: 1

Automatically notify Support: Yes

User response: If the specified sensor is Planar 3.3V or Planar 5V, (Trained technician only) replace the system board. If the specified sensor is Planar 12V, complete the following steps until the problem is solved:

1. Check power supply n LED.
2. Remove the failing power supply.
3. (Trained technician only) Replace the system board. (n = power supply number)

80010b01-0701ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has asserted.

May also be shown as 80010b010701ffff or 0x80010b010701ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010b01-0702ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has asserted.

May also be shown as 80010b010702ffff or 0x80010b010702ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010b01-0703ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has asserted.

May also be shown as 80010b010703ffff or 0x80010b010703ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010b01-2701ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has asserted.

May also be shown as 80010b012701ffff or 0x80010b012701ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80010b01-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has asserted.

May also be shown as 80010b012d01ffff or 0x80010b012d01ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace system board.

80030006-2101ffff Sensor [SensorElementName] has deasserted. (Sig Verify Fail)

Explanation: This message is for the use case when an implementation has detected a Sensor has deasserted.

May also be shown as 800300062101ffff or 0x800300062101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0509

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

80030012-2301ffff Sensor [SensorElementName] has deasserted. (OS RealTime Mod)

Explanation: This message is for the use case when an implementation has detected a Sensor has deasserted.

May also be shown as 800300122301ffff or 0x800300122301ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0509

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

80030112-0601ffff Sensor [SensorElementName] has asserted. (SMM Mode, SMM Monitor)

Explanation: This message is for the use case when an implementation has detected a Sensor has asserted.

May also be shown as 800301120601ffff or 0x800301120601ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0508

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

8007010f-2201ffff Sensor [SensorElementName] has transitioned from normal to non-critical state. (GPT Status)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to non-critical from normal.

May also be shown as 8007010f2201ffff or 0x8007010f2201ffff

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0520

SNMP Trap ID: 60

Automatically notify Support: No

User response:

1. Check the IBM support site for service bulletins or firmware updates that apply to this GPT error.
2. Set the UEFI setting DISK GPT Recovery to Automatic.
3. Replace the corrupt disk.

8007010f-2582ffff Sensor [SensorElementName] has transitioned from normal to non-critical state. (I/O Resources)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to non-critical from normal.

May also be shown as 8007010f2582ffff or 0x8007010f2582ffff

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0520

SNMP Trap ID: 60

Automatically notify Support: No

User response: Complete the following step to solve PCI I/O resource errors:

1. Go to F1 Setup
2. System Settings
3. Device and I/O ports
4. PCI 64 bit Resource and choose enable

80070114-2201ffff Sensor [SensorElementName] has transitioned from normal to non-critical state. (TPM Phy Pres Set)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to non-critical from normal.

May also be shown as 800701142201ffff or 0x800701142201ffff

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0520

SNMP Trap ID: 60

Automatically notify Support: No

User response:

1. Complete the administrative tasks that require the TPM physical presence switch to be in the ON position.
2. Restore the physical presence switch to the OFF position.
3. Reboot the system.
4. (Trained technician only) If the error continues, replace the planar.

80070201-0301ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (CPU 1 OverTemp)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702010301ffff or 0x800702010301ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n is installed correctly.
4. (Trained technician only) Replace microprocessor n. (n = microprocessor number)

80070201-0701ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (VR Hot)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702010701ffff or 0x800702010701ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n is installed correctly.
4. (Trained technician only) Replace microprocessor n. (n = microprocessor number)

80070202-0701ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (SysBrd Vol Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702020701ffff or 0x800702020701ffff

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 1

Automatically notify Support: No

User response:

1. Check the system-event log.
2. Check for an error LED on the system board.
3. Replace any failing device.
4. Check for a server firmware update. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
5. (Trained technician only) Replace the system board.

80070204-0a01ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (PS 1 Fan Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702040a01ffff or 0x800702040a01ffff

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 11

Automatically notify Support: No

User response:

1. Make sure that there are no obstructions, such as bundled cables, to the airflow from the power-supply fan.
2. Replace power supply n. (n = power supply number)

80070204-0a02ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (PS 2 Fan Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702040a02ffff or 0x800702040a02ffff

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 11

Automatically notify Support: No

User response:

1. Make sure that there are no obstructions, such as bundled cables, to the airflow from the power-supply fan.
2. Replace power supply n. (n = power supply number)

8007020f-2201ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (TXT ACM Module)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 8007020f2201ffff or 0x8007020f2201ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. If enabling TXT is not required, disable TXT from the Setup Utility.
2. If enabling TXT is required, verify that the TPM is enabled and activated from the Setup Utility.
3. If the problem remains, contact your service representative.

8007020f-2582ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (I/O Resources)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 8007020f2582ffff or 0x8007020f2582ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: Complete the following step to solve PCI I/O resource errors:

1. Go to F1 Setup
2. System Settings
3. Device and I/O ports
4. PCI 64 bit Resource and choose enable

80070214-2201ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (TPM Lock)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702142201ffff or 0x800702142201ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0522

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Update the server firmware (see Recovering the server firmware).
2. If the problem persists, (trained technician only) replace the system board (see Removing the system board and Installing the system board).

80070219-0701ffff Sensor [SensorElementName] has transitioned to critical from a less severe state. (SysBrd Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to critical from less severe.

May also be shown as 800702190701ffff or 0x800702190701ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Check for an error LED on the system board.
2. Check the system-event log.
3. Check for the system firmware version and update to the latest version. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Unplug and restore AC power cord, then, perform step 1 and 2 again.
5. If problems still occurred, (trained technician only) replace the system board.

80070301-0301ffff Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state. (CPU 1 OverTemp)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to non-recoverable from less severe.

May also be shown as 800703010301ffff or 0x800703010301ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0524

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffle is in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications (see Server Features and specifications for more information).
3. Make sure that the heat sink for microprocessor n.
4. (Trained technician only) Replace microprocessor n. (n = microprocessor number)

80070614-2201ffff Sensor [SensorElementName] has transitioned to non-recoverable. (TPM Phy Pres Set)

Explanation: This message is for the use case when an implementation has detected a Sensor transitioned to non-recoverable.

May also be shown as 800706142201ffff or 0x800706142201ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0530

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Update the server firmware (see Recovering the server firmware).
2. If the problem persists, (trained technician only) replace the system board (see Removing the system board and Installing the system board).

80080128-2101ffff Device [LogicalDeviceElementName] has been added. (Low Security Jmp)

Explanation: This message is for the use case when an implementation has detected a Device was inserted.

May also be shown as 800801282101ffff or 0x800801282101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0536

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

800b0008-1301ffff Redundancy [RedundancySetElementName] has been restored. (Power Unit)

Explanation: This message is for the use case when an implementation has detected Redundancy was Restored.

May also be shown as 800b00081301ffff or 0x800b00081301ffff

Severity: Info

Alert Category: Warning - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0561

SNMP Trap ID: 10

Automatically notify Support: No

User response: No action; information only.

800b0108-1301ffff Redundancy Lost for [RedundancySetElementName] has asserted. (Power Unit)

Explanation: This message is for the use case when Redundancy Lost has asserted.

May also be shown as 800b01081301ffff or 0x800b01081301ffff

Severity: Error

Alert Category: Critical - Redundant Power Supply

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0802

SNMP Trap ID: 9

Automatically notify Support: No

User response:

1. Check the LEDs for both power supplies.
2. Follow the actions in Power-supply LEDs.

806f0007-0301ffff [ProcessorElementName] has Failed with IERR. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor Failed - IERR Condition.

May also be shown as 806f00070301ffff or 0x806f00070301ffff

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0042

SNMP Trap ID: 40

Automatically notify Support: No

User response:

1. Update the latest level of system firmware and device drivers are installed for all adapters and standard devices, such as UEFI, IMM Ethernet,and SAS. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
2. Run the DSA program.
3. Reseat the adapter.
4. Replace the adapter.
5. (Trained technician only) Replace microprocessor n. (n = microprocessor number)
6. (Trained technician only) Replace the system board.

806f0008-0a01ffff [PowerSupplyElementName] has been added to container [PhysicalPackageElementName]. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply has been added.

May also be shown as 806f00080a01ffff or 0x806f00080a01ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0084

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0008-0a02ffff [PowerSupplyElementName] has been added to container [PhysicalPackageElementName]. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply has been added.

May also be shown as 806f00080a02ffff or 0x806f00080a02ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0084

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0009-1301ffff [PowerSupplyElementName] has been turned off. (Host Power)

Explanation: This message is for the use case when an implementation has detected a Power Unit that has been Disabled.

May also be shown as 806f00091301ffff or 0x806f00091301ffff

Severity: Info

Alert Category: System - Power Off

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0106

SNMP Trap ID: 23

Automatically notify Support: No

User response: No action; information only.

806f000d-0400ffff The Drive [StorageVolumeElementName] has been added. (Drive 0)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0400ffff or 0x806f000d0400ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0401ffff The Drive [StorageVolumeElementName] has been added. (Drive 1)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0401ffff or 0x806f000d0401ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0402ffff The Drive [StorageVolumeElementName] has been added. (Drive 2)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0402ffff or 0x806f000d0402ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0403ffff The Drive [StorageVolumeElementName] has been added. (Drive 3)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0403ffff or 0x806f000d0403ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0404ffff The Drive [StorageVolumeElementName] has been added. (Drive 4)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0404ffff or 0x806f000d0404ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0405ffff The Drive [StorageVolumeElementName] has been added. (Drive 5)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0405ffff or 0x806f000d0405ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0406ffff The Drive [StorageVolumeElementName] has been added. (Drive 6)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0406ffff or 0x806f000d0406ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000d-0407ffff The Drive [StorageVolumeElementName] has been added. (Drive 7)

Explanation: This message is for the use case when an implementation has detected a Drive has been Added.

May also be shown as 806f000d0407ffff or 0x806f000d0407ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

806f000f-220101ff The System [ComputerSystemElementName] has detected no memory in the system. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that memory was detected in the system.

May also be shown as 806f000f220101ff or 0x806f000f220101ff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0794

SNMP Trap ID: 41

Automatically notify Support: No

User response:

1. Make sure the server meets the minimum configuration to start (see Power-supply LEDs).
2. Recover the server firmware from the backup page: a. Restart the server. b. At the prompt, press F3 to recover the firmware.
3. Update the server firmware on the primary page. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Remove components one at a time, restarting the server each time, to see if the problem goes away.
5. If the problem remains, (trained technician only) replace the system board.

Firmware Error : Sys Boot Status :

806f000f-220102ff Subsystem [MemoryElementName] has insufficient memory for operation. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that the usable Memory is insufficient for operation.

May also be shown as 806f000f220102ff or 0x806f000f220102ff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0132

SNMP Trap ID: 41

Automatically notify Support: No

User response:

1. Make sure the server meets the minimum configuration to start (see Power-supply LEDs).
2. Update the server firmware on the primary page. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
3. (Trained technician only) Replace the system board.

Firmware Error : Sys Boot Status :

806f000f-220103ff The System [ComputerSystemElementName] encountered firmware error - unrecoverable boot device failure. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that System Firmware Error Unrecoverable boot device failure has occurred.

May also be shown as 806f000f220103ff or 0x806f000f220103ff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0770

SNMP Trap ID: 5

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f000f-220104ff The System [ComputerSystemElementName]has encountered a motherboard failure. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that a fatal motherboard failure in the system.

May also be shown as 806f000f220104ff or 0x806f000f220104ff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0795

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f000f-220107ff The System [ComputerSystemElementName] encountered firmware error - unrecoverable keyboard failure. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that System Firmware Error Unrecoverable Keyboard failure has occurred.

May also be shown as 806f000f220107ff or 0x806f000f220107ff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0764

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f000f-22010aff The System [ComputerSystemElementName] encountered firmware error - no video device detected. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that System Firmware Error No video device detected has occurred.

May also be shown as 806f000f22010aff or 0x806f000f22010aff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0766

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in

the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f000f-22010bff Firmware BIOS (ROM) corruption was detected on system [ComputerSystemElementName] during POST. (ABR Status)

Explanation: Firmware BIOS (ROM) corruption was detected on the system during POST.

May also be shown as 806f000f22010bff or 0x806f000f22010bff

Severity: Info

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0850

SNMP Trap ID: 40

Automatically notify Support: No

User response:

1. Make sure the server meets the minimum configuration to start (see Power-supply LEDs).
2. Recover the server firmware from the backup page: a.Restart the server. b.At the prompt, press F3 to recover the firmware.
3. Update the server firmware to the latest level (see Updating the firmware). Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Remove components one at a time, restarting the server each time, to see if the problem goes away.
5. If the problem remains, (trained service technician) replace the system board.

Firmware Error : Sys Boot Status :

806f000f-22010cff CPU voltage mismatch detected on [ProcessorElementName]. (ABR Status)

Explanation: This message is for the use case when an implementation has detected a CPU voltage mismatch with the socket voltage.

May also be shown as 806f000f22010cff or 0x806f000f22010cff

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0050

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f000f-2201ffff The System [ComputerSystemElementName] encountered a POST Error. (ABR Status)

Explanation: This message is for the use case when an implementation has detected a Post Error.

May also be shown as 806f000f2201ffff or 0x806f000f2201ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0184

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI(POST) error code for this event can be found in the logged IMM message text. Please refer to the UEFI(POST) error code in the "UEFI(POST) error code" section of the Information Center for the appropriate user response. Firmware Error : Sys Boot Status :

806f0013-1701ffff A diagnostic interrupt has occurred on system [ComputerSystemElementName]. (NMI State)

Explanation: This message is for the use case when an implementation has detected a Front Panel NMI / Diagnostic Interrupt.

May also be shown as 806f00131701ffff or 0x806f00131701ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0222

SNMP Trap ID: 50

Automatically notify Support: No

User response: If the NMI button has not been pressed, complete the following steps:

1. Make sure that the NMI button is not pressed.
2. Replace the operator information panel cable.

3. Replace the operator information panel.

806f001e-2201ffff No bootable media available for system [ComputerSystemElementName]. (No Boot Device)

Explanation: This message is for the use case when an implementation has detected a System with No Bootable Media.

May also be shown as 806f001e2201ffff or 0x806f001e2201ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0286

SNMP Trap ID:

Automatically notify Support: No

User response: Please insert a bootable device.

806f0021-2201ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (No Op ROM Space)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00212201ffff or 0x806f00212201ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0021-2582ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (All PCI Error / One of PCI Error)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00212582ffff or 0x806f00212582ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0021-3001ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 1)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00213001ffff or 0x806f00213001ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions

require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0021-3002ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 2)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00213002ffff or 0x806f00213002ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0021-3003ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 3)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00213003ffff or 0x806f00213003ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0021-3004ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (PCI 4)

Explanation: This message is for the use case when an implementation has detected a Fault in a slot.

May also be shown as 806f00213004ffff or 0x806f00213004ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Replace the affected adapters.
5. Replace the riser card.
6. (Trained service technicians only) Replace the system board.

806f0023-2101ffff Watchdog Timer expired for [WatchdogElementName]. (IPMI Watchdog)

Explanation: This message is for the use case when an implementation has detected a Watchdog Timer Expired.

May also be shown as 806f00232101ffff or 0x806f00232101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0368

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0107-0301ffff An Over-Temperature Condition has been detected on [ProcessorElementName]. (CPU 1)

Explanation: This message is for the use case when an implementation has detected an Over-Temperature Condition Detected for Processor.

May also be shown as 806f01070301ffff or 0x806f01070301ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0036

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating. There are no obstructions to the airflow (front and rear of the server), the air baffles are in place and correctly installed, and the server cover is installed and completely closed.
2. Make sure that the heat sink for microprocessor n is installed correctly.
3. (Trained technician only) Replace microprocessor n. (n = microprocessor number)

806f0108-0a01ffff [PowerSupplyElementName] has Failed. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply has failed.

May also be shown as 806f01080a01ffff or 0x806f01080a01ffff

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0086

SNMP Trap ID: 4

Automatically notify Support: Yes

User response:

1. Reseat power supply n.
2. If the power-on LED is not lit and the power-supply error LED is lit, replace power supply n.
3. If both the power-on LED and the power-supply error LED are not lit, see Power problems for more information. (n = power supply number)

806f0108-0a02ffff [PowerSupplyElementName] has Failed. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply has failed.

May also be shown as 806f01080a02ffff or 0x806f01080a02ffff

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0086

SNMP Trap ID: 4

Automatically notify Support: Yes

User response:

1. Reseat power supply n.
2. If the power-on LED is not lit and the power-supply error LED is lit, replace power supply n.
3. If both the power-on LED and the power-supply error LED are not lit, see Power problems for more information. (n = power supply number)

806f0109-1301ffff [PowerSupplyElementName] has been Power Cycled. (Host Power)

Explanation: This message is for the use case when an implementation has detected a Power Unit that has been power cycled.

May also be shown as 806f01091301ffff or 0x806f01091301ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0108

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f010c-2001ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error.

May also be shown as 806f010c2001ffff or 0x806f010c2001ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f010c-2002ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error.

May also be shown as 806f010c2002ffff or 0x806f010c2002ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f010c-2003ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error.

May also be shown as 806f010c2003ffff or 0x806f010c2003ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f010c-2004ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error.

May also be shown as 806f010c2004ffff or 0x806f010c2004ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f010c-2581ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error.

May also be shown as 806f010c2581ffff or 0x806f010c2581ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer,

disconnect and reconnect the server to the power source and restart the server.

8. (Trained Service technician only) Replace the affected microprocessor.

806f010d-0400ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 0)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0400ffff or 0x806f010d0400ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0401ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 1)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0401ffff or 0x806f010d0401ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0402ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 2)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0402ffff or 0x806f010d0402ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0403ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 3)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0403ffff or 0x806f010d0403ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0404ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 4)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0404ffff or 0x806f010d0404ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0405ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 5)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0405ffff or 0x806f010d0405ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0406ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 6)

Explanation: This message is for the use case when an implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0406ffff or 0x806f010d0406ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010d-0407ffff The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 7)

Explanation: This message is for the use case when an

implementation has detected a Drive was Disabled due to fault.

May also be shown as 806f010d0407ffff or 0x806f010d0407ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f010f-2201ffff The System [ComputerSystemElementName] encountered a firmware hang. (Firmware Error)

Explanation: This message is for the use case when an implementation has detected a System Firmware Hang.

May also be shown as 806f010f2201ffff or 0x806f010f2201ffff

Severity: Error

Alert Category: System - Boot failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0186

SNMP Trap ID: 25

Automatically notify Support: No

User response:

1. Make sure the server meets the minimum configuration to start (see Power-supply LEDs).
2. Update the server firmware on the primary page. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
3. (Trained technician only) Replace the system board.

806f0123-2101ffff Reboot of system [ComputerSystemElementName] initiated by [WatchdogElementName]. (IPMI Watchdog)

Explanation: This message is for the use case when an implementation has detected a Reboot by a Watchdog occurred.

May also be shown as 806f01232101ffff or 0x806f01232101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0370

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0207-0301ffff [ProcessorElementName] has Failed with FRB1/BIST condition. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor Failed - FRB1/BIST condition.

May also be shown as 806f02070301ffff or 0x806f02070301ffff

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response:

1. Update the latest level of system firmware and device drivers are installed for all adapters and standard devices, such as UEFI, IMM Ethernet,and SAS. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
2. Run the DSA program.
3. Reseat the adapter.
4. Replace the adapter.
5. (Trained technician only) Replace microprocessor n. (n = microprocessor number)
6. (Trained technician only) Replace the system board.

806f020d-0400ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 0)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0400ffff or 0x806f020d0400ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0401ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 1)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0401ffff or 0x806f020d0401ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0402ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 2)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0402ffff or 0x806f020d0402ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0403ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 3)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0403ffff or 0x806f020d0403ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0404ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 4)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0404ffff or 0x806f020d0404ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0405ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 5)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0405ffff or 0x806f020d0405ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0406ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 6)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0406ffff or 0x806f020d0406ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f020d-0407ffff Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 7)

Explanation: This message is for the use case when an implementation has detected an Array Failure is Predicted.

May also be shown as 806f020d0407ffff or 0x806f020d0407ffff

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response:

1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk drive (wait 1 minute or more before reinstalling the drive) b. Cable from the system board to the backplane
3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Hard disk drive b. Cable from the system board to the backplane c. Hard disk drive backplane (n = hard disk drive number)

806f0223-2101ffff Powering off system [ComputerSystemElementName] initiated by [WatchdogElementName]. (IPMI Watchdog)

Explanation: This message is for the use case when an implementation has detected a Poweroff by Watchdog has occurred.

May also be shown as 806f02232101ffff or 0x806f02232101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0372

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0308-0a01ffff [PowerSupplyElementName] has lost input. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply that has input that has been lost.

May also be shown as 806f03080a01ffff or 0x806f03080a01ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0100

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Reconnect the power cords.
2. Check power supply n LED.
3. See Power-supply LEDs for more information. (n = power supply number)

806f0308-0a02ffff [PowerSupplyElementName] has lost input. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply that has input that has been lost.

May also be shown as 806f03080a02ffff or 0x806f03080a02ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0100

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Reconnect the power cords.
2. Check power supply n LED.
3. See Power-supply LEDs for more information. (n = power supply number)

806f030c-2001ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure.

May also be shown as 806f030c2001ffff or 0x806f030c2001ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: Note: Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server.

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.

2. Manually re-enable all affected DIMMs.
3. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
4. If the problem follows the DIMM, replace the failing DIMM.
5. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
6. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
7. (Trained technician only) Replace the affected microprocessor.

806f030c-2002ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure.

May also be shown as 806f030c2002ffff or 0x806f030c2002ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: Note: Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server.

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Manually re-enable all affected DIMMs.
3. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
4. If the problem follows the DIMM, replace the failing DIMM.
5. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
6. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
7. (Trained technician only) Replace the affected microprocessor.

806f030c-2003ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure.

May also be shown as 806f030c2003ffff or 0x806f030c2003ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: Note: Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server.

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Manually re-enable all affected DIMMs.
3. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
4. If the problem follows the DIMM, replace the failing DIMM.
5. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
6. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
7. (Trained technician only) Replace the affected microprocessor.

806f030c-2004ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure.

May also be shown as 806f030c2004ffff or 0x806f030c2004ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: Note: Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server.

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Manually re-enable all affected DIMMs.
3. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
4. If the problem follows the DIMM, replace the failing DIMM.
5. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
6. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
7. (Trained technician only) Replace the affected microprocessor.

806f030c-2581ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure.

May also be shown as 806f030c2581ffff or 0x806f030c2581ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: Note: Each time you install or remove a DIMM, you must disconnect the server from the power source; then, wait 10 seconds before restarting the server.

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Manually re-enable all affected DIMMs.
3. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
4. If the problem follows the DIMM, replace the failing DIMM.
5. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
6. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
7. (Trained technician only) Replace the affected microprocessor.

806f0313-1701ffff A software NMI has occurred on system [ComputerSystemElementName]. (NMI State)

Explanation: This message is for the use case when an implementation has detected a Software NMI.

May also be shown as 806f03131701ffff or 0x806f03131701ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0228

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Check the device driver.
2. Reinstall the device driver.
3. Update all device drivers to the latest level.
4. Update the firmware (UEFI and IMM).

806f0323-2101ffff Power cycle of system [ComputerSystemElementName] initiated by watchdog [WatchdogElementName]. (IPMI Watchdog)

Explanation: This message is for the use case when an implementation has detected a Power Cycle by Watchdog occurred.

May also be shown as 806f03232101ffff or 0x806f03232101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0374

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f040c-2001ffff [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected that Memory has been Disabled.

May also be shown as 806f040c2001ffff or 0x806f040c2001ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0131

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Make sure the DIMM is installed correctly.
2. If the DIMM was disabled because of a memory fault (memory uncorrectable error or memory logging limit reached), follow the suggested actions for that error event and restart the server.
3. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory event. If no memory fault is recorded in the logs and no DIMM connector error LED is lit, you can re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).

806f040c-2002ffff [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected that Memory has been Disabled.

May also be shown as 806f040c2002ffff or 0x806f040c2002ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0131

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Make sure the DIMM is installed correctly.
2. If the DIMM was disabled because of a memory fault (memory uncorrectable error or memory logging limit reached), follow the suggested actions for that error event and restart the server.
3. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory event. If no memory fault is recorded in the logs and no DIMM connector error LED is lit, you can re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).

806f040c-2003ffff [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected that Memory has been Disabled.

May also be shown as 806f040c2003ffff or 0x806f040c2003ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0131

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Make sure the DIMM is installed correctly.
2. If the DIMM was disabled because of a memory fault (memory uncorrectable error or memory logging limit reached), follow the suggested actions for that error event and restart the server.
3. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory event. If no memory fault is recorded in the logs and no DIMM connector error LED is lit, you can re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).

806f040c-2004ffff [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected that Memory has been Disabled.

May also be shown as 806f040c2004ffff or 0x806f040c2004ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0131

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Make sure the DIMM is installed correctly.
2. If the DIMM was disabled because of a memory fault (memory uncorrectable error or memory logging limit reached), follow the suggested actions for that error event and restart the server.
3. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory event. If no memory fault is recorded in the logs and no DIMM connector error LED is lit, you can re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).

806f040c-2581ffff [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected that Memory has been Disabled.

May also be shown as 806f040c2581ffff or 0x806f040c2581ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0131

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Make sure the DIMM is installed correctly.
2. If the DIMM was disabled because of a memory fault (memory uncorrectable error or memory logging limit reached), follow the suggested actions for that error event and restart the server.
3. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory event. If no memory fault is recorded in the logs and no DIMM connector error LED is lit, you can re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).

806f0413-2582ffff A PCI PERR has occurred on system [ComputerSystemElementName]. (PCIs)

Explanation: This message is for the use case when an implementation has detected a PCI PERR.

May also be shown as 806f04132582ffff or 0x806f04132582ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0232

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser cards.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Remove both adapters.
5. Replace the PCIe adapters.
6. Replace the riser card.

806f050c-2001ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Reached.

May also be shown as 806f050c2001ffff or 0x806f050c2001ffff

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.

6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f050c-2002ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Reached.

May also be shown as 806f050c2002ffff or 0x806f050c2002ffff

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f050c-2003ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Reached.

May also be shown as 806f050c2003ffff or 0x806f050c2003ffff

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f050c-2004ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Reached.

May also be shown as 806f050c2004ffff or 0x806f050c2004ffff

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f050c-2581ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Reached.

May also be shown as 806f050c2581ffff or 0x806f050c2581ffff

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response:

1. Check the IBM support website for an applicable retain tip or firmware update that applies to this memory error.
2. Swap the affected DIMMs (as indicated by the error LEDs on the system board or the event logs) to a different memory channel or microprocessor.
3. If the problem follows the DIMM, replace the failing DIMM.
4. (Trained technician only) If the problem occurs on the same DIMM connector, check the DIMM connector. If the connector contains any foreign material or is damaged, replace the system board.
5. (Trained technician only) Remove the affected microprocessor and check the microprocessor socket pins for any damaged pins. If a damage is found, replace the system board.
6. (Trained technician only) Replace the affected microprocessor.
7. Manually re-enable all affected DIMMs if the server firmware version is older than UEFI v1.10. If the server firmware version is UEFI v1.10 or newer, disconnect and reconnect the server to the power source and restart the server.
8. (Trained Service technician only) Replace the affected microprocessor.

806f050d-0400ffff Array [ComputerSystemElementName] is in critical condition. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0400ffff or 0x806f050d0400ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0401ffff Array [ComputerSystemElementName] is in critical condition. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0401ffff or 0x806f050d0401ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0402ffff Array [ComputerSystemElementName] is in critical condition. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0402ffff or 0x806f050d0402ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0403ffff Array [ComputerSystemElementName] is in critical condition. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0403ffff or 0x806f050d0403ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0404ffff Array [ComputerSystemElementName] is in critical condition. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0404ffff or 0x806f050d0404ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0405ffff Array [ComputerSystemElementName] is in critical condition. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0405ffff or 0x806f050d0405ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0406ffff Array [ComputerSystemElementName] is in critical condition. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0406ffff or 0x806f050d0406ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0407ffff Array [ComputerSystemElementName] is in critical condition. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that an Array is Critical.

May also be shown as 806f050d0407ffff or 0x806f050d0407ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Check backplane cable connection.
5. Replace the RAID adapter.
6. Replace the hard disk drive that is indicated by a lit status LED.

806f0513-2582ffff A PCI SERR has occurred on system [ComputerSystemElementName]. (PCIs)

Explanation: This message is for the use case when an implementation has detected a PCI SERR.

May also be shown as 806f05132582ffff or 0x806f05132582ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0234

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Check the PCI LED.
2. Reseat the affected adapters and riser card.
3. Update the server firmware (UEFI and IMM) and adapter firmware. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Make sure that the adapter is supported. For a list of supported optional devices, see

http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/.

5. Remove both adapters.
6. Replace the PCIe adapters.
7. Replace the riser card.

806f052b-2101ffff Invalid or Unsupported firmware or software was detected on system [ComputerSystemElementName]. (IMM2 FW Failover)

Explanation: This message is for the use case when an implementation has detected an Invalid/Unsupported Firmware/Software Version.

May also be shown as 806f052b2101ffff or 0x806f052b2101ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0446

SNMP Trap ID: 50

Automatically notify Support: No

User response:

1. Make sure the server meets the minimum configuration to start (see Power-supply LEDs).
2. Recover the server firmware from the backup page by restarting the server.
3. Update the server firmware to the latest level (see Updating the firmware). Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. Remove components one at a time, restarting the server each time, to see if the problem goes away.
5. If the problem remains, (trained service technician) replace the system board.

806f0607-0301ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted. (CPU 1)

Explanation: This message is for the use case when an SM BIOS Uncorrectable CPU complex error has asserted.

May also be shown as 806f06070301ffff or 0x806f06070301ffff

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response:

1. Update the latest level of system firmware and device drivers are installed for all adapters and standard devices, such as UEFI, IMM Ethernet,and SAS. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
2. Run the DSA program.
3. Reseat the adapter.
4. Replace the adapter.
5. (Trained technician only) Replace microprocessor n. (n = microprocessor number)
6. (Trained technician only) Replace the system board.

806f060d-0400ffff Array [ComputerSystemElementName] has failed. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0400ffff or 0x806f060d0400ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0401ffff Array [ComputerSystemElementName] has failed. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0401ffff or 0x806f060d0401ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0402ffff Array [ComputerSystemElementName] has failed. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0402ffff or 0x806f060d0402ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0403ffff Array [ComputerSystemElementName] has failed. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0403ffff or 0x806f060d0403ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0404ffff Array [ComputerSystemElementName] has failed. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0404ffff or 0x806f060d0404ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0405ffff Array [ComputerSystemElementName] has failed. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0405ffff or 0x806f060d0405ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0406ffff Array [ComputerSystemElementName] has failed. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0406ffff or 0x806f060d0406ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f060d-0407ffff Array [ComputerSystemElementName] has failed. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that an Array Failed.

May also be shown as 806f060d0407ffff or 0x806f060d0407ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Make sure that the RAID adapter firmware and hard disk drive firmware are at the latest level.
2. Make sure that the SAS cable is connected correctly.
3. Replace the SAS cable.
4. Replace the RAID adapter.
5. Replace the hard disk drive that is indicated by a lit status LED.

806f070c-2001ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has been corrected.

May also be shown as 806f070c2001ffff or 0x806f070c2001ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: Make sure that DIMMs are installed and following the memory population chart in the system publication.

806f070c-2002ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has been corrected.

May also be shown as 806f070c2002ffff or 0x806f070c2002ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: Make sure that DIMMs are installed and following the memory population chart in the system publication.

806f070c-2003ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has been corrected.

May also be shown as 806f070c2003ffff or 0x806f070c2003ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: Make sure that DIMMs are installed and following the memory population chart in the system publication.

806f070c-2004ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has been corrected.

May also be shown as 806f070c2004ffff or 0x806f070c2004ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: Make sure that DIMMs are installed and following the memory population chart in the system publication.

806f070c-2581ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has been corrected.

May also be shown as 806f070c2581ffff or 0x806f070c2581ffff

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: Make sure that DIMMs are installed and following the memory population chart in the system publication.

806f070d-0400ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0400ffff or 0x806f070d0400ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0401ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0401ffff or 0x806f070d0401ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0402ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0402ffff or 0x806f070d0402ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0403ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0403ffff or 0x806f070d0403ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0404ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0404ffff or 0x806f070d0404ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0405ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0405ffff or 0x806f070d0405ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0406ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0406ffff or 0x806f070d0406ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f070d-0407ffff Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild is in Progress.

May also be shown as 806f070d0407ffff or 0x806f070d0407ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0178

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f072b-2101ffff A successful software or firmware change was detected on system [ComputerSystemElementName]. (IMM Promotion / IMM Recovery)

Explanation: This message is for the use case when an implementation has detected a Successful Software or Firmware Change.

May also be shown as 806f072b2101ffff or 0x806f072b2101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0450

SNMP Trap ID:

Automatically notify Support: No

User response: If the primary build level roll back to the older version, please reflash primary bank again. Otherwise, no action required; information only.

806f072b-2201ffff A successful software or firmware change was detected on system [ComputerSystemElementName]. (Bkup Auto Update / ROM Recovery)

Explanation: This message is for the use case when an implementation has detected a Successful Software or Firmware Change.

May also be shown as 806f072b2201ffff or 0x806f072b2201ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0450

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0807-0301ffff [ProcessorElementName] has been Disabled. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor has been Disabled.

May also be shown as 806f08070301ffff or 0x806f08070301ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0061

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f0813-2581ffff A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (DIMMs)

Explanation: This message is for the use case when an implementation has detected a Bus Uncorrectable Error.

May also be shown as 806f08132581ffff or 0x806f08132581ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the system-event log.
2. Check the DIMM error LEDs.
3. Remove the failing DIMM from the system board.
4. Check for a server firmware update. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
5. Make sure that the installed DIMMs are supported and configured correctly.
6. (Trained technician only) Replace the system board.

806f0813-2582ffff A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (PCIs)

Explanation: This message is for the use case when an implementation has detected a Bus Uncorrectable Error.

May also be shown as 806f08132582ffff or 0x806f08132582ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the system-event log.
2. Check the PCI LED.
3. Remove the adapter from the indicated PCI slot.
4. Check for a server firmware update. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
5. (Trained technician only) Replace the system board.

806f0813-2584ffff A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (CPUs)

Explanation: This message is for the use case when an implementation has detected a Bus Uncorrectable Error.

May also be shown as 806f08132584ffff or 0x806f08132584ffff

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response:

1. Check the system-event log.
2. (Trained technician only) Remove the failing microprocessor from the system board (see Removing a microprocessor and heat sink).
3. Check for a server firmware update. Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
4. (Trained technician only) Replace the system board.

806f0823-2101ffff Watchdog Timer interrupt occurred for [WatchdogElementName]. (IPMI Watchdog)

Explanation: This message is for the use case when an implementation has detected a Watchdog Timer interrupt occurred.

May also be shown as 806f08232101ffff or 0x806f08232101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0376

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

806f090c-2001ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected Memory has been Throttled.

May also be shown as 806f090c2001ffff or 0x806f090c2001ffff

Severity: Warning

Alert Category: System - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0142

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Reseat the DIMM, and then restart the server.
2. Replace DIMM n. (n = DIMM number)

806f090c-2002ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected Memory has been Throttled.

May also be shown as 806f090c2002ffff or 0x806f090c2002ffff

Severity: Warning

Alert Category: System - Other

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0142

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Reseat the DIMM, and then restart the server.
2. Replace DIMM n. (n = DIMM number)

806f090c-2003ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected Memory has been Throttled.

May also be shown as 806f090c2003ffff or 0x806f090c2003ffff

Severity: Warning

Alert Category: System - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0142

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Reseat the DIMM, and then restart the server.
2. Replace DIMM n. (n = DIMM number)

806f090c-2004ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected Memory has been Throttled.

May also be shown as 806f090c2004ffff or 0x806f090c2004ffff

Severity: Warning

Alert Category: System - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0142

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Reseat the DIMM, and then restart the server.
2. Replace DIMM n. (n = DIMM number)

806f0a07-0301ffff [ProcessorElementName] is operating in a Degraded State. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor is running in the Degraded state.

May also be shown as 806f0a070301ffff or 0x806f0a070301ffff

Severity: Warning

Alert Category: Warning - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0038

SNMP Trap ID: 42

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow (front and rear of the server), that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Check the ambient temperature. You must be operating within the specifications.
3. Make sure that the heat sink for microprocessor n is installed correctly.
4. (Trained technician only) Replace microprocessor n. (n = microprocessor number)

806f0a0c-2001ffff An Over-Temperature Condition has been detected on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Detected.

May also be shown as 806f0a0c2001ffff or 0x806f0a0c2001ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0146

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow, that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Make sure that ambient temperature is within the specifications.
3. If a fan has failed, complete the action for a fan failure.
4. Replace DIMM n. (n = DIMM number)

806f0a0c-2002ffff An Over-Temperature Condition has been detected on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Detected.

May also be shown as 806f0a0c2002ffff or 0x806f0a0c2002ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0146

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow, that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Make sure that ambient temperature is within the specifications.
3. If a fan has failed, complete the action for a fan failure.
4. Replace DIMM n. (n = DIMM number)

806f0a0c-2003ffff An Over-Temperature Condition has been detected on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Detected.

May also be shown as 806f0a0c2003ffff or 0x806f0a0c2003ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0146

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow, that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Make sure that ambient temperature is within the specifications.
3. If a fan has failed, complete the action for a fan failure.
4. Replace DIMM n. (n = DIMM number)

806f0a0c-2004ffff An Over-Temperature Condition has been detected on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Detected.

May also be shown as 806f0a0c2004ffff or 0x806f0a0c2004ffff

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and **ID:** 0146

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Make sure that the fans are operating, that there are no obstructions to the airflow, that the air baffles are in place and correctly installed, and that the server cover is installed and completely closed.
2. Make sure that ambient temperature is within the specifications.
3. If a fan has failed, complete the action for a fan failure.
4. Replace DIMM n. (n = DIMM number)

81010002-0701ffff Numeric sensor [NumericSensorElementName] going low (lower non-critical) has deasserted. (CMOS Battery)

Explanation: This message is for the use case when an implementation has detected a Lower Non-critical sensor going low has deasserted.

May also be shown as 810100020701ffff or 0x810100020701ffff

Severity: Info

Alert Category: Warning - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0477

SNMP Trap ID: 13

Automatically notify Support: No

User response: No action; information only.

81010202-0701ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (CMOS Battery)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has deasserted.

May also be shown as 810102020701ffff or 0x810102020701ffff

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0481

SNMP Trap ID: 1

Automatically notify Support: No

User response: No action; information only.

81010204-1d01ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (Fan 1 Tach)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has deasserted.

May also be shown as 810102041d01ffff or 0x810102041d01ffff

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0481

SNMP Trap ID: 11

Automatically notify Support: No

User response: No action; information only.

81010204-1d02ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (Fan 2 Tach)

Explanation: This message is for the use case when an implementation has detected a Lower Critical sensor going low has deasserted.

May also be shown as 810102041d02ffff or 0x810102041d02ffff

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0481

SNMP Trap ID: 11

Automatically notify Support: No

User response: No action; information only.

81010701-0701ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has deasserted.

May also be shown as 810107010701ffff or 0x810107010701ffff

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: No action; information only.

81010701-0702ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has deasserted.

May also be shown as 810107010702ffff or 0x810107010702ffff

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: No action; information only.

81010701-0703ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has deasserted.

May also be shown as 810107010703ffff or 0x810107010703ffff

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: No action; information only.

81010701-2701ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has deasserted.

May also be shown as 810107012701ffff or 0x810107012701ffff

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: No action; information only.

81010701-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-critical sensor going high has deasserted.

May also be shown as 810107012d01ffff or 0x810107012d01ffff

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: No action; information only.

81010901-0701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109010701ffff or 0x810109010701ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010901-0702ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109010702ffff or 0x810109010702ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010901-0703ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109010703ffff or 0x810109010703ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010901-2701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109012701ffff or 0x810109012701ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010901-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109012d01ffff or 0x810109012d01ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010902-0701ffff Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (SysBrd 12V)

Explanation: This message is for the use case when an implementation has detected an Upper Critical sensor going high has deasserted.

May also be shown as 810109020701ffff or 0x810109020701ffff

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0495

SNMP Trap ID: 1

Automatically notify Support: No

User response: No action; information only.

81010b01-0701ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (PCI Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has deasserted.

May also be shown as 81010b010701ffff or 0x81010b010701ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010b01-0702ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (VRD Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has deasserted.

May also be shown as 81010b010702ffff or 0x81010b010702ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010b01-0703ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (Ambient1 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has deasserted.

May also be shown as 81010b010703ffff or 0x81010b010703ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010b01-2701ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (Ambient2 Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has deasserted.

May also be shown as 81010b012701ffff or 0x81010b012701ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81010b01-2d01ffff Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (PCH Temp)

Explanation: This message is for the use case when an implementation has detected an Upper Non-recoverable sensor going high has deasserted.

May also be shown as 81010b012d01ffff or 0x81010b012d01ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81030006-2101ffff Sensor [SensorElementName] has asserted. (Sig Verify Fail)

Explanation: This message is for the use case when an implementation has detected a Sensor has asserted.

May also be shown as 810300062101ffff or 0x810300062101ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0508

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

81030012-2301ffff Sensor [SensorElementName] has asserted. (OS RealTime Mod)

Explanation: This message is for the use case when an implementation has detected a Sensor has asserted.

May also be shown as 810300122301ffff or 0x810300122301ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0508

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

81030112-0601ffff Sensor [SensorElementName] has deasserted. (SMM Mode, SMM Monitor)

Explanation: This message is for the use case when an implementation has detected a Sensor has deasserted.

May also be shown as 810301120601ffff or 0x810301120601ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0509

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

8107010f-2201ffff Sensor [SensorElementName] has deasserted the transition from normal to non-critical state. (GPT Status)

Explanation: This message is for the use case when an implementation has detected that a Sensor has deasserted a transition to non-critical from normal.

May also be shown as 8107010f2201ffff or 0x8107010f2201ffff

Severity: Info

Alert Category: Warning - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0521

SNMP Trap ID: 60

Automatically notify Support: No

User response: No action; information only.

8107010f-2582ffff Sensor [SensorElementName] has deasserted the transition from normal to non-critical state. (I/O Resources)

Explanation: This message is for the use case when an implementation has detected that a Sensor has deasserted a transition to non-critical from normal.

May also be shown as 8107010f2582ffff or 0x8107010f2582ffff

Severity: Info

Alert Category: Warning - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0521

SNMP Trap ID: 60

Automatically notify Support: No

User response: No action; information only.

81070201-0301ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (CPU 1 OverTemp)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702010301ffff or 0x810702010301ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81070201-0701ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (VR Hot)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702010701ffff or 0x810702010701ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

81070202-0701ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (SysBrd Vol Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702020701ffff or 0x810702020701ffff

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0523

SNMP Trap ID: 1

Automatically notify Support: No

User response: No action; information only.

81070204-0a01ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 1 Fan Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702040a01ffff or 0x810702040a01ffff

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 11

Automatically notify Support: No

User response: No action; information only.

81070204-0a02ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 2 Fan Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702040a02ffff or 0x810702040a02ffff

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 11

Automatically notify Support: No

User response: No action; information only.

8107020f-2201ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (TXT ACM Module)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 8107020f2201ffff or 0x8107020f2201ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

8107020f-2582ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (I/O Resources)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 8107020f2582ffff or 0x8107020f2582ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

81070214-2201ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (TPM Lock)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702142201ffff or 0x810702142201ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

81070219-0701ffff Sensor [SensorElementName] has transitioned to a less severe state from critical. (SysBrd Fault)

Explanation: This message is for the use case when an implementation has detected a Sensor transition to less severe from critical.

May also be shown as 810702190701ffff or 0x810702190701ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

81070301-0301ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable from a less severe state. (CPU 1 OverTemp)

Explanation: This message is for the use case when an implementation has detected that the Sensor transition to non-recoverable from less severe has deasserted.

May also be shown as 810703010301ffff or 0x810703010301ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0525

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

816f0007-0301ffff [ProcessorElementName] has Recovered from IERR. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor Recovered - IERR Condition.

May also be shown as 816f00070301ffff or 0x816f00070301ffff

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0043

SNMP Trap ID: 40

Automatically notify Support: No

User response: No action; information only.

816f0008-0a01ffff [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName]. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply has been removed.

May also be shown as 816f00080a01ffff or 0x816f00080a01ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0085

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0008-0a02ffff [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName]. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply has been removed.

May also be shown as 816f00080a02ffff or 0x816f00080a02ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0085

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0009-1301ffff [PowerSupplyElementName] has been turned on. (Host Power)

Explanation: This message is for the use case when an implementation has detected a Power Unit that has been Enabled.

May also be shown as 816f00091301ffff or 0x816f00091301ffff

Severity: Info

Alert Category: System - Power On

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0107

SNMP Trap ID: 24

Automatically notify Support: No

User response: No action; information only.

816f000d-0400ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 0)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0400ffff or 0x816f000d0400ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0401ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 1)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0401ffff or 0x816f000d0401ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0402ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 2)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0402ffff or 0x816f000d0402ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0403ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 3)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0403ffff or 0x816f000d0403ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0404ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 4)

Explanation: This message is for the use case when an

implementation has detected a Drive has been Removed.

May also be shown as 816f000d0404ffff or 0x816f000d0404ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0405ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 5)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0405ffff or 0x816f000d0405ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0406ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 6)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0406ffff or 0x816f000d0406ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.
3. Check the SAS cable.
4. Replace the hard disk drive.

816f000d-0407ffff The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 7)

Explanation: This message is for the use case when an implementation has detected a Drive has been Removed.

May also be shown as 816f000d0407ffff or 0x816f000d0407ffff

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: **Prefix:** PLAT and **ID:** 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.
2. Make sure that the disk firmware and RAID controller and backplane firmware are at the latest level.

3. Check the SAS cable.
4. Replace the hard disk drive.

816f000f-2201ffff The System [ComputerSystemElementName] has detected a POST Error deassertion. (ABR Status)

Explanation: This message is for the use case when an implementation has detected that Post Error has deasserted.

May also be shown as 816f000f2201ffff or 0x816f000f2201ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0185

SNMP Trap ID: 50

Automatically notify Support: No

User response: If the specified sensor is one of the following, ABR Status, Firmware Error or Sys Boot Status: No action; information only.

816f0013-1701ffff System [ComputerSystemElementName] has recovered from a diagnostic interrupt. (NMI State)

Explanation: This message is for the use case when an implementation has detected a recovery from a Front Panel NMI / Diagnostic Interrupt

May also be shown as 816f00131701ffff or 0x816f00131701ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0223

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-2201ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (No Op ROM Space)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00212201ffff or 0x816f00212201ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-2582ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (All PCI Error / One of PCI Error)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00212582ffff or 0x816f00212582ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-3001ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 1)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00213001ffff or 0x816f00213001ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-3002ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 2)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00213002ffff or 0x816f00213002ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-3003ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 3)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00213003ffff or 0x816f00213003ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0021-3004ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 4)

Explanation: This message is for the use case when an implementation has detected a Fault condition in a slot has been removed.

May also be shown as 816f00213004ffff or 0x816f00213004ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0107-0301ffff An Over-Temperature Condition has been removed on [ProcessorElementName]. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Over-Temperature Condition has been Removed for Processor.

May also be shown as 816f01070301ffff or 0x816f01070301ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0037

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

816f0108-0a01ffff [PowerSupplyElementName] has returned to OK status. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply return to normal operational status.

May also be shown as 816f01080a01ffff or 0x816f01080a01ffff

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0087

SNMP Trap ID: 4

Automatically notify Support: No

User response: No action; information only.

816f0108-0a02ffff [PowerSupplyElementName] has returned to OK status. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply return to normal operational status.

May also be shown as 816f01080a02ffff or 0x816f01080a02ffff

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0087

SNMP Trap ID: 4

Automatically notify Support: No

User response: No action; information only.

816f010c-2001ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error recovery.

May also be shown as 816f010c2001ffff or 0x816f010c2001ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f010c-2002ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error recovery.

May also be shown as 816f010c2002ffff or 0x816f010c2002ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f010c-2003ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error recovery.

May also be shown as 816f010c2003ffff or 0x816f010c2003ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f010c-2004ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error recovery.

May also be shown as 816f010c2004ffff or 0x816f010c2004ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f010c-2581ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory uncorrectable error recovery.

May also be shown as 816f010c2581ffff or 0x816f010c2581ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f010d-0400ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 0)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0400ffff or 0x816f010d0400ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0401ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 1)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0401ffff or 0x816f010d0401ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0402ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 2)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0402ffff or 0x816f010d0402ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0403ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 3)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0403ffff or 0x816f010d0403ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0404ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 4)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0404ffff or 0x816f010d0404ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0405ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 5)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0405ffff or 0x816f010d0405ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0406ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 6)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0406ffff or 0x816f010d0406ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010d-0407ffff The Drive [StorageVolumeElementName] has been enabled. (Drive 7)

Explanation: This message is for the use case when an implementation has detected a Drive was Enabled.

May also be shown as 816f010d0407ffff or 0x816f010d0407ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f010f-2201ffff The System [ComputerSystemElementName] has recovered from a firmware hang. (Firmware Error)

Explanation: This message is for the use case when an implementation has recovered from a System Firmware Hang.

May also be shown as 816f010f2201ffff or 0x816f010f2201ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0187

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0207-0301ffff [ProcessorElementName] has Recovered from FRB1/BIST condition. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor Recovered - FRB1/BIST condition.

May also be shown as 816f02070301ffff or 0x816f02070301ffff

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: No action; information only.

816f020d-0400ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 0)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0400ffff or 0x816f020d0400ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0401ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 1)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0401ffff or 0x816f020d0401ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0402ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 2)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0402ffff or 0x816f020d0402ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0403ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 3)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0403ffff or 0x816f020d0403ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0404ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 4)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0404ffff or 0x816f020d0404ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0405ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 5)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0405ffff or 0x816f020d0405ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0406ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 6)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0406ffff or 0x816f020d0406ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f020d-0407ffff Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 7)

Explanation: This message is for the use case when an implementation has detected an Array Failure is no longer Predicted.

May also be shown as 816f020d0407ffff or 0x816f020d0407ffff

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: No action; information only.

816f0308-0a01ffff [PowerSupplyElementName] has returned to a Normal Input State. (Power Supply 1)

Explanation: This message is for the use case when an implementation has detected a Power Supply that has input that has returned to normal.

May also be shown as 816f03080a01ffff or 0x816f03080a01ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0099

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0308-0a02ffff [PowerSupplyElementName] has returned to a Normal Input State. (Power Supply 2)

Explanation: This message is for the use case when an implementation has detected a Power Supply that has input that has returned to normal.

May also be shown as 816f03080a02ffff or 0x816f03080a02ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0099

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f030c-2001ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure recovery.

May also be shown as 816f030c2001ffff or 0x816f030c2001ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f030c-2002ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure recovery.

May also be shown as 816f030c2002ffff or 0x816f030c2002ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f030c-2003ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure recovery.

May also be shown as 816f030c2003ffff or 0x816f030c2003ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f030c-2004ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure recovery.

May also be shown as 816f030c2004ffff or 0x816f030c2004ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f030c-2581ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory Scrub failure recovery.

May also be shown as 816f030c2581ffff or 0x816f030c2581ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f0313-1701ffff System [ComputerSystemElementName] has recovered from an NMI. (NMI State)

Explanation: This message is for the use case when an implementation has detected a Software NMI has been Recovered from.

May also be shown as 816f03131701ffff or 0x816f03131701ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0230

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f040c-2001ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected that Memory has been Enabled.

May also be shown as 816f040c2001ffff or 0x816f040c2001ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0130

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f040c-2002ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected that Memory has been Enabled.

May also be shown as 816f040c2002ffff or 0x816f040c2002ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0130

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f040c-2003ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected that Memory has been Enabled.

May also be shown as 816f040c2003ffff or 0x816f040c2003ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0130

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f040c-2004ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected that Memory has been Enabled.

May also be shown as 816f040c2004ffff or 0x816f040c2004ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0130

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f040c-2581ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected that Memory has been Enabled.

May also be shown as 816f040c2581ffff or 0x816f040c2581ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0130

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0413-2582ffff A PCI PERR recovery has occurred on system [ComputerSystemElementName]. (PCIs)

Explanation: This message is for the use case when an implementation has detected a PCI PERR recovered.

May also be shown as 816f04132582ffff or 0x816f04132582ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0233

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f050c-2001ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Removed.

May also be shown as 816f050c2001ffff or 0x816f050c2001ffff

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: No action; information only.

816f050c-2002ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Removed.

May also be shown as 816f050c2002ffff or 0x816f050c2002ffff

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: No action; information only.

816f050c-2003ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Removed.

May also be shown as 816f050c2003ffff or 0x816f050c2003ffff

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: No action; information only.

816f050c-2004ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Removed.

May also be shown as 816f050c2004ffff or 0x816f050c2004ffff

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: No action; information only.

816f050c-2581ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected that the Memory Logging Limit has been Removed.

May also be shown as 816f050c2581ffff or 0x816f050c2581ffff

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: No action; information only.

816f050d-0400ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0400ffff or 0x816f050d0400ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0401ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0401ffff or 0x816f050d0401ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0402ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0402ffff or 0x816f050d0402ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0403ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0403ffff or 0x816f050d0403ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0404ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0404ffff or 0x816f050d0404ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0405ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0405ffff or 0x816f050d0405ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0406ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0406ffff or 0x816f050d0406ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f050d-0407ffff Critical Array [ComputerSystemElementName] has deasserted. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that an Critiacal Array has deasserted.

May also be shown as 816f050d0407ffff or 0x816f050d0407ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f0607-0301ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted. (CPU 1)

Explanation: This message is for the use case when an SM BIOS Uncorrectable CPU complex error has deasserted.

May also be shown as 816f06070301ffff or 0x816f06070301ffff

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: No action; information only.

816f060d-0400ffff Array in system [ComputerSystemElementName] has been restored. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0400ffff or 0x816f060d0400ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0401ffff Array in system [ComputerSystemElementName] has been restored. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0401ffff or 0x816f060d0401ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0402ffff Array in system [ComputerSystemElementName] has been restored. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0402ffff or 0x816f060d0402ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0403ffff Array in system [ComputerSystemElementName] has been restored. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0403ffff or 0x816f060d0403ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0404ffff Array in system [ComputerSystemElementName] has been restored. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0404ffff or 0x816f060d0404ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0405ffff Array in system [ComputerSystemElementName] has been restored. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0405ffff or 0x816f060d0405ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0406ffff Array in system [ComputerSystemElementName] has been restored. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0406ffff or 0x816f060d0406ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f060d-0407ffff Array in system [ComputerSystemElementName] has been restored. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that a Failed Array has been Restored.

May also be shown as 816f060d0407ffff or 0x816f060d0407ffff

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: No action; information only.

816f070c-2001ffff Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has deasserted.

May also be shown as 816f070c2001ffff or 0x816f070c2001ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f070c-2002ffff Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has deasserted.

May also be shown as 816f070c2002ffff or 0x816f070c2002ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f070c-2003ffff Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has deasserted.

May also be shown as 816f070c2003ffff or 0x816f070c2003ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f070c-2004ffff Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has deasserted.

May also be shown as 816f070c2004ffff or 0x816f070c2004ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f070c-2581ffff Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (All DIMMS / One of the DIMMs)

Explanation: This message is for the use case when an implementation has detected a Memory DIMM configuration error has deasserted.

May also be shown as 816f070c2581ffff or 0x816f070c2581ffff

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: No action; information only.

816f070d-0400ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 0)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0400ffff or 0x816f070d0400ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0401ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 1)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0401ffff or 0x816f070d0401ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0402ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 2)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0402ffff or 0x816f070d0402ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0403ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 3)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0403ffff or 0x816f070d0403ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0404ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 4)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0404ffff or 0x816f070d0404ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0405ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 5)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0405ffff or 0x816f070d0405ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0406ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 6)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0406ffff or 0x816f070d0406ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f070d-0407ffff Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 7)

Explanation: This message is for the use case when an implementation has detected that an Array Rebuild has Completed.

May also be shown as 816f070d0407ffff or 0x816f070d0407ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0179

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0807-0301ffff [ProcessorElementName] has been Enabled. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor has been Enabled.

May also be shown as 816f08070301ffff or 0x816f08070301ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0060

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0813-2581ffff System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (DIMMs)

Explanation: This message is for the use case when an implementation has detected a that a system has recovered from a Bus Uncorrectable Error.

May also be shown as 816f08132581ffff or 0x816f08132581ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0813-2582ffff System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (PCIs)

Explanation: This message is for the use case when an implementation has detected a that a system has recovered from a Bus Uncorrectable Error.

May also be shown as 816f08132582ffff or 0x816f08132582ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f0813-2584ffff System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (CPUs)

Explanation: This message is for the use case when an implementation has detected a that a system has recovered from a Bus Uncorrectable Error.

May also be shown as 816f08132584ffff or 0x816f08132584ffff

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: No action; information only.

816f090c-2001ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected Memory is no longer Throttled.

May also be shown as 816f090c2001ffff or 0x816f090c2001ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0143

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f090c-2002ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 2)

Explanation: This message is for the use case when an

implementation has detected Memory is no longer Throttled.

May also be shown as 816f090c2002ffff or 0x816f090c2002ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0143

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f090c-2003ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected Memory is no longer Throttled.

May also be shown as 816f090c2003ffff or 0x816f090c2003ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0143

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f090c-2004ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected Memory is no longer Throttled.

May also be shown as 816f090c2004ffff or 0x816f090c2004ffff

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0143

SNMP Trap ID:

Automatically notify Support: No

User response: No action; information only.

816f0a07-0301ffff The Processor [ProcessorElementName] is no longer operating in a Degraded State. (CPU 1)

Explanation: This message is for the use case when an implementation has detected a Processor is no longer running in the Degraded state.

May also be shown as 816f0a070301ffff or 0x816f0a070301ffff

Severity: Info

Alert Category: Warning - CPU

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0039

SNMP Trap ID: 42

Automatically notify Support: No

User response: No action; information only.

816f0a0c-2001ffff An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Removed.

May also be shown as 816f0a0c2001ffff or 0x816f0a0c2001ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0147

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

816f0a0c-2002ffff An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Removed.

May also be shown as 816f0a0c2002ffff or 0x816f0a0c2002ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0147

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

816f0a0c-2003ffff An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Removed.

May also be shown as 816f0a0c2003ffff or 0x816f0a0c2003ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0147

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

816f0a0c-2004ffff An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)

Explanation: This message is for the use case when an implementation has detected an Over Temperature Condition for Memory that has been Removed.

May also be shown as 816f0a0c2004ffff or 0x816f0a0c2004ffff

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: **Prefix:** PLAT and **ID:** 0147

SNMP Trap ID: 0

Automatically notify Support: No

User response: No action; information only.

Appendix B. UEFI/POST diagnostic codes

UEFI/POST diagnostic error codes can be generated when the server starts or while the server is running. UEFI/POST codes are logged in the IMM event log in the server.

For each event code, the following fields are displayed:

Event identifier
An identifier that uniquely identifies an event.

Event description
The logged message string that appears for an event.

Explanation
Additional information to explain why the event occurred.

Severity
An indication of the level of concern for the condition. The severity is abbreviated in the event log to the first character. The following severities can be displayed.

Table 41. Event severity levels

Severity	Description
Informational	An informational message is something that was recorded for audit purposes, usually a user action or a change of states that is normal behavior.
Warning	A warning is not as severe as an error, but if possible, the condition should be corrected before it becomes an error. It might also be a condition that requires additional monitoring or maintenance.
Error	An error typically indicates a failure or critical condition that impairs service or an expected function.

User response
The actions that you should take to resolve the event.

Perform the steps in the order shown until the problem is solved. After you perform all of the actions that are described in this field, if you cannot solve the problem, contact IBM Support.

The following is the list of the UEFI/POST error codes and suggested actions to correct the detected problems.

I.2018002 **[I.2018002] The device found at Bus % Device % Function % could not be configured due to resource constraints. The Vendor ID for the device is % and the Device ID is %.**

Explanation: OUT_OF_RESOURCES (PCI Option ROM)

Severity: Info

User response: Complete the following steps:

1. If this PCIe device and/or any attached cables were recently installed, moved, serviced or upgraded, reseat adapter and any attached cables.
2. Check IBM Support website for any applicable service bulletin or UEFI or adapter firmware update that applies to this error. NOTE: It may be necessary to disable unused option ROMs from UEFI F1 setup or ASU or using adapter manufacturer utilities so that adapter firmware can be updated.

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3. Move card to a different slot. If slot not available or error re-occurs, replace adapter.
4. (Trained service technician only) If adapter was moved to a different slot and error did not re-occur, verify that this is not a system limitation and then replace the system board. Also, if this is not the initial installation and the error persists after adapter replacement, replace system board.

I.2018003 **[I.2018003] A bad option ROM checksum was detected for the device found at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.**

Explanation: ROM CHECKSUM ERROR

Severity: Info

User response: Complete the following steps:

1. If this PCIe device and/or any attached cables were recently installed, moved, serviced or upgraded, reseat adapter and any attached cables.
2. Move adapter to a different system slot, if available.
3. Check IBM Support website for any applicable service bulletin or UEFI or adapter firmware update that applies to this error. NOTE: It may be necessary to configure slot to Gen1 or to use special utility software so that adapter firmware can be upgraded. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or the ASU Utility.
4. Replace adapter.

I.3048005 **[I.3048005] UEFI has booted from the backup flash bank.**

Explanation: Booting Backup UEFI Image

Severity: Info

User response: Complete the following steps:

1. Refer to service information for this product section on UEFI Recovery to return system to primary bank.

I.3808004 **[I.3808004] The IMM System Event log (SEL) is full.**

Explanation: IPMI System Event Log is Full

Severity: Info

User response: Complete the following steps:

1. Use IMM Web Interface to clear event log.
2. If IMM communication is unavailable, use F1 Setup to access System Event Logs Menu and Choose Clear IMM System Event Log and Restart Server.

I.3818001 **[I.3818001] The firmware image capsule signature for the currently booted flash bank is invalid.**

Explanation: Current Bank CRTM Capsule Update Signature Invalid

Severity: Info

User response: Complete the following steps:

1. Reboot system. Will come up on backup UEFI image. Reflash the primary UEFI image.
2. If error does not persist no additional recovery action is required.
3. If error persists, or boot is unsuccessful, (trained service technician only) replace the system board.

I.3818002 **[I.3818002] The firmware image capsule signature for the non-booted flash bank is invalid.**

Explanation: Opposite Bank CRTM Capsule Update Signature Invalid

Severity: Info

User response: Complete the following steps:

1. Reflash backup UEFI image.
2. If error does not persist no additional recovery action is required.
3. If error persists, or boot is unsuccessful, (trained service technician only) replace the system board.

I.3818003 **[I.3818003] The CRTM flash driver could not lock the secure flash region.**

Explanation: CRTM Could not lock secure flash region

Severity: Info

User response: Complete the following steps:

1. If system failed to boot successfully, DC cycle system.
2. If system boots to F1 setup, flash UEFI image and reset bank to primary (if required). If system boots without error, recovery is complete and no additional action is required.
3. If system fails to boot, or if flash attempt fails, (trained service technician only) replace the system board.

I.580A4 **[I.580A4] Memory population change detected.**

Explanation: DIMM Population Change Detected

Severity: Info

User response: Complete the following steps:

1. Check system event log for uncorrected DIMM failures and replace those DIMMs.

S.2011001 **[S.2011001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.**

Explanation: PCI SERR Detected

Severity: Error

User response: Complete the following steps:

1. If this node and/or any attached cables were recently installed, moved, serviced or upgraded, a. Reseat Adapter and any attached cables. b. Reload Device Driver c. If device is not recognized, reconfiguring slot to Gen1 or Gen2 may be required. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or the ASU Utility.
2. Check IBM Support website for an applicable device driver, firmware update, revision of service information for this product or other information that applies to this error. Load new device driver and any required firmware updates.
3. If problem persists, then remove Adapter Card. If system reboots successfully without the adapter, replace that card.
4. (Trained service technician only) Replace the processor.

S.2018001 **[S.2018001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.**

Explanation: PCIe Uncorrected Error Detected

Severity: Error

User response: Complete the following steps:

1. If this node and/or any attached cables were recently installed, moved, serviced or upgraded, a. Reseat Adapter and any attached cables. b. Reload Device Driver c. If device is not recognized, reconfiguring slot to Gen1 or Gen2 may be required. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or the ASU Utility.
2. Check IBM Support website for an applicable device driver, firmware update, version of service information for this product or other information that applies to this error. Load new device driver and any required firmware updates.
3. If problem persists, then remove Adapter Card. If system reboots successfully without the adapter, replace that card.
4. (Trained service technician only) Replace the processor.

S.3020007 **[S.3020007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3028002 **[S.3028002] Boot permission timeout detected.**

Explanation: Boot Permission Negotiation Timeout

Severity: Error

User response: Complete the following steps:

1. Check IMM logs for communication errors and resolve.
2. Reseat system
3. If problem persists escalate to the next level of support

S.3030007 **[S.3030007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3040007 **[S.3040007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3050007 **[S.3050007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3058004 **[S.3058004] A Three Strike boot failure has occurred. The system has booted with default UEFI settings.**

Explanation: POST failure has occurred! System booted with default settings.

Severity: Error

User response: Complete the following steps:

1. This event resets UEFI to the default settings for the next boot. If successful, user is forced into F1 setup. Original UEFI settings are still present.
2. If User did not intentionally trigger the reboots, check logs for probable cause.
3. Undo recent system changes (settings or devices added). If not recent system changes, remove all options then remove CMOS battery for 30 seconds to clear CMOS contents. Verify that the system boots. Then, re-install options one at a time to locate the problem.
4. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
5. Reflash UEFI firmware.
6. Remove and re-install CMOS battery for 30 seconds to clear CMOS contents
7. (Trained service technician only) Replace the system board.

S.3060007 **[S.3060007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3070007 **[S.3070007] A firmware fault has been detected in the UEFI image.**

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash UEFI image.
3. (Trained service technician only) Replace the system board.

S.3108007 **[S.3108007] The default system settings have been restored.**

Explanation: System Configuration Restored to Defaults

Severity: Error

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.

S.3818004 **[S.3818004] The CRTM flash driver could not successfully flash the staging area. A failure occurred.**

Explanation: CRTM Update Failed

Severity: Error

User response: Complete the following steps:

1. Continue booting sytem. If system does not reset, manually reset the system.
2. If the error is not reported on the subsequent boot, no additional recovery action is required.
3. If the error persists, continue booting system and reflash UEFI image.
4. (Trained service technician only) Replace the system board.

S.3818007 **[S.3818007] The firmware image capsules for both flash banks could not be verified.**

Explanation: CRTM image capsule could not be verified

Severity: Error

User response: Complete the following steps:

1. If system failed to boot successfully, DC cycle system.

2. If system boots to F1 steup, flash UEFI image and reset bank to primary (if required). If system boots without error, recovery is complete and no additional action is required.
3. If system fails to boot, or if flash attempt fails, (trained service technician only) replace the system board.

S.51003 **[S.51003] An uncorrectable memory error was detected in DIMM slot % on rank %.**

Explanation: Fatal Memory Error Occurred

Severity: Error

User response: Complete the following steps:

1. If the node has recently been installed, moved, serviced, or upgraded, verify that the DIMM is properly seated and visually verify that there is no foreign material in any DIMM connector on that memory channel. If either of these conditions is found, correct and retry with the same DIMM. (Note: Event Log may contain a recent 00580A4 event denoting detected change in DIMM population that could be related to this problem.)
2. If no problem is observed on the DIMM connectors or the problem persists, replace the DIMM identified by LightPath and/or event log entry.
3. If problem re-occurs on the same DIMM connector, replace the other DIMMs on the same memory channel.
4. Check IBM Support website for an applicable service bulletin or firmware update that applies to this memory error.
5. (Trained service technician only) If problem re-occurs on the same DIMM connector, inspect connector for damage. If found, replace system board.
6. (Trained service technician only) Replace affected Processor.
7. (Trained service technician only) Replace system board.

S.51006 **[S.51006] A memory mismatch has been detected. Please verify that the memory configuration is valid.**

Explanation: One or More Mismatched DIMMs Detected

Severity: Error

User response: Complete the following steps:

1. Could follow an uncorrectable memory error or failed memory test. Check log and service that event first. DIMMs disabled by other errors or actions could cause this event.
2. Verify that the DIMMs are installed in the correct population sequence, according to the service information for this product.
3. Disable memory mirroring and sparing. If this action eliminates the mismatch, check IBM Support website for information related to this problem.
4. Reflash UEFI firmware.
5. Replace DIMM
6. (Trained service technician only) Replace Processor.

S.51009 **[S.51009] No system memory has been detected.**

Explanation: No Memory Detected

Severity: Error

User response: Complete the following steps:

1. Make sure that one or more DIMMs are installed in the server.
2. If no memory fault is recorded in the logs and no DIMM connector error LEDs are lit, verify that all DIMM connectors are enabled using the Setup utility or the Advanced Settings Utility (ASU).
3. Re-Install all DIMMs verifying the correct population sequence, according to the service information for this product.
4. (Trained service technician only) Replace the processor.
5. (Trained service technician only) Replace the system board.

S.58008 **[S.58008] A DIMM has failed the POST memory test.**

Explanation: DIMM Failed Memory Test

Severity: Error

User response: Complete the following steps:

1. You must AC-cycle the system to re-enable affected DIMM connector or re-enable manually using F1 setup
2. If the node has been recently installed, serviced, moved, or upgraded, check to ensure that DIMMs are firmly seated and that no foreign material can be seen in the DIMM connector. If either condition is observed, correct and retry with the same DIMM. (Note: Event Log may contain a recent 00580A4 event denoting detected change in DIMM population that could be related to this problem.)
3. If problem persists, replace the DIMM identified by LightPath and/or event log entry.
4. If problem re-occurs on the same DIMM connector, swap the other DIMMs on the same memory channel across channels one at a time to a different memory channel or Processor. (check service information for this product/Install guide for population requirements for sparing/paring

modes). If problem follows a moved DIMM to a different memory channel, replace that DIMM.

5. Check IBM Support website for an applicable service bulletin or firmware update that applies to this memory error.
6. (Trained service technician only) If problem stays with the original DIMM connector, re-inspect DIMM connector for foreign material and remove, if found. If connector is damaged, replace system board.
7. (Trained service technician only) Remove affected Processor and inspect Processor socket pins for damaged or mis-aligned pins. If damage is found, or this is an upgrade Processor, replace system board. If there are multiple Processor's, swap Processor's to move affected Procesor to another Processor socket and retry. If problem follows the affected Processor (or there is only one Processor), replace the affected Processor.
8. (Trained service technician only) Replace the system board.

S.68005 **[S.68005] An error has been detected by the the IIO core logic on Bus %. The Global Fatal Error Status register contains %. The Global Non-Fatal Error Status register contains %. Please check error logs for the presence of additional downstream device error data.**

Explanation: Critical IOH-PCI Error

Severity: Error

User response: Complete the following steps:

1. Check log for a separate error for an associated PCIe device and service that error.
2. Check IBM Support website for an applicable service bulletin or firmware update for the system or adapter that applies to this error.
3. (Trained service technician only) Replace the system board.

W.11004 **[W.11004] A processor within the system has failed the BIST.**

Explanation: Processor Self Test Failure Detected

Severity: Warning

User response: Complete the following steps:

1. If the Processor or firmware was just updated, check IBM Support website for an applicable service bulletin or firmware update that applies to this Processor error.
2. (Trained service technician only) If there are multiple Processor's, swap Processor's to move affected Processor to another Processor socket and retry. If problem follows the affected Processor, or this is a single Processor system, replace the Processor. Inspect Processor socket on each Processor removal and replace system board first if damaged or mis-aligned pins are found.
3. (Trained service technician only) Replace the system board.

W.3048006 **[W.3048006] UEFI has booted from the backup flash bank due to an Automatic Boot Recovery (ABR) event.**

Explanation: Automated Boot Recovery, Booting Backup UEFI Image

Severity: Warning

User response: Complete the following steps:

1. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
2. Reflash Primary UEFI image. Refer to UEFI Recovery section of service information for this product.
3. (Trained service technician only) Replace the system board.

W.305000A **[W.305000A] An invalid date and time have been detected.**

Explanation: RTC Date and Time Incorrect

Severity: Warning

User response: Complete the following steps:

1. Check IMM/chassis event log. This event should immediately precede 0068002 error. Service that event or any other battery related errors.
2. Use F1 Setup to reset date and time. If problem returns after a system reset, replace CMOS battery.
3. If problem persists then check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
4. (Trained service technician only) Replace the system board.

W.3058009 **[W.3058009] DRIVER HEALTH PROTOCOL: Missing Configuraiton. Requires Change Settings From F1.**

Explanation: DRIVER HEALTH PROTOCOL: Missing Configuration. Requires Change Settings From F1

Severity: Warning

User response: Complete the following steps:

1. Go to System Settings > Settings > Driver Health Status List and find a driver/controller reporting Configuration Required status.
2. Search for the driver menu from System Settings and change settings appropriately.
3. Save settings and restart system.

W.305800A [W.305800A] DRIVER HEALTH PROTOCOL: Reports 'Failed' Status Controller.

Explanation: DRIVER HEALTH PROTOCOL: Reports 'Failed' Status Controller

Severity: Warning

User response: Complete the following steps:

1. Reboot the system.
2. If problem persists, switch to backup UEFI or reflash current UEFI image.
3. (Trained service technician only) Replace system board.

W.305800B [W.305800B] DRIVER HEALTH PROTOCOL: Reports 'Reboot' Required Controller.

Explanation: DRIVER HEALTH PROTOCOL: Reports 'Reboot' Required Controller

Severity: Warning

User response: Complete the following steps:

1. No action required – system will reboot at the end of POST.
2. If problem persists, switch to backup UEFI or reflash current UEFI image.
3. (Trained service technician only) Replace system board.

W.305800C [W.305800C] DRIVER HEALTH PROTOCOL: Reports 'System Shutdown' Required Controller.

Explanation: DRIVER HEALTH PROTOCOL: Reports 'System Shutdown' Required Controller

Severity: Warning

User response: Complete the following steps:

1. Reboot the system.
2. If problem persists, switch to backup UEFI or reflash current UEFI image.
3. (Trained service technician only) Replace system board.

W.305800D [W.305800D] DRIVER HEALTH PROTOCOL: Disconnect Controller Failed. Requires 'Reboot'.

Explanation: DRIVER HEALTH PROTOCOL: Disconnect Controller Failed. Requires 'Reboot'

Severity: Warning

User response: Complete the following steps:

1. Reboot the system to reconnect the controller.
2. If problem persists, switch to backup UEFI or reflash current UEFI image.
3. (Trained service technician only) Replace system board.

W.305800E [W.305800E] DRIVER HEALTH PROTOCOL: Reports Invalid Health Status Driver.

Explanation: DRIVER HEALTH PROTOCOL: Reports Invalid Health Status Driver

Severity: Warning

User response: Complete the following steps:

1. Reboot the system.
2. If problem persists, switch to backup UEFI or reflash current UEFI image.
3. (Trained service technician only) Replace system board.

W.3808000 [W.3808000] An IMM communication failure has occurred.

Explanation: IMM Communication Failure

Severity: Warning

User response: Complete the following steps:

1. Reset IMM.
2. Remove AUX power from the node. This will reboot the entire node.
3. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
4. Reflash UEFI Firmware.
5. (Trained service technician only) Replace the system board.

W.3808002 [W.3808002] An error occurred while saving UEFI settings to the IMM.

Explanation: Error Updating System Configuration to IMM

Severity: Warning

User response: Complete the following steps:

1. Use F1 Setup, Verify Settings and Save Settings to recover settings.
2. Reset IMM.
3. Remove AUX power from the node. This will reboot the entire node.
4. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
5. Reflash IMM Firmware.
6. Remove and re-install CMOS battery for 30 seconds to clear CMOS contents.

7. (Trained service technician only) Replace the system board.

W.3808003 .[W.3808003] Unable to retrieve the system configuration from the IMM.

Explanation: Error Retrieving System Configuration from IMM

Severity: Warning

User response: Complete the following steps:

1. Use F1 Setup, Verify Settings and Save Settings to recover settings.
2. Reset IMM.
3. Remove AUX power from the node. This will reboot the entire node.
4. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
5. Reflash IMM Firmware.
6. Remove and re-install CMOS battery for 30 seconds to clear CMOS contents.
7. (Trained service technician only) Replace the system board.

W.3818005 [W.3818005] The CRTM flash driver could not successfully flash the staging area. The update was aborted

Explanation: CRTM Update Aborted

Severity: Warning

User response: Complete the following steps:

1. Continue booting system. If system does not reset, manually reset the system.
2. If the error is not reported on the subsequent boot, no additional recovery action is required.
3. If the event persists, continue booting system and reflash UEFI image.
4. (Trained service technician only) Replace the system board.

W.381800D [W.381800D] TPM physical presence is in asserted state

Explanation: TPM physical presence is in asserted state

Severity: Warning

User response: Complete the following steps:

1. Complete any administrative tasks requiring the TPM physical presence switch to be in the "ON" position..
2. Restore the physical presence switch to the "OFF" position and reboot the system.
3. (Trained service technician only) Replace the system board.

W.3938002 [W.3938002] A boot configuration error has been detected.

Explanation: Boot Configuration Error

Severity: Warning

User response: Complete the following steps:

1. F1 Setup -> Save Settings
2. Retry OOB config update

W.50001 [W.50001] A DIMM has been disabled due to an error detected during POST.

Explanation: DIMM Disabled

Severity: Warning

User response: Complete the following steps:

1. If the DIMM was disabled because of a memory fault, follow the procedure for that event.
2. If no memory fault is recorded in the logs and no DIMM connector error LEDs are lit, re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).
3. If problem persists, Power cycle the node from management console.
4. Reset IMM to default settings.
5. Reset UEFI to default settings.
6. Reflash IMM and UEFI firmware.
7. (Trained service technician only) Replace system board.

W.58001 [W.58001] The PFA Threshold limit (correctable error logging limit) has been exceeded on DIMM number % at address %. MC5 Status contains % and MC5 Misc contains %.

Explanation: DIMM PFA Threshold Exceeded

Severity: Warning

User response: Complete the following steps:

1. If the node has recently been installed, moved, serviced, or upgraded, verify that the DIMM is properly seated and visually verify that there is no foreign material in any DIMM connector on that memory channel. If either of these conditions is found, correct and retry with the same DIMM. (Note: Event Log may contain a recent 00580A4 event denoting detected change in DIMM population that could be related to this problem.)
2. Check IBM Support website for an applicable firmware update that applies to this memory error. The release notes will list the known problems the update addresses.

3. If the previous steps do not resolve the problem, at the next maintenance opportunity, replace the affected DIMM (as indicated by LightPath and/or failure log entry).
4. If PFA re-occurs on the same DIMM connector, swap the other DIMMs on the same memory channel one at a time to a different memory channel or Processor. (check service information for this product/Install guide for population requirements for sparing/paring modes). If PFA follows a moved DIMM to any DIMM connector on the different memory channel, replace the moved DIMM.
5. Check IBM Support website for an applicable Service Bulletins (Service bulletins) that applies to this memory error. (Link to IBM support service bulletins)
6. (Trained service technician only) If problem continues to re-occur on the same DIMM connector, inspect DIMM connector for foreign material and remove, if found. If connector is damaged, replace system board.
7. (Trained service technician only) Remove affected Processor and inspect Processor socket pins for damaged or mis-aligned pins. If damage is found or Processor is an upgrade part, replace system board.
8. (Trained service technician only) Replace affected processor.
9. (Trained service technician only) Replace system board.

W.68002 [W.68002] A CMOS battery error has been detected

Explanation: CMOS Battery Fault

Severity: Warning

User response: Complete the following steps:

1. If the system was recently Installed, Moved, or Serviced, makesure the batter is properly seated.
2. Check IBM Support website for an applicable service bulletin or firmware update that applies to this error.
3. Replace CMOS Battery
4. (Trained service technician only) Replace the system board.

Appendix C. DSA diagnostic test results

After running the DSA diagnostic tests, use this information to resolve any issues that were found.

DSA Broadcom network test results

The following messages can result when you run the Broadcom network test.

405-000-000 BRCM:TestControlRegisters Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-001-000 BRCM:TestMIIRegisters Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-002-000 BRCM:TestEEPROM Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-003-000 BRCM:TestInternalMemory Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-004-000 BRCM:TestInterrupt Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-005-000 BRCM:TestLoopbackMAC Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

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405-006-000 BRCM:TestLoopbackPhysical Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-007-000 BRCM:TestLEDs Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-800-000 BRCM:TestControlRegisters Test Aborted

Explanation: The control registers test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-801-000 BRCM:TestMIIRegisters Test Aborted

Explanation: The MII register test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-802-000 BRCM:TestEEPROM Test Aborted

Explanation: The EEPROM test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-803-000 BRCM:TestInternalMemory Test Aborted

Explanation: The internal memory test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-804-000 BRCM:TestInterrupt Test Aborted

Explanation: The interrupt test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-805-000 BRCM:TestLoopbackMAC Test Aborted

Explanation: Loopback testing at the MAC layer was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-806-000 BRCM:TestLoopbackPhysical Test Aborted

Explanation: Loopback testing at the physical layer was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-807-000 BRCM:TestLEDs Test Aborted

Explanation: Verification of status LEDs was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-900-000 BRCM:TestControlRegisters Test Failed

Explanation: A failure was detected while testing internal MAC registers

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-901-000 BRCM:TestMIIRegisters Test Failed

Explanation: A failure was detected while testing internal PHY registers.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-902-000 BRCM:TestEEPROM Test Failed

Explanation: A failure was detected while testing non-volatile RAM.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-903-000 BRCM:TestInternalMemory Test Failed

Explanation: A failure was detected while testing internal memory.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-904-000 BRCM:TestInterrupt Test Failed

Explanation: A failure was detected while testing interrupts.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-905-000 BRCM:TestLoopbackMAC Test Failed

Explanation: BRCM:TestLoopbackMAC Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-906-000 BRCM:TestLoopbackPhysical Test Failed

Explanation: A failure was detected during the loopback test at the physical layer.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

405-907-000 BRCM:TestLEDs Test Failed

Explanation: A failure was detected while verifying operation of the status LEDs.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found

in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA Brocade test results

The following messages can result when you run the Brocade test.

218-000-000 Brocade:MemoryTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-001-000 Brocade:ExternalLoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-002-000 Brocade:SerdesLoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-003-000 Brocade:PCILoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-004-000 Brocade:ExternalEthLoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-005-000 Brocade:SerdesEthLoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-006-000 Brocade:InternalLoopbackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-800-000 Brocade:MemoryTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-801-000 Brocade:ExternalLoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-802-000 Brocade:SerdesLoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-803-000 Brocade:PCILoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-804-000 Brocade:ExternalEthLoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-805-000 Brocade:SerdesEthLoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-806-000 Brocade:InternalLoopbackTest Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA

- Latest level of BMC/IMM

218-900-000 Brocade:MemoryTest Failed

Explanation: A failure was detected while testing the adapter memory.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Rerun the test.
2. Verify whether the firmware is at proper level.
3. Rerun the test.
4. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-901-000 Brocade:ExternalLoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check cable connections.
2. Rerun the test.
3. Verify whether the firmware is at proper level.
4. Rerun the test.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-902-000 Brocade:SerdesLoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Rerun the test.
2. Verify whether the firmware is at proper level.
3. Rerun the test.
4. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-903-000 Brocade:PCILoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Rerun the test.
2. Verify whether the firmware is at proper level.
3. Rerun the test.
4. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-904-000 Brocade:ExternalEthLoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check or replace SFP/cable.
2. Rerun the test.
3. Verify whether the firmware is at proper level.
4. Rerun the test.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

218-905-000 Brocade:SerdesEthLoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Rerun the test.
2. Verify whether the firmware is at proper level.
3. Rerun the test.
4. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

218-906-000 Brocade:InternalLoopbackTest Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Rerun the test.
2. Verify whether the firmware is at proper level.
3. Rerun the test.
4. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA checkpoint panel test results

The following messages can result when you run the checkpoint panel test.

180-000-000 Check-point Panel Test Passed

Explanation: Check-point Panel Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

180-801-000 Check-point Panel Test Aborted

Explanation: Check-point Panel Test Aborted. BMC is unable to verify that the operator information panel cable is connected.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Inspect and reseat operator information panel cable at both ends.
2. Verify that the Baseboard Management Controller (BMC) is working.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

180-901-000 Check-point Panel Test Failed

Explanation: Check-point Panel Test Failed. Operator reported incorrect display.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check the operator information panel cabling for loose or broken connections at both ends or damage to the cable.
2. Replace the information panel cable if damage is present.
3. Run the test again.

4. Replace the operator information panel assembly.
5. Run the test again.
6. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA CPU stress test results

The following messages can result when you run the CPU stress test.

089-000-000 CPU Stress Test Passed

Explanation: CPU Stress Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

089-801-000 CPU Stress Test Aborted

Explanation: CPU Stress Test Aborted. Internal Program Error.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Turn off and restart the system.
2. Make sure that the DSA Diagnostic code is at the latest level.
3. Run the test again.
4. Check system firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component. The latest level firmware for this component can be found in reference to this system type at the IBM Support website.
5. Run the test again.
6. If the system has stopped responding, turn off and restart the system and then run the test again.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

089-802-000 CPU Stress Test Aborted

Explanation: CPU Stress Test Aborted. System resource unavailability error.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Turn off and restart the system.
2. Make sure that the DSA Diagnostic code is at the latest level.
3. Run the test again.
4. Check system firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
5. Run the test again.
6. If the system has stopped responding, turn off and restart the system and then run the test again.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

089-803-000 CPU Stress Test Aborted

Explanation: CPU Stress Test Aborted. Memory size is insufficient to run the test. At least 1GB is required.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA

- Latest level of BMC/IMM

089-804-000 CPU Stress Test Aborted

Explanation: CPU Stress Test Aborted. User pressed Ctrl-C.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

089-901-000 CPU Stress Test Failed

Explanation: CPU Stress Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. If the system has stopped responding, turn off and restart the system and then run the test again.
2. Make sure that the DSA Diagnostic code is at the latest level.
3. Run the test again.
4. Check system firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
5. Run the test again.
6. If the system has stopped responding, turn off and restart the system and then run the test again.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA Emulex adapter test results

The following messages can result when you run the Emulex adapter test.

516-000-000 ELXUCNA: NIC MAC LoopBackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-001-000 ELXUCNA: NIC PHY LoopBackTest Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-002-000 ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-800-000 ELXUCNA: NIC MAC LoopBackTest Aborted

Explanation: Loopback testing at the MAC layer was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-801-000 ELXUCNA: NIC PHY LoopBackTest Aborted

Explanation: Loopback testing at the physical layer was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-802-000 ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Aborted

Explanation: Verification of status LEDs was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-900-000 ELXUCNA: NIC MAC LoopBackTest Failed

Explanation: A failure was detected during the loopback test at the MAC layer.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-901-000 ELXUCNA: NIC PHY LoopBackTest Failed

Explanation: A failure was detected during the loopback test at the physical layer.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

516-902-000 ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Failed

Explanation: A failure was detected while verifying operation of the status LEDs.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA EXA port ping test results

The following messages can result when you run the EXA port ping test.

401-000-000 EXA Port Ping Test Passed

Explanation: EXA Port Ping Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

401-801-000 EXA Port Ping Test Aborted

Explanation: EXA Port Ping Test Aborted. Unable to get device base address.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Remove power cables, wait for 45 seconds, reconnect and rerun the test.
2. Make sure that the scalability cable connections are as per specification.
3. Make sure that DSA and BIOS/uEFI are at the latest level.
4. If the problem remains, contact your technical-service representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

401-802-000 EXA Port Ping Test Aborted

Explanation: EXA Port Ping Test Aborted. Port connections may not be correct.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Remove power cables, wait for 45 seconds, reconnect and rerun the test.
2. Make sure that the scalability cable connections are as per specification.
3. Make sure that DSA and BIOS/uEFI are at the latest level.
4. If the problem remains, contact your technical-service representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

401-901-001 EXA Port Ping Test Failed

Explanation: EXA Port Ping Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Remove power cables, wait for 45 seconds, reconnect and rerun the test.
2. Make sure that the scalability cable connections are as per specification.
3. Check scalability cables for loose connections.
4. Replace the scalability cable(s) for specified port(s).
5. If the problem remains, contact your technical-service representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA hard drive test results

The following messages can result when you run the hard drive test.

217-000-000 HDD Test Passed

Explanation: HDD Stress Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

217-800-000 HDD Test Aborted

Explanation: HDD Test Aborted. The test was canceled.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check cable connections.
2. Rerun the test.
3. Verify that Hard drive supports self test and self test logging.
4. If the problem remains, contact your technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

217-900-000 HDD Test Failed

Explanation: HDD Test Failed. The hard drive self-test detected a failure.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check cable connections.
2. Rerun the test.
3. Verify the firmware is at the latest level.
4. Rerun the test.
5. If the problem remains, contact your technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA Intel network test results

The following messages can result when you run the Intel network test.

406-000-000 IANet:Registers Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-001-000 IANet:EEPROM Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-002-000 IANet:FIFO Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-003-000 IANet:Interrupts Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-004-000 IANet:Loopback Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-800-000 IANet:Registers Test Aborted

Explanation: Registers test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-801-000 IANet:EEPROM Test Aborted

Explanation: EEPROM test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-802-000 IANet:FIFO Test Aborted

Explanation: FIFO test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-803-000 IANet:Interrupts Test Aborted

Explanation: Interrupt test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-804-000 IANet:Loopback Test Aborted

Explanation: Loopback test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-900-000 IANet:Registers Test Failed

Explanation: A failure was detected during the Registers test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check component firmware level and upgrade if necessary. The installed firmware level can be found

in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-901-000 IANet:EEPROM Test Failed

Explanation: A failure was detected during the EEPROM test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:
1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-902-000 IANet:FIFO Test Failed

Explanation: A failure was detected during the FIFO test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:
1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-903-000 IANet:Interrupts Test Failed

Explanation: A failure was detected during the Interrupt test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:
1. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
2. Rerun the test.
3. Check interrupt assignments in the PCI Hardware section of the DSA Diagnostic Log. If the ethernet device is sharing interrupts, if possible modify the interrupt assignments using F1 Setup to assign a unique interrupt to the device.
4. Rerun the test.
5. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

406-904-000 IANet:Loopback Test Failed

Explanation: A failure was detected during the Loopback test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:
1. Check the Ethernet cable for damage and ensure correct cable type and attachment.
2. Check component firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
3. Rerun the test.

4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA LSI hard drive test results

The following messages can result when you run the LSI hard drive test.

407-000-000 LSIESG:DiskDefaultDiagnostic Test Passed

Explanation: The test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

407-800-000 LSIESG:DiskDefaultDiagnostic Test Aborted

Explanation: The test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

407-900-000 LSIESG:DiskDefaultDiagnostic Test Failed

Explanation: The hard drive self-test detected a failure.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check cable connections.
2. Rerun the test.
3. Verify whether the firmware is at the latest level.
4. Rerun the test.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA Mellanox adapter test results

The following messages can result when you run the Mellanox adapter test.

408-000-000 MLNX:MLNX_DiagnosticTestEthernetPort Test Passed

Explanation: Port Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

408-001-000 MLNX:MLNX_DiagnosticTestIBPort Test Passed

Explanation: Port Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

408-800-000 MLNX:MLNX_DiagnosticTestEthernetPort Test Aborted

Explanation: Port Test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

408-801-000 MLNX:MLNX_DiagnosticTestIBPort Test Aborted

Explanation: Port Test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

408-900-000 MLNX:MLNX_DiagnosticTestEthernetPort Test Failed

Explanation: Port Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Make sure that the physical link of the port under test in the active state.
2. If these condition was met but the test keeps failing the port's adapter might be faulty.
3. Try replacing the adapter and repeating the test.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

408-901-000 MLNX:MLNX_DiagnosticTestIBPort Test Failed

Explanation: Port Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Make sure that the physical link of the port under test in the active state and a subnet manager running on the fabric to which the port is attached.
2. If these condition was met but the test keeps failing the port's adapter might be faulty.
3. Try replacing the adapter and repeating the test.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA memory isolation test results

The following messages can result when you run the memory isolation test.

201-000-000 Standalone Memory Test Passed

Explanation: Quick/Full Memory Test All CPUs Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-000-001 Standalone Memory Test Passed

Explanation: Quick/Full Memory Test CPU 1 Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-000-002 Standalone Memory Test Passed

Explanation: Quick/Full Memory Test CPU 2 Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-000-003 Standalone Memory Test Passed

Explanation: Quick/Full Memory Test CPU 3 Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-000-004 Standalone Memory Test Passed

Explanation: Quick/Full Memory Test CPU 4 Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-811-000 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:
- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-811-001 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-811-002 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-811-003 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-812-000 Standalone Memory Test Aborted

Explanation: Memory test is not supported for this system.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-812-001 Standalone Memory Test Aborted

Explanation: Memory test is not supported for this system.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.

3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-812-002 Standalone Memory Test Aborted

Explanation: Memory test is not supported for this system.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-812-003 Standalone Memory Test Aborted

Explanation: Memory test is not supported for this system.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-813-000 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not turn OFF ECC error reporting in CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-813-001 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not turn OFF ECC error reporting in CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

201-813-002 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not turn OFF ECC error reporting in CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-813-003 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not turn OFF ECC error reporting in CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-814-000 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not disable Scubbing feature for CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-814-001 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not disable Scubbing feature for CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-814-002 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not disable Scubbing feature for CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-814-003 Standalone Memory Test Aborted

Explanation: Chipset Error: Can not disable Scubbing feature for CPU.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-815-000 Standalone Memory Test Aborted

Explanation: Program Error with Quick Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-815-001 Standalone Memory Test Aborted

Explanation: Program Error with Quick Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-815-002 Standalone Memory Test Aborted

Explanation: Program Error with Quick Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-815-003 Standalone Memory Test Aborted

Explanation: Program Error with Quick Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-816-000 Standalone Memory Test Aborted

Explanation: Program Error with Full Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-816-001 Standalone Memory Test Aborted

Explanation: Program Error with Full Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-816-002 Standalone Memory Test Aborted

Explanation: Program Error with Full Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-816-003 Standalone Memory Test Aborted

Explanation: Program Error with Full Memory Menu Option Selection.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-818-000 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-818-001 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-818-002 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-818-003 Standalone Memory Test Aborted

Explanation: Unable to Locate SMBIOS key "_SM_".

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-819-000 Standalone Memory Test Aborted

Explanation: The start-end address ranges in the restricted area of the memory.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-819-001 Standalone Memory Test Aborted

Explanation: The start-end address ranges in the restricted area of the memory.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-819-002 Standalone Memory Test Aborted

Explanation: The start-end address ranges in the restricted area of the memory.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.

3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-819-003 Standalone Memory Test Aborted

Explanation: The start-end address ranges in the restricted area of the memory.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-820-000 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-820-001 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-820-002 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

201-820-003 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-821-000 Standalone Memory Test Aborted

Explanation: Variable range MTRR registers are larger than fixed range MTRR registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-821-001 Standalone Memory Test Aborted

Explanation: Variable range MTRR registers are larger than fixed range MTRR registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-821-002 Standalone Memory Test Aborted

Explanation: Variable range MTRR registers are larger than fixed range MTRR registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-821-003 Standalone Memory Test Aborted

Explanation: Variable range MTRR registers are larger than fixed range MTRR registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-822-000 Standalone Memory Test Aborted

Explanation: Invalid MTRR service request.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-822-001 Standalone Memory Test Aborted

Explanation: Invalid MTRR service request.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-822-002 Standalone Memory Test Aborted

Explanation: Invalid MTRR service request.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-822-003 Standalone Memory Test Aborted

Explanation: Invalid MTRR service request.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-824-000 Standalone Memory Test Aborted

Explanation: Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-824-001 Standalone Memory Test Aborted

Explanation: Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-824-002 Standalone Memory Test Aborted

Explanation: Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-824-003 Standalone Memory Test Aborted

Explanation: Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.

3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-826-000 Standalone Memory Test Aborted

Explanation: BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-826-001 Standalone Memory Test Aborted

Explanation: BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-826-002 Standalone Memory Test Aborted

Explanation: BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-826-003 Standalone Memory Test Aborted

Explanation: BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

201-827-000 Standalone Memory Test Aborted

Explanation: BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-827-001 Standalone Memory Test Aborted

Explanation: BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-827-002 Standalone Memory Test Aborted

Explanation: BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-827-003 Standalone Memory Test Aborted

Explanation: BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-844-000 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem in masking MSR machine check control MASK registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-844-001 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem in masking MSR machine check control MASK registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-844-002 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem in masking MSR machine check control MASK registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-844-003 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem in masking MSR machine check control MASK registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-845-000 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem clearing MSR machine check control registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-845-001 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem clearing MSR machine check control registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-845-002 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem clearing MSR machine check control registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-845-003 Standalone Memory Test Aborted

Explanation: Chipset Error: Problem clearing MSR machine check control registers.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-859-000 Standalone Memory Test Aborted

Explanation: INVALID XSECSRAT type.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-859-001 Standalone Memory Test Aborted

Explanation: INVALID XSECSRAT type.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-859-002 Standalone Memory Test Aborted

Explanation: INVALID XSECSRAT type.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-859-003 Standalone Memory Test Aborted

Explanation: INVALID XSECSRAT type.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-860-000 Standalone Memory Test Aborted

Explanation: No OEM0 type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.

2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-860-001 Standalone Memory Test Aborted

Explanation: No OEM0 type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-860-002 Standalone Memory Test Aborted

Explanation: No OEM0 type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-860-003 Standalone Memory Test Aborted

Explanation: No OEM0 type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-861-000 Standalone Memory Test Aborted

Explanation: No SRAT type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA

- Latest level of BMC/IMM

201-861-001 Standalone Memory Test Aborted

Explanation: No SRAT type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-861-002 Standalone Memory Test Aborted

Explanation: No SRAT type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-861-003 Standalone Memory Test Aborted

Explanation: No SRAT type 1 found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-862-000 Standalone Memory Test Aborted

Explanation: No OEM1 structure found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-862-001 Standalone Memory Test Aborted

Explanation: No OEM1 structure found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-862-002 Standalone Memory Test Aborted

Explanation: No OEM1 structure found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-862-003 Standalone Memory Test Aborted

Explanation: No OEM1 structure found.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-863-000 Standalone Memory Test Aborted

Explanation: No IBMERROR key in OEM1 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-863-001 Standalone Memory Test Aborted

Explanation: No IBMERROR key in OEM1 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.

4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-863-002 Standalone Memory Test Aborted

Explanation: No IBMERROR key in OEM1 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-863-003 Standalone Memory Test Aborted

Explanation: No IBMERROR key in OEM1 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-864-000 Standalone Memory Test Aborted

Explanation: No GAS located in OEM1.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-864-001 Standalone Memory Test Aborted

Explanation: No GAS located in OEM1.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-864-002 Standalone Memory Test Aborted

Explanation: No GAS located in OEM1.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-864-003 Standalone Memory Test Aborted

Explanation: No GAS located in OEM1.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-865-000 Standalone Memory Test Aborted

Explanation: No XSECSRAT key in OEM0 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-865-001 Standalone Memory Test Aborted

Explanation: No XSECSRAT key in OEM0 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-865-002 Standalone Memory Test Aborted

Explanation: No XSECSRAT key in OEM0 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.

2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-865-003 Standalone Memory Test Aborted

Explanation: No XSECSRAT key in OEM0 structure.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-866-000 Standalone Memory Test Aborted

Explanation: EFI-SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-866-001 Standalone Memory Test Aborted

Explanation: EFI-SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-866-002 Standalone Memory Test Aborted

Explanation: EFI-SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

201-866-003 Standalone Memory Test Aborted

Explanation: EFI-SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-867-000 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer not allocated.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-867-001 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer not allocated.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-867-002 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer not allocated.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-867-003 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer not allocated.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-868-000 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer allocated in GetMemoryMap too small.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-868-001 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer allocated in GetMemoryMap too small.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-868-002 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer allocated in GetMemoryMap too small.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-868-003 Standalone Memory Test Aborted

Explanation: EFI/SAL: Buffer allocated in GetMemoryMap too small.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.

3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-869-000 Standalone Memory Test Aborted

Explanation: EFI/SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-869-001 Standalone Memory Test Aborted

Explanation: EFI/SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-869-002 Standalone Memory Test Aborted

Explanation: EFI/SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-869-003 Standalone Memory Test Aborted

Explanation: EFI/SAL Invalid parameter from GetMemoryMap function.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

201-870-000 Standalone Memory Test Aborted

Explanation: CPU Doamin in ACPI not valid.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-870-001 Standalone Memory Test Aborted

Explanation: CPU Doamin in ACPI not valid.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-870-002 Standalone Memory Test Aborted

Explanation: CPU Doamin in ACPI not valid.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-870-003 Standalone Memory Test Aborted

Explanation: CPU Doamin in ACPI not valid.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-871-000 Standalone Memory Test Aborted

Explanation: Data Mis-compare encountered.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-871-001 Standalone Memory Test Aborted

Explanation: Data Mis-compare encountered.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-871-002 Standalone Memory Test Aborted

Explanation: Data Mis-compare encountered.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-871-003 Standalone Memory Test Aborted

Explanation: Data Mis-compare encountered.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-877-000 Standalone Memory Test Aborted

Explanation: BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.

4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-877-001 Standalone Memory Test Aborted

Explanation: BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-877-002 Standalone Memory Test Aborted

Explanation: BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-877-003 Standalone Memory Test Aborted

Explanation: BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-878-000 Standalone Memory Test Aborted

Explanation: Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-878-001 Standalone Memory Test Aborted

Explanation: Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-878-002 Standalone Memory Test Aborted

Explanation: Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-878-003 Standalone Memory Test Aborted

Explanation: Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-885-000 Standalone Memory Test Aborted

Explanation: Processor does not support MTRR register manipulation. Can not write to memory without cache.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-885-001 Standalone Memory Test Aborted

Explanation: Processor does not support MTRR register manipulation. Can not write to memory without cache.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-885-002 Standalone Memory Test Aborted

Explanation: Processor does not support MTRR register manipulation. Can not write to memory without cache.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-885-003 Standalone Memory Test Aborted

Explanation: Processor does not support MTRR register manipulation. Can not write to memory without cache.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-886-000 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-886-001 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-886-002 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-886-003 Standalone Memory Test Aborted

Explanation: Memory Upper limit is less than 16 Mbytes.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-899-000 Standalone Memory Test Aborted

Explanation: Memory Diagnostics Test Aborted by user.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-899-001 Standalone Memory Test Aborted

Explanation: Memory Diagnostics Test Aborted by user.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-899-002 Standalone Memory Test Aborted

Explanation: Memory Diagnostics Test Aborted by user.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-899-003 Standalone Memory Test Aborted

Explanation: Memory Diagnostics Test Aborted by user.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-901-000 Standalone Memory Test Failed

Explanation: Memory Diagnostics Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.
5. Replace any DIMMS(s) mentioned in error, one by one.
6. Make sure that all DIMMs are enabled in the Configuration/Setup Utility program.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-901-001 Standalone Memory Test Failed

Explanation: Memory Diagnostics Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.
5. Replace any DIMMS(s) mentioned in error, one by one.
6. Make sure that all DIMMs are enabled in the Configuration/Setup Utility program.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-901-002 Standalone Memory Test Failed

Explanation: Memory Diagnostics Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.

3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.
5. Replace any DIMMS(s) mentioned in error, one by one.
6. Make sure that all DIMMs are enabled in the Configuration/Setup Utility program.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

201-901-003 Standalone Memory Test Failed

Explanation: Memory Diagnostics Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Perform the actions mentioned one at a time and try the test after each action.
2. If the problem remains, contact your technical-service representative.
3. Turn off the system and disconnect it from power. Wait for 45 seconds. Reseat DIMM(s). Reconnect it to power.
4. Make sure that DSA and BIOS/uEFI are at the latest level.
5. Replace any DIMMS(s) mentioned in error, one by one.
6. Make sure that all DIMMs are enabled in the Configuration/Setup Utility program.
7. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA memory stress test results

The following messages can result when you run the memory stress test.

202-000-000 MemStr Test Passed

Explanation: Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

202-801-000 MemStr Test Aborted

Explanation: Internal program error.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Turn off and restart the system.
2. Make sure that the DSA Diagnostic code is at the latest level.
3. Run the test again.
4. If the system has stopped responding, turn off and restart the system.
5. Check the system firmware level and upgrade if necessary.
6. Run the memory diagnostic to identify the specific failing DIMM.
7. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

202-802-000 MemStr Test Aborted

Explanation: Memory size is insufficient to run the test. At least 1 GB is required.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

202-803-000 MemStr Test Aborted

Explanation: User pressed Ctrl-C.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

202-901-000 MemStr Test Failed

Explanation: Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Execute the standard DSA memory diagnostics to validate all memory.
2. Make sure that the DSA Diagnostic code is at the latest level.
3. Turn off the system and disconnect it from power.
4. Reseat the memory cards and DIMMs.
5. Reconnect the system to power and turn the system on.
6. Run the test again.
7. Execute the standard DSA memory diagnostics to validate all memory.
8. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

202-902-000 MemStr Test Failed

Explanation: Memory size is insufficient to run the test.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Ensure that all memory is enabled by checking the "Available System Memory" in the "Resource Utilization" section of the DSA Diagnostic Event log.
2. If necessary, access the Configuration/Setup Utility program by pressing F1 during system boot and enable all memory.
3. Make sure that the DSA Diagnostic code is at the latest level.
4. Run the test again.
5. Execute the standard DSA memory diagnostics to validate all memory.
6. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA Nvidia GPU test results

The following messages can result when you run the Nvidia GPU test.

409-000-000 NVIDIA User Diagnostic Test Passed

Explanation: NVIDIA User Diagnostic test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-003-000 Nvidia::DiagnosticServiceProvider::Bandwidth Test Passed

Explanation: Nvidia GPU Bandwidth test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-004-000 Nvidia::DiagnosticServiceProvider::Query Test Passed

Explanation: Nvidia GPU Query test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-005-000 Nvidia::DiagnosticServiceProvider::Matrix Test Passed

Explanation: Nvidia GPU Matrix test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-006-000 Nvidia::DiagnosticServiceProvider::Binomial Test Passed

Explanation: Nvidia GPU Binomial test passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-800-000 NVIDIA User Diagnostic Test Aborted

Explanation: NVIDIA User Diagnostic test was canceled.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-803-000 Nvidia::DiagnosticServiceProvider::Bandwidth Test Aborted

Explanation: Nvidia GPU Bandwidth test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-804-000 Nvidia::DiagnosticServiceProvider::Query Test Aborted

Explanation: Nvidia GPU Query test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-805-000 Nvidia::DiagnosticServiceProvider::Matrix Test Aborted

Explanation: Nvidia GPU Matrix test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-806-000 Nvidia::DiagnosticServiceProvider::Binomial Test Aborted

Explanation: Nvidia GPU Binomial test was canceled.

Severity: Warning

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-900-000 NVIDIA User Diagnostic Test Failed

Explanation: NVIDIA User Diagnostic Test Failed.

Severity: Event

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Verify that the GPU is seated in the PCIe slot correctly by reseating the GPU. Then power cycle the system.
2. Verify that the power connectors to the GPU are connected firmly. Then power cycle the system.
3. Run nvidia-smi -q In some cases this will report a poorly connected power cable.
4. Rerun the diagnostics, using the same GPU, on system that is known to be working. A variety of system issues can cause diagnostic failure.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-903-000 Nvidia::DiagnosticServiceProvider::Bandwidth Test Failed

Explanation: Nvidia GPU Bandwidth Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Verify that the GPU is seated in the PCIe slot correctly by reseating the GPU. Then power cycle the system.
2. Verify that the power connectors to the GPU are connected firmly. Then power cycle the system.
3. Run nvidia-smi -q In some cases this will report a poorly connected power cable.
4. Rerun the diagnostics, using the same GPU, on system that is known to be working. A variety of system issues can cause diagnostic failure.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-904-000 Nvidia::DiagnosticServiceProvider::Query Test Failed

Explanation: Nvidia GPU Query Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Verify that the GPU is seated in the PCIe slot correctly by reseating the GPU. Then power cycle the system.

2. Verify that the power connectors to the GPU are connected firmly. Then power cycle the system.
3. Run nvidia-smi -q In some cases this will report a poorly connected power cable.
4. Rerun the diagnostics, using the same GPU, on system that is known to be working. A variety of system issues can cause diagnostic failure.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-905-000 Nvidia::DiagnosticServiceProvider::Matrix Test Failed

Explanation: Nvidia GPU Matrix Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Verify that the GPU is seated in the PCIe slot correctly by reseating the GPU. Then power cycle the system.
2. Verify that the power connectors to the GPU are connected firmly. Then power cycle the system.
3. Run nvidia-smi -q In some cases this will report a poorly connected power cable.
4. Rerun the diagnostics, using the same GPU, on system that is known to be working. A variety of system issues can cause diagnostic failure.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

409-906-000 Nvidia::DiagnosticServiceProvider::Binomial Test Failed

Explanation: Nvidia GPU Binomial Test Failed.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Verify that the GPU is seated in the PCIe slot correctly by reseating the GPU. Then power cycle the system.
2. Verify that the power connectors to the GPU are connected firmly. Then power cycle the system.
3. Run nvidia-smi -q In some cases this will report a poorly connected power cable.
4. Rerun the diagnostics, using the same GPU, on system that is known to be working. A variety of system issues can cause diagnostic failure.
5. If the problem remains, contact your IBM technical-support representative.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA optical drive test results

The following messages can result when you run the optical drive test.

215-000-000 Optical Drive Test Passed

Explanation: Optical Drive Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-801-000 Optical Drive Test Aborted

Explanation: Optical Drive Test Aborted. Unable to communicate with driver.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Make sure that the DSA Diagnostic code is at the latest level.
2. Run the test again.
3. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
4. Run the test again.

5. Check system firmware level and upgrade if necessary.The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
6. Run the test again.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-802-000 Optical Drive Test Aborted

Explanation: Optical Drive Test Aborted. A read error was encountered.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Insert a new CD or DVD into the drive and wait for 15 seconds for the media to be recognized. Rerun the test.
2. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-803-000 Optical Drive Test Failed

Explanation: Optical Drive Test Failed. Disk may be in use by the operating system.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Wait for the system activity to cease
2. Run the test again
3. Turn off and restart the system.
4. Run the test again.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-804-000 Optical Drive Test Aborted

Explanation: Optical Drive Test Aborted. The media tray is open.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Close the media tray and wait for 15 seconds for the media to be recognized. Run the test again.
2. Insert a new CD or DVD into the drive and wait for 15 seconds for the media to be recognized. Rerun the test.
3. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
4. Run the test again.
5. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-901-000 Optical Drive Test Aborted

Explanation: Optical Drive Test Aborted. Drive media is not detected.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Insert a new CD or DVD into the drive and wait for 15 seconds for the media to be recognized. Rerun the test.
2. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website

- Latest level of DSA
- Latest level of BMC/IMM

215-902-000 Optical Drive Test Failed

Explanation: Optical Drive Test Failed. Read miscompare.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Insert a new CD or DVD into the drive and wait for 15 seconds for the media to be recognized. Rerun the test.
2. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

215-903-000 Optical Drive Test Aborted

Explanation: Optical Drive Test Aborted. Could not access the device.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Insert a new CD or DVD into the drive and wait for 15 seconds for the media to be recognized. Rerun the test.
2. Check the drive cabling for loose or broken connections at both ends or damage to the cable. Replace the cable if damage is present.
3. Run the test again.
4. Check system firmware level and upgrade if necessary.The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
5. Run the test again.
6. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA system management test results

The following messages can result when you run the system management test.

166-000-001 IMM I2C Test Passed

Explanation: IMM I2C Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-801-001 IMM I2C Test Aborted

Explanation: IMM returned incorrect response length.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-802-001 IMM I2C Test Aborted

Explanation: Test cannot be completed for unknown reason.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-803-001 IMM I2C Test Aborted

Explanation: Node Busy. Try later.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-804-001 IMM I2C Test Aborted

Explanation: Invalid Command.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-805-001 IMM I2C Test Aborted

Explanation: Invalid Command for given LUN.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-806-001 IMM I2C Test Aborted

Explanation: Timeout while processing command.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-807-001 IMM I2C Test Aborted

Explanation: Out of space.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.

2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-808-001 IMM I2C Test Aborted

Explanation: Reservation Canceled or Invalid Reservation ID.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-809-001 IMM I2C Test Aborted

Explanation: Request data truncated.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-810-001 IMM I2C Test Aborted

Explanation: Request data length invalid.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-811-001 IMM I2C Test Aborted

Explanation: Request data field length limit exceeded.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-812-001 IMM I2C Test Aborted

Explanation: Parameter out of range.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-813-001 IMM I2C Test Aborted

Explanation: Cannot return number of requested data bytes.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-814-001 IMM I2C Test Aborted

Explanation: Requested Sensor, data, or record not present.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-815-001 IMM I2C Test Aborted

Explanation: Invalid data field in Request.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-816-001 IMM I2C Test Aborted

Explanation: Command illegal for specified sensor or record type.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-817-001 IMM I2C Test Aborted

Explanation: Command response could not be provided.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-818-001 IMM I2C Test Aborted

Explanation: Cannot execute duplicated request.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-819-001 IMM I2C Test Aborted

Explanation: Command response could not be provided. SDR Repository in?update mode.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-820-001 IMM I2C Test Aborted

Explanation: Command response could not be provided. Device in firmware update mode.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-821-001 IMM I2C Test Aborted

Explanation: Command response could not be provided. BMC initialization in progress.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-822-001 IMM I2C Test Aborted

Explanation: Destination unavailable.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-823-001 IMM I2C Test Aborted

Explanation: Cannot execute command. Insufficient privilege level.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-824-001 IMM I2C Test Aborted

Explanation: Cannot execute command.

Severity: Warning

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-901-001 IMM I2C Test Failed

Explanation: IMM Indicates failure in RTMM bus (BUS 0).

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-904-001 IMM I2C Test Failed

Explanation: IMM Indicates failure in PCA9543--2-Channel I2C Switch bus (BUS 3).

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-907-001 IMM I2C Test Failed

Explanation: IMM Indicates failure in PCA9545 --failure in 4-Channel I2C Switch bus (BUS 6).

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

166-908-001 IMM I2C Test Failed

Explanation: IMM Indicates failure in the PCA9557 bus (BUS 7).

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Perform the actions mentioned one at a time and try the test after each action:

1. Turn off the system and disconnect it from power. Wait for 45 seconds. Reconnect it to power.
2. Make sure that DSA and BMC/IMM are at the latest level.
3. Run the test again.
4. If failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

DSA tape drive test results

The following messages can result when you run the tape drive test.

264-000-000 Tape Test Passed

Explanation: Tape Test Passed.

Severity: Event

Serviceable: No

Recoverable: No

Automatically notify Support: No

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-901-000 Tape Test Failed

Explanation: An error was found in the tape alert log.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Clean the tape drive using the appropriate cleaning media and install new media.
2. Run the test again.
3. Clear the error log.
4. Run the test again.
5. Make sure that the drive firmware is at the latest level.
6. Rerun the test after upgrading to the latest firmware level.
7. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-902-000 Tape Test Failed

Explanation: Tape Test Failed. Media is not detected.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Clean the tape drive using the appropriate cleaning media and install new media.
2. Run the test again.
3. Make sure that the drive firmware is at the latest level.
4. Rerun the test after upgrading to the latest firmware level.
5. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-903-000 Tape Test Failed

Explanation: Tape Test Failed. Media is not detected.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Clean the tape drive using the appropriate cleaning media and install new media.
2. Run the test again.
3. Make sure that the drive firmware is at the latest level.
4. Rerun the test after upgrading to the latest firmware level.
5. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-904-000 Tape Test Failed

Explanation: Tape Test Failed. Drive hardware error.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Check the tape drive cabling for loose or broken connections or damage to the cable. Replace the cable if damage is present.
2. Clean the tape drive using the appropriate cleaning media and install new media.
3. Run the test again.
4. Make sure that the drive firmware is at the latest level.
5. Rerun the test after upgrading to the latest firmware level.
6. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-905-000 Tape Test Failed

Explanation: Tape Test Failed. Software error: invalid request.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. If the system has stopped responding, turn off and restart the system.
2. Check the system firmware level and upgrade if necessary. The installed firmware level can be found in the DSA Diagnostic Event Log within the Firmware/VPD section for this component.
3. Run the test again.
4. If the system has stopped responding, turn off and restart the system.
5. Make sure that the drive firmware is at the latest level.
6. Run the test again.
7. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-906-000 Tape Test Failed

Explanation: Tape Test Failed. Unrecognized error.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Clean the tape drive using the appropriate cleaning media and install new media.
2. Run the test again.
3. Make sure that the drive firmware is at the latest level.
4. Rerun the test after upgrading to the latest firmware level.
5. Make sure that the DSA Diagnostic code is at the latest level.
6. Run the test again.
7. Check the system firmware level and upgrade if necessary.
8. Run the test again.
9. If the failure remains, refer to "Troubleshooting by symptom" in the system "Installation and Service Guide" for the next corrective action.

Related Links:

- IBM Support Website
- Latest level of DSA

- Latest level of BMC/IMM

264-907-000 Tape Test Failed

Explanation: An error was found in the block address somewhere.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Clean the tape drive using the appropriate cleaning media and install new media.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

264-908-000 Tape Test Failed

Explanation: An error was found in getting tape capacity.

Severity: Error

Serviceable: Yes

Recoverable: No

Automatically notify Support: No

User response: Complete the following steps:

1. Make sure that medium is present.
2. Clean the tape drive using the appropriate cleaning media and install new media.

Related Links:

- IBM Support Website
- Latest level of DSA
- Latest level of BMC/IMM

Appendix D. Getting help and technical assistance

If you need help, service, or technical assistance or just want more information about Lenovo products, you will find a wide variety of sources available from Lenovo to assist you.

Use this information to obtain additional information about Lenovo and Lenovo products, and determine what to do if you experience a problem with your Lenovo system or optional device.

Note: This section includes references to IBM web sites and information about obtaining service. IBM is Lenovo's preferred service provider for the System x, Flex System, and NeXtScale System products.

Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself.

If you believe that you require warranty service for your Lenovo product, the service technicians will be able to assist you more efficiently if you prepare before you call.

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Check for updated software, firmware, and operating-system device drivers for your Lenovo product. The Lenovo Warranty terms and conditions state that you, the owner of the Lenovo product, are responsible for maintaining and updating all software and firmware for the product (unless it is covered by an additional maintenance contract). Your service technician will request that you upgrade your software and firmware if the problem has a documented solution within a software upgrade.
- If you have installed new hardware or software in your environment, check http://www.ibm.com/systems/info/x86servers/serverproven/compat/us to make sure that the hardware and software is supported by your product.
- Go to http://www.ibm.com/supportportal to check for information to help you solve the problem.
- Gather the following information to provide to the service technician. This data will help the service technician quickly provide a solution to your problem and ensure that you receive the level of service for which you might have contracted.
  - Hardware and Software Maintenance agreement contract numbers, if applicable
  - Machine type number (Lenovo 4-digit machine identifier)
  - Model number
  - Serial number
  - Current system UEFI and firmware levels
  - Other pertinent information such as error messages and logs
- Go to http://www.ibm.com/support/entry/portal/Open_service_request to submit an Electronic Service Request. Submitting an Electronic Service Request

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will start the process of determining a solution to your problem by making the pertinent information available to the service technicians. The IBM service technicians can start working on your solution as soon as you have completed and submitted an Electronic Service Request.

You can solve many problems without outside assistance by following the troubleshooting procedures that Lenovo provides in the online help or in the Lenovo product documentation. The Lenovo product documentation also describes the diagnostic tests that you can perform. The documentation for most systems, operating systems, and programs contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

Using the documentation

Information about your Lenovo system and preinstalled software, if any, or optional device is available in the product documentation. That documentation can include printed documents, online documents, readme files, and help files.

See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. Lenovo maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to http://www.ibm.com/supportportal.

Getting help and information from the World Wide Web

Up-to-date information about Lenovo products and support is available on the World Wide Web.

On the World Wide Web, up-to-date information about Lenovo systems, optional devices, services, and support is available at http://www.ibm.com/supportportal. The most current version of the product documentation is available in the following product-specific Information Centers:

Flex System products:
http://pic.dhe.ibm.com/infocenter/flexsys/information/index.jsp

System x products:
http://www.ibm.com/systems/x

NeXtScale System products:
http://pic.dhe.ibm.com/infocenter/nxtscale/documentation/index.jsp

How to send DSA data

You can use the Enhanced Customer Data Repository to send diagnostic data to IBM.

Before you send diagnostic data to IBM, read the terms of use at http://www.ibm.com/de/support/ecurep/terms.html.

You can use any of the following methods to send diagnostic data:

- **Standard upload:** http://www.ibm.com/de/support/ecurep/send_http.html
- **Standard upload with the system serial number:** http://www.ecurep.ibm.com/app/upload_hw

- **Secure upload:** http://www.ibm.com/de/support/ecurep/send_http.html#secure
- **Secure upload with the system serial number:** https://www.ecurep.ibm.com/app/upload_hw

Creating a personalized support web page

You can create a personalized support web page by identifying Lenovo products that are of interest to you.

To create a personalized support web page, go to http://www.ibm.com/support/mynotifications. From this personalized page, you can subscribe to weekly email notifications about new technical documents, search for information and downloads, and access various administrative services.

Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with your Lenovo products.

For more information about Support Line and other IBM services, see http://www.ibm.com/services or see http://www.ibm.com/planetwide for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

Hardware service and support

IBM is Lenovo's preferred service provider for the System x, Flex System and NeXtScale System products.

You can receive hardware service through your Lenovo reseller or from IBM. To locate a reseller authorized by Lenovo to provide warranty service, go to http://www.ibm.com/partnerworld and click **Business Partner Locator**. For IBM support telephone numbers, see http://www.ibm.com/planetwide. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

Taiwan product service

Use this information to contact IBM Taiwan product service.

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

IBM Taiwan product service contact information:

IBM Taiwan Corporation
3F, No 7, Song Ren Rd.
Taipei, Taiwan
Telephone: 0800-016-888

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard-disk-drive bays with the largest currently supported drives that are available from Lenovo.

Maximum memory might require replacement of the standard memory with an optional memory module.

Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as `total bytes written` (TBW). A device that has exceeded this limit might fail to respond to system-generated commands or might be incapable of being written to. Lenovo is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

Lenovo makes no representations or warranties with respect to non-Lenovo products. Support (if any) for the non-Lenovo products is provided by the third party, not Lenovo.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

Recycling information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to: http://www.lenovo.com/recycling.

Particulate contamination

Attention: Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document.

Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If Lenovo determines that the levels of particulates or gases in your environment have caused damage to the device, Lenovo may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility.

Table 42. Limits for particulates and gases

Contaminant	Limits
Particulate	• The room air must be continuously filtered with 40% atmospheric dust spot efficiency (MERV 9) according to ASHRAE Standard 52.2[1]. • Air that enters a data center must be filtered to 99.97% efficiency or greater, using high-efficiency particulate air (HEPA) filters that meet MIL-STD-282. • The deliquescent relative humidity of the particulate contamination must be more than 60%[2]. • The room must be free of conductive contamination such as zinc whiskers.
Gaseous	• Copper: Class G1 as per ANSI/ISA 71.04-1985[3] • Silver: Corrosion rate of less than 300 Å in 30 days

Table 42. Limits for particulates and gases (continued)

Contaminant	Limits
[1] ASHRAE 52.2-2008 - *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. [2] The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction. [3] ANSI/ISA-71.04-1985. *Environmental conditions for process measurement and control systems: Airborne contaminants*. Instrument Society of America, Research Triangle Park, North Carolina, U.S.A.	

Telecommunication regulatory statement

This product may not be certified in your country for connection by any means whatsoever to interfaces of public telecommunications networks. Further certification may be required by law prior to making any such connection. Contact a Lenovo representative or reseller for any questions.

Electronic emission notices

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

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. Lenovo 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 might cause undesired operation.

Industry Canada Class A emission 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.

Australia and New Zealand Class A statement

Attention: 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.

European Union EMC Directive conformance 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. Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the installation of option cards from other manufacturers.

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.

Lenovo, Einsteinova 21, 851 01 Bratislava, Slovakia

Germany Class A statement

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

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 (früher 89/336/EWG) 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 Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

Deutschland:

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Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007

(früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EMV EG Richtlinie 2004/108/EC (früher 89/336/EWG), für Geräte der Klasse A.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraf 5 des EMVG ist die Lenovo (Deutschland) GmbH, Gropiusplatz 10, D-70563 Stuttgart.

Informationen in Hinsicht EMVG Paragraf 4 Abs. (1) 4: **Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.**

Nach der EN 55022: „Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.“

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Japan VCCI Class A statement

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

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). 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.

Japan Electronics and Information Technology Industries Association (JEITA) statement

高調波ガイドライン準用品

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

Korea Communications Commission (KCC) statement

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This is electromagnetic wave compatibility equipment for business (Type A). Sellers and users need to pay attention to it. This is for any areas other than home.

Russia Electromagnetic Interference (EMI) Class A statement

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

People's Republic of China Class A electronic emission statement

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。

Taiwan Class A compliance statement

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。

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