Lenovo System x3250 M5
Installation and Service Guide

Machine Type: Type 5458

Note

Before using this information and the product it supports, read the general information in Appendix D "Getting help and technical assistance" on page 649, Appendix E "Notices" on page 653, the *Warranty Information* document, and the *Safety Information* and *Environmental Notices and User Guide* documents on the Lenovo *Documentation* CD.

Contents

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.

ᠡᠨᠡ ᠪᠦᠲᠦᠭᠡᠭᠳᠡᠬᠦᠨ ᠢ ᠤᠭᠰᠠᠷᠠᠬᠤ ᠠᠴᠠ ᠡᠮᠦᠨᠡ ᠠᠶᠤᠯ ᠦᠭᠡᠢ ᠶᠢᠨ ᠮᠡᠳᠡᠭᠡᠯᠡᠯ ᠢ ᠤᠩᠰᠢᠭᠠᠷᠠᠢ᠃

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་སྐྱོད་མ་བྱས་གོང་། སྐྱར་གྱི་ཡིད་གཟབ་ བྱ་འདུ་མིན་ཡོད་པའི་འོད་སྟེར་བསྟུ་དགོས།

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

مەزكۇر مەھسۇلاتنى ئورنتشتتن بۇرۇن بمخەتەرلمك ئۇچۇرلىرىنى ئوقۇپ چىقلىڭ.

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

Guidelines for trained service technicians

This section contains information for trained service technicians.

Inspecting for unsafe conditions

Use this information to help you identify potential unsafe conditions in a device that you are working on.

Each device, as it was designed and manufactured, has required safety items to protect users and service technicians from injury. The information in this section addresses only those items. Use good judgment to identify potential unsafe conditions that might be caused by unsupported alterations or attachment of unsupported features or optional devices that are not addressed in this section. If you identify an unsafe condition, you must determine how serious the hazard is and whether you must correct the problem before you work on the product.

Consider the following conditions and the safety hazards that they present:

- Electrical hazards, especially primary power. Primary voltage on the frame can cause serious or fatal electrical shock.
- Explosive hazards, such as a damaged CRT face or a bulging capacitor.
- Mechanical hazards, such as loose or missing hardware.

To inspect the product for potential unsafe conditions, complete the following steps:

1. Make sure that the power is off and the power cords are disconnected.
2. Make sure that the exterior cover is not damaged, loose, or broken, and observe any sharp edges.
3. Check the power cords:
   - Make sure that the third-wire ground connector is in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
   - Make sure that the power cords are the correct type.
   - Make sure that the insulation is not frayed or worn.
4. Remove the cover.

5. Check for any obvious unsupported alterations. Use good judgment as to the safety of any unsupported alterations.

6. Check inside the system for any obvious unsafe conditions, such as metal filings, contamination, water or other liquid, or signs of fire or smoke damage.

7. Check for worn, frayed, or pinched cables.

8. Make sure that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Guidelines for servicing electrical equipment

Observe these guidelines when you service electrical equipment.

- Check the area for electrical hazards such as moist floors, nongrounded power extension cords, and missing safety grounds.

- Use only approved tools and test equipment. Some hand tools have handles that are covered with a soft material that does not provide insulation from live electrical current.

- Regularly inspect and maintain your electrical hand tools for safe operational condition. Do not use worn or broken tools or testers.

- Do not touch the reflective surface of a dental mirror to a live electrical circuit. The surface is conductive and can cause personal injury or equipment damage if it touches a live electrical circuit.

- Some rubber floor mats contain small conductive fibers to decrease electrostatic discharge. Do not use this type of mat to protect yourself from electrical shock.

- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.

- Locate the emergency power-off (EPO) switch, disconnecting switch, or electrical outlet so that you can turn off the power quickly in the event of an electrical accident.

- Disconnect all power before you perform a mechanical inspection, work near power supplies, or remove or install main units.

- Before you work on the equipment, disconnect the power cord. If you cannot disconnect the power cord, have the customer power-off the wall box that supplies power to the equipment and lock the wall box in the off position.

- Never assume that power has been disconnected from a circuit. Check it to make sure that it has been disconnected.

- If you have to work on equipment that has exposed electrical circuits, observe the following precautions:

  – Make sure that another person who is familiar with the power-off controls is near you and is available to turn off the power if necessary.

  – When you work with powered-on electrical equipment, use only one hand. Keep the other hand in your pocket or behind your back to avoid creating a complete circuit that could cause an electrical shock.

  – When you use a tester, set the controls correctly and use the approved probe leads and accessories for that tester.

  – Stand on a suitable rubber mat to insulate you from grounds such as metal floor strips and equipment frames.

- Use extreme care when you measure high voltages.

- To ensure proper grounding of components such as power supplies, pumps, blowers, fans, and motor generators, do not service these components outside of their normal operating locations.

- If an electrical accident occurs, use caution, turn off the power, and send another person to get medical aid.

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 x3250 M5 Type 5458 server

This *Installation and Service Guide* contains information and instructions for setting up your Lenovo System x3250 M5 Type 5458 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 23 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 23.

The Lenovo System x3250 M5 Type 5458 server is a 1-U[1]-high rack model server for high-volume network transaction processing. This high-performance, multi-core server is ideally suited for networking environments that require superior microprocessor performance, input/output (I/O) flexibility, and high manageability.

Performance, ease of use, reliability, 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 X-Architecture next generation technologies, which help increase performance and reliability. For more information, see "What your server offers" on page 11 and "Reliability, availability, and serviceability" on page 13.

You can obtain up-to-date information about the server and other Lenovo server products at http://shop.lenovo.com/us/ en/systems/. 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 Lenovo 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 Lenovo client reference program, see http://www.ibm.com/ibm/clientreference/.

The hot-swap server models support up to eight 2.5-inch hot-swap hard disk drives or four 3.5-inch hot-swap hard disk drives. The simple-swap server models support up to eight 2.5-inch simple-swap hard disk drives or four 3.5-inch simple-swap hard disk drives. The Lenovo System x3250 M5 Type 5458 server supports 2.5-inch hot-swap or simple-swap Serial Attached SCSI (SAS) or SATA hard disk drives, or 3.5-inch hot-swap Serial Attached SCSI (SAS) or SATA hard disk drives, or 3.5-inch simple-swap SATA hard disk drives.

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.

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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

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

The following illustration shows the 3.5-inch hot-swap or simple-swap server models. The servers support up to four 3.5-inch hot-swap SAS/SATA or simple-swap SATA hard disk drives.
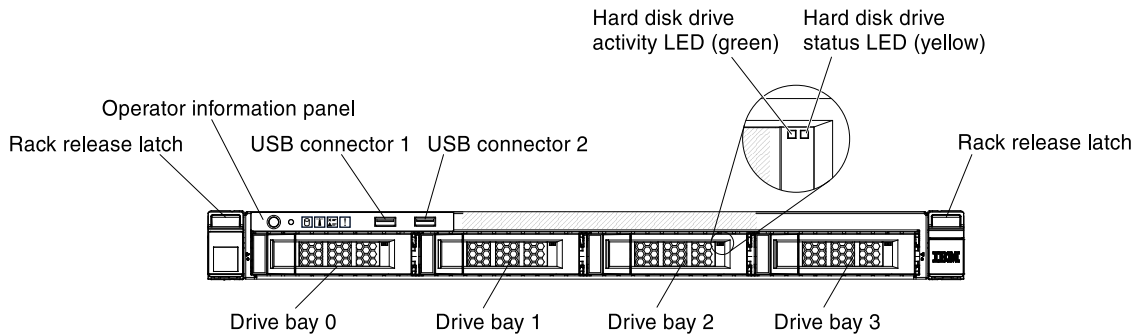
Figure 1. Front view of the 3.5-inch model

The following illustration shows the 2.5-inch hot-swap or simple-swap hard disk drive server models with an optional optical drive bay.
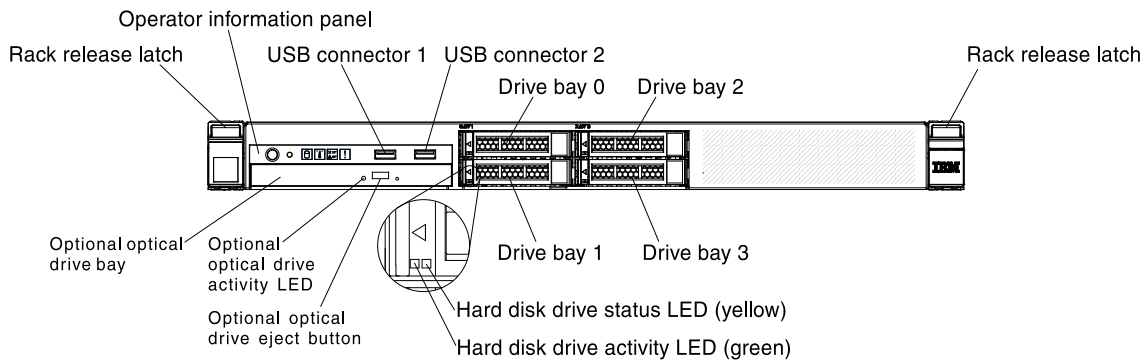
Figure 2. Front view of the 2.5-inch model

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 x3250 M5 Type 5458 server	Type 5458		

The model number and serial number are on the ID label on the front of the server, as shown in the following illustration.

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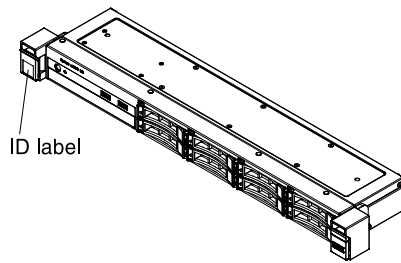
ID label

Figure 3. ID label on the front of the server

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 (ibm.co/1a17VUF)

Figure 4. 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.lenovo.com/ serverproven/.

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

The Lenovo *System x Documentation* CD

The Lenovo *System x 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 *System x Documentation* CD.

The Lenovo *System x 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** 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:

- *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 format on the Lenovo *Documentation* CD. It provides translated versions of the *Lenovo License Agreement for Machine Code* for your product.

- *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.

- *Licenses and Attributions Documents*

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

- *Rack Installation Instructions*

  This printed document contains instructions for installing the server in a rack and comes with the rack kit.

- *Rack Safety Information*

  This multilingual document provides translated versions of the caution and danger statements that appear in the rack documentation. Each caution and danger statement has an assigned number, which you can use to locate the corresponding statement in your native language.

- *Safety Information*

  This document is in PDF format 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.

- *Safety Information Labels*

  This document provides the Simplified Chinese, Mongolian, Tibetan, Uygur, and Zhuang translated versions of the product safety labels.

- *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.

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

The System x and BladeCenter Tools Center is an online information center that contains information about tools for updating, managing, and deploying firmware, device drivers, and operating systems. The System x and BladeCenter Tools Center is at https://support.lenovo.com/us/en/ documents/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 updated documentation and technical 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 *System x 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 server. 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) or dual-core (Pentium series, or Core i3 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 Flex Memory Technology

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.lenovo.com/ serverproven/.

Memory:

- Minimum: 4 GB
- Maximum: 32 GB
- Types: PC3L-12800 (dual-rank), 1600 MHz, ECC, DDR3 unbuffered DIMMs only
- Connectors: Four dual inline memory module (DIMM) connectors, two-way interleaved

Optical drives (optional):

- UltraSlim DVD-ROM combo
- Multi-burner

Hard disk drive expansion bays (depending on the model):

- Four 2.5-inch hot-swap SAS/SATA hard disk drive bays
- Four 2.5-inch simple-swap SAS/SATA hard disk drive bays
- Eight 2.5-inch hot-swap SAS/SATA hard disk drive bays
- Eight 2.5-inch simple-swap SAS/SATA hard disk drive bays
- Four 3.5-inch hot-swap SAS/SATA hard disk drive bays
- Four 3.5-inch simple-swap SATA 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.

PCI expansion slots:

Supports two PCI riser slots on the riser card:

- Slot 1 is dedicated to ServeRAID H1110 SAS/SATA controller
- Slot 2 supports one PCI Express Gen3 x8 half-length, full-height adapter

Power supply (depending on the model):

- One fixed 300-watt power supply
- Up to two hot-swap 460-watt power supplies for redundancy

RAID controllers (depending on the model):

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

Integrated functions:

- Integrated Management Module II (IMM2), which consolidates multiple management functions in a single chip
- Broadcom 5719 Gigabit Ethernet controller with TCP/IP Offload Engine (TOE) and Wake on LAN support
- Six Universal Serial Bus (USB):
  - Two USB 3.0 ports on the front. (Due to the limitation of USB 3.0, the front USB is not usable for VMware 5.5)
  - Four USB 2.0 ports on the rear
- Two Ethernet ports (1, 2) are enabled and another two Ethernet ports (3, 4) by Features on Demand (FOD)
- Five-port integrated SATA controller
- One serial port
- One VGA port

Video controller (integrated into IMM2):

- Matrox G200eR2
- SVGA compatible video controller
- Avocent Digital Video Compression
- Video memory is not expandable

Note: Maximum video resolution is 1600 x 1200 at 75 Hz.

Size:

- 1U
- Height: 43 mm (1.69 inches)
- Depth: 576 mm (22.68 inches)
- Width:
  - 434.6 mm (17.11 inches) (without EIA brackets)
  - 482 mm (18.98 inches) (with EIA brackets)

- Maximum weight: 12.3 kg (27.12 lb) depending on your configuration

Acoustical noise emissions:

Sound power: 6.5 bels

Environment:

- Air temperature:
  - Server on: 10°C to 35°C (50.0°F to 95.0°F); altitude: 0 to 914.4 m (3000 ft)
  - Server on: 10°C to 32°C (50.0°F to 89.6°F); altitude: 914.4 m (3000 ft) to 2133.6 m (7000 ft)
  - Server on: 10°C to 28°C (50.0°F to 83°F); altitude: 2133.6 m (7000 ft) to 3050 m (10000 ft)
  - Server off: 10°C to 43°C (50°F to 109.4°F)
  - Shipping: -40°C to 60°C (-40°F to 140°F)
- Humidity:
  - Server on: 8% to 80%
  - Server off: 8% to 80%
- Particulate contamination:
  - Airborne particulates and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the server. For information about the limits for particulates and gases, see "Particulate contamination" on page 655.

Heat output:

Approximate heat output:

- Minimum configuration: 143 BTU per hour (42 watts)
- Maximum configuration: 710 BTU per hour (208 watts)

Server complies with ASHRAE class A3 specifications when *Operating temperature enhancement kit* is installed:

- Temperature:
  - 5°C to 40°C (41°F to 104°F)
  - Altitude: 0 to 950 m (3,117 ft); decrease the maximum system temperature by 1°C for every 175 m increase in altitude.
- Humidity:
  - Non-condensing: -12°C dew point (10.4°F)
  - Relative humidity: 8% to 85%
- Maximum dew point: 24°C (75°F)
- Maximum altitude: 3050 m (10,000 ft); 5°C - 28°C (41°F - 82°F)
- Maximum rate of temperature change:
  - Hard disk drive: 20°C/hr (68°F/hr)
  - Tape drive: 5°C/hr (41°F/hr)

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

- 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

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: 0.042 kVA
    - Maximum: 0.508 kVA

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.
3. There is no keyboard connector or mouse connector on the server. You can connect a USB keyboard and USB mouse to the server by using the USB connectors.

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_39Y7228_460W_SO-220_Report.pdf
- Multi-output PSU PN 00Y7440

Input test voltage: 115Vac

Table 2. Power supply efficiency

Load	Efficiency	Power Factor
20%	83.6%	0.975
50%	86.69%	0.983
100%	84.01%	0.992

Maximum power (watts):
See Power Supply.

Idle state power (watts):
84

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

Off mode power (watts):
12

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.

Rail and supported rack specifications

Option name	System x3250 M5 2 MBR Slide
Option part number	No part number; always shipped with System x3250 M5 servers
Rail type	Half-out slide rail (friction), toolless installation
Supported rack type	Four-post IBM and Lenovo standard rack, complying with the International Electrotechnical Commission (IEC) standard If a 0U PDU is to be installed, read the notes at the bottom.
Service on rack	No
Cable management arm (CMA) support	No
1U PDU support	Yes
0U PDU support	Limited support. Read the notes at the bottom.
Mounting holes	Square or round
Thickness of mounting flanges	2 mm (0.08 inches) – 4 mm (0.16 inches)
Distance between front and rear mounting flanges	595 mm (23.43 inches) – 789.7 mm (31.09 inches)
Rail length (measured when mounted on the rack, starting from the front surface of the front mounting flange to the rear most point of the rail)	798 mm (31.42 inches)

Notes: If you want to install the rail and a 0U PDU into the same rack, the rack must meet the following height and depth requirements:

- 42U or higher
- At least 1000-mm (39.37-inch) deep

What your server offers

The server uses the following features and technologies.

- **Dynamic System Analysis (DSA)**

  The server comes with the Dynamic System Analysis (DSA) Preboot diagnostic program stored in the integrated USB memory on the server. DSA 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 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 Lenovo Support or view the information as a text file or HTML file.

  Two editions of Dynamic System Analysis are available: DSA Portable and DSA Preboot. For more information about both editions, see "DSA editions" on page 122.

- **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 https://fod.lenovo.com/lkms.

- **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 http://www.ibm.com/systems/software/director/resources.html and "Systems Director" on page 14.

- **Integrated Management Module II (IMM2)**

  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 IMM2 provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM2 lights LEDs to help you diagnose the problem, records the error in the IMM2 event log, and alerts you to the problem. Optionally, the IMM2 also provides a virtual presence capability for remote server management capabilities. The IMM2 provides remote server management through the following industry-standard interfaces:

  - Intelligent Platform Management Interface (IPMI) version 2.0
  - Simple Network Management Protocol (SNMP) version 3.0
  - Common Information Model (CIM)
  - Web browser

  For additional information, see "Using the Integrated Management Module II (IMM2)" on page 92 and the *Integrated Management Module II User's Guide* at the https://pubs.lenovo.com/imm2/.

- **Integrated network support**

  The server comes with an integrated quad-port Broadcom Gigabit Ethernet controller, which supports connection to a 10 Mbps, 100 Mbps, or 1000 Mbps network. For more information, see "Configuring the Ethernet controller" on page 96.

- **Integrated Trusted Platform Module (TPM)**

  This integrated security chip performs cryptographic functions and stores private and public secure keys. It provides the hardware support for the Trusted Computing Group (TCG) specification. You can download the software to support the TCG specification, when the software is available. See http://www.ibm.com/systems/x/hardware/enterprise/index.html for details about the TPM implementation. You can enable TPM support through the Setup utility under the **System Security** menu option (see "Using the Setup utility" on page 85).

- **Large data-storage capacity and hot-swap capability**

  The server supports a maximum of eight 2.5-inch hot-swap or simple-swap Serial Attached SCSI (SAS) or Serial ATA (SATA) hard disk drives, or four 3.5-inch hot-swap or simple-swap SAS/SATA hard disk drives, depending on the server model.

- **Large system-memory capacity**

  The server supports up to 32 GB if unbuffered DIMMs are installed. The memory controller supports error correcting code (ECC) for up to 4 industry-standard PC3L-12800 (DDR3-1600), DDR3 (third-generation double-data-rate), unbuffered dual inline memory modules (DIMMs).

- **Lenovo XClarity Administrator**

  Lenovo XClarity Administrator is a centralized resource-management solution that enables administrators to deploy infrastructure faster and with less effort. The solution seamlessly integrates into System x, ThinkServer, and NeXtScale servers, as well as the Flex System converged infrastructure platform.

  Lenovo XClarity Administrator provides the following features:

  - Intuitive graphical user interface
  - Automated discovery and inventory
  - Firmware updates and compliance
  - Configuration patterns
  - Bare metal deployment
  - Security management
  - Upward integration
  - Representational state transfer (REST) application programming interfaces and Windows PowerShell
  - Simple network management protocol (SNMP), system log, and e-mail forwarding

  For more information, see "Using Lenovo XClarity Administrator" on page 97.

- **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 x3250 M5 Type 5458 server" on page 1.

- **Multi-core processing**

  The server supports Intel Pentium™, Intel Core™ i3, and IntelXeon E3-1200 v3 series multi-core microprocessors. The server comes with one microprocessor installed.

- **PCI adapter capabilities**

  The server has two PCI interface slots. Both slots can support PCI Express adapters. See "Replacing an adapter" on page 186 for detailed information.

- **Cooling and optional power capabilities**

The server supports five speed-controlled simple-swap fans for a full configuration. The server comes with one 300-watt fixed power supply, or one 460-watt hot-swap power supply installed. The server supports a maximum of two 460-watt hot-swap power supplies. For redundancy support on hot-swap models, two power-supplies must be installed in the server. Two power supplies enables continued operation if one of the power supplies fails.

- **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. Additional optional RAID adapters are available for purchase that provide RAID level 5.

- **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. The systems-management connector for the IMM2 is located on the rear of the server.

- **UEFI-compliant server firmware**

  The UEFI 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 BIOS and defines a standard interface between the operating system, platform firmware, and external devices. The server is capable of booting UEFI-compliant operating systems, BIOS-based operating systems, and BIOS-based adapters as well as UEFI-compliant adapters. For more information about UEFI-compliant firmware, go to http://www.ibm. com/support/entry/ portal/docdisplay?Indocid=MIGR-5083207.

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

- **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. See for additional information.

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:
- 3-year parts and 3-year labor limited warranty (Machine Type 5458)
- Backup basic input/output system switching under the control of the Integrated Management Module II (IMM2)
- Built-in monitoring for fan, power, temperature, voltage, and power-supply redundancy
- Chipkill memory protection
- Diagnostic support for ServeRAID and Ethernet adapters
- Error codes and messages
- Error correcting code (ECC) L3 cache and system memory
- Cooling fans with speed-sensing capability
- Hot-swap hard disk drives
- Hot-swap power supplies
- Information and light path diagnostics LED panels
- Light path diagnostics LEDs for DIMMs, microprocessors, and power supplies
- Memory error correcting code and parity test

- Microprocessor built-in self-test (BIST), internal error signal monitoring, internal thermal trip signal monitoring, configuration checking, and microprocessor and voltage regulator module failure identification through light path diagnostics
- Nonmaskable interrupt (NMI) button
- Parity checking on the PCIe buses
- Power management: compliance with Advanced Configuration and Power Interface (ACPI)
- Power-on self-test (POST)
- Redundant hot-swap power supplies
- Serial Presence Detection (SPD) on memory, VPD on system board, power supply, and hard disk drive or solid state drive backplanes, microprocessor and memory expansion tray, and Ethernet adapters
- Single-DIMM isolation of excessive correctable error or multi-bit error by the Unified Extensible Firmware Interface (UEFI)
- Upgradeable POST, Unified Extensible Firmware Interface (UEFI), diagnostics, IMM2 firmware, and read-only memory (ROM) resident code, locally or over the LAN

Systems Director

Systems Director is a platform-management foundation that streamlines the way you manage physical and virtual systems 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

- Updates

- Event notification

- Automation for managed systems

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 problems

- 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, and the Systems Management website at http://

, 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 .

Front view

The following illustration shows the controls, LEDs, and connectors on the front of the server.

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

The following illustration shows the controls, LEDs, and connectors on the front of the 3.5-inch hot-swap hard disk drive model.
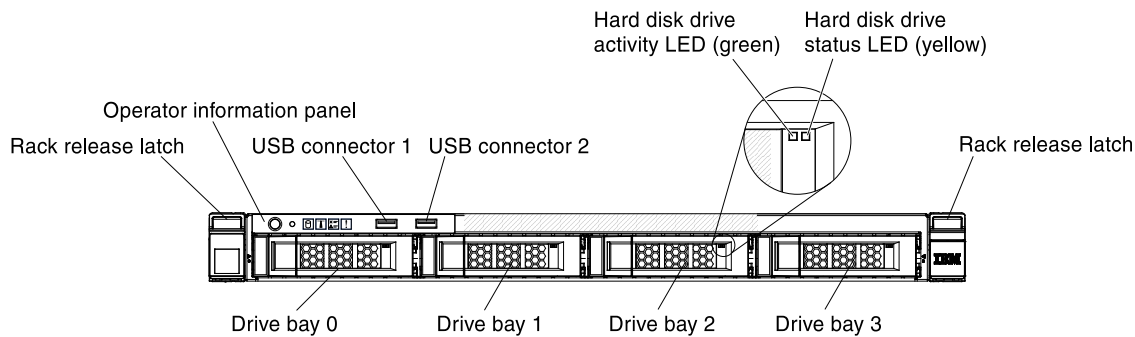
Figure 5. Front view of the 3.5-inch hot-swap hard disk drive server

The following illustration shows the controls, LEDs, and connectors on the front of the 3.5-inch simple-swap hard disk drive model.
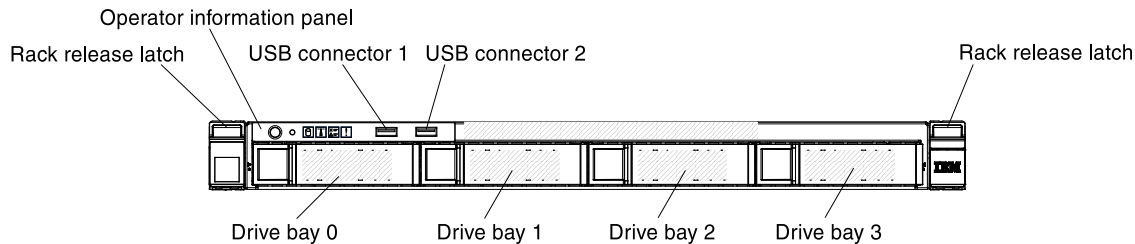
Figure 6. Front view of the 3.5-inch simple-swap hard disk drive server

The following illustration shows the controls, LEDs, and connectors on the front of the 2.5-inch hot-swap hard disk drive model with four hard disk drives.

Operator information panel

Rack release latch   USB connector 1   USB connector 2   Rack release latch

Drive bay 0   Drive bay 2

Optional optical   Optional
drive bay   optical drive   Drive bay 1   Drive bay 3
                    activity LED

Optional optical
drive eject button   Hard disk drive status LED (yellow)
                      Hard disk drive activity LED (green)
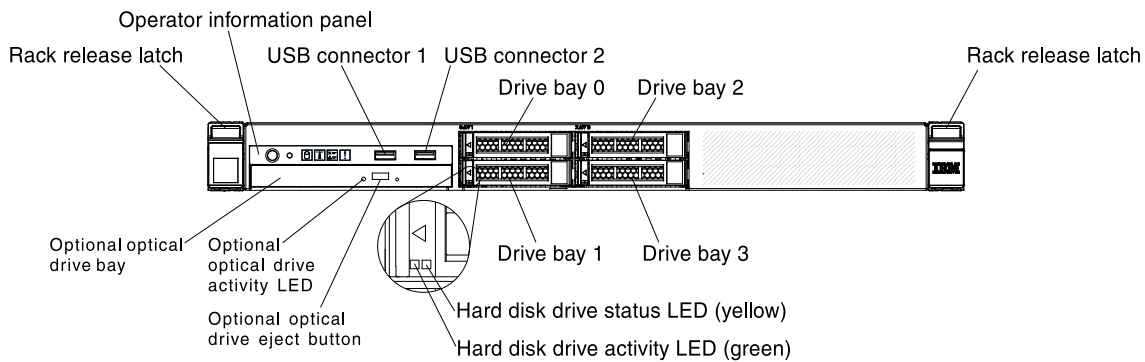
Figure 7. Front view of the 2.5-inch hot-swap hard disk drive server with four hard disk drives

The following illustration shows the controls, LEDs, and connectors on the front of the 2.5-inch simple-swap hard disk drive model with four hard disk drives.

Operator information panel

Rack release latch   USB connector 1   USB connector 2   Rack release latch

Drive bay 0   Drive bay 2

Optional optical   Optional
drive bay   optical drive   Drive bay 1   Drive bay 3
                    activity LED

Optional optical
drive eject button
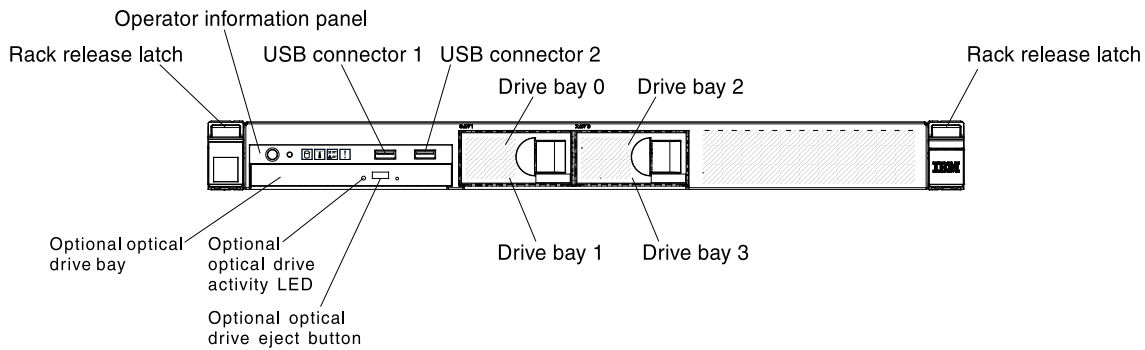
Figure 8. Front view of the 2.5-inch simple-swap hard disk drive server with four hard disk drives

The following illustration shows the controls, LEDs, and connectors on the front of the 2.5-inch hot-swap hard disk drive model with eight hard disk drives.

Operator information panel

Rack release latch   USB connector 1   USB connector 2   Rack release latch

Drive bay 0   Drive bay 2   Drive bay 4   Drive bay 6

Optional optical   Optional
drive bay   optical drive   Drive bay 1   Drive bay 3   Drive bay 5   Drive bay 7
                    activity LED

Optional optical
drive eject button   Hard disk drive status LED (yellow)
                      Hard disk drive activity LED (green)
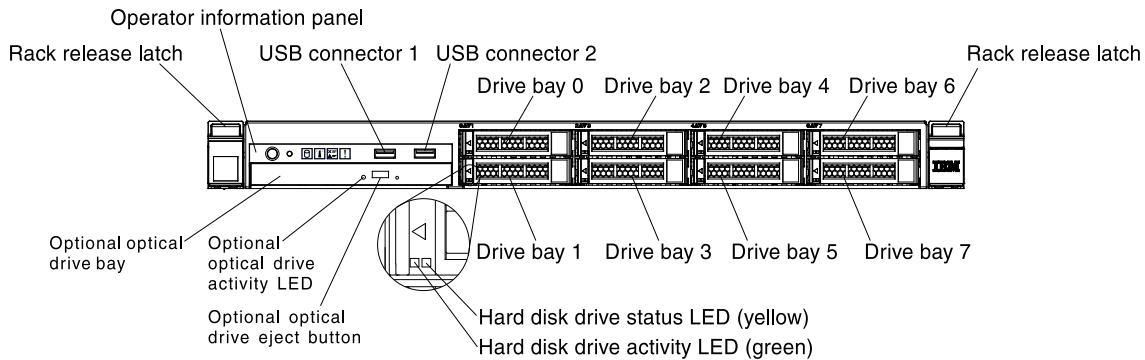
Figure 9. Front view of the 2.5-inch hot-swap hard disk drive server with eight hard disk drives

The following illustration shows the controls, LEDs, and connectors on the front of the 2.5-inch simple-swap hard disk drive model with eight hard disk drives.
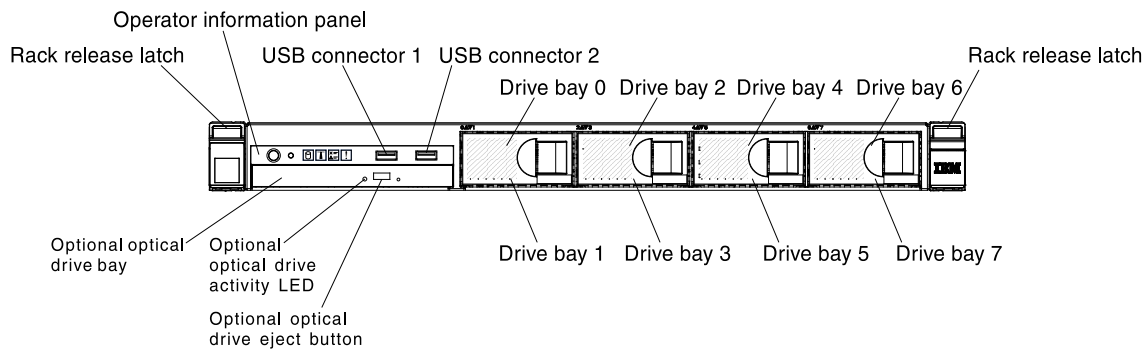
Figure 10. Front view of the 2.5-inch simple-swap hard disk drive server with eight hard disk drives

- **Rack release latches:**

  Press the latches on each front side of the server to remove the server from the rack.

- **Hard disk drive activity LED:**

  When this LED is flashing, it indicates that the associated hard disk drive is in use.

- **Hard disk drive activity LED:**

  This LED is used on hot-swap SAS or SATA hard disk drives. Each hot-swap hard disk drive has an activity LED, and when this LED is flashing, it indicates that the drive is in use.

- **Hard disk drive status LED:**

  This LED is used on hot-swap SAS or SATA hard disk drives. When this LED is lit, it indicates that the drive has failed. If an optional ServeRAID controller is installed in the server, when this LED is flashing slowly (one flash per second), it indicates that the drive is being rebuilt. When the LED is flashing rapidly (three flashes per second), it indicates that the controller is identifying the drive.

- **USB connectors:**

  Connect a USB device, such as a USB mouse, keyboard, or other device to any of these connectors.

- **Optional optical drive eject button:**

  Press this button to release a DVD or CD from the DVD drive.

- **Optional optical drive activity LED:**

  When this LED is lit, it indicates that the DVD drive is in use.

- **Operator information panel:**

  This panel contains controls and LEDs that provide information about the status of the server. For information about the controls and LEDs on the operator information panel, see .

Operator information panel

The following illustration shows the controls and LEDs on the operator information panel.
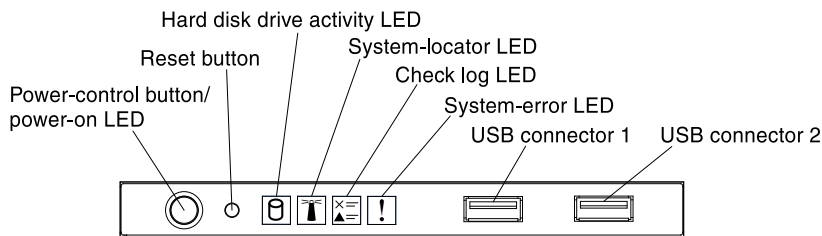
Figure 11. Operator information panel

- **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:**

  Power is not present or the power supply, or the LED itself has failed.

  – **Flashing rapidly (4 times per second):**

  The server is turned off and is not ready to be turned on. The power-control button is disabled. This will last approximately 5 to 10 seconds.

  – **Flashing slowly (once per second):**

  The server is turned off and is ready to be turned on. You can press the power-control button to turn on the server.

  – **Lit:**

  The server is turned on.

- **Reset button:**

  Press this button to reset the server and run the power-on self-test (POST). You might have to use a pen or the end of a straightened paper clip to press the button.

- **Hard disk drive activity LED:**

  When this LED is flashing, it indicates that the associated hard disk drive is in use.

- **System-locator LED:**

  Use this blue LED to visually locate the server among other servers. This LED is also used as a presence detection button. You can use Systems Director to light this LED remotely. This LED is controlled by the IMM2.

- **Check log LED:**

  When this yellow LED is lit, it indicates that a system error has occurred. Check the event log for additional information. See "Event logs" on page 119 for more information about event logs.

- **System-error LED:**

  When this yellow LED is lit, it indicates that a system error has occurred. Check LEDs on the system board to help isolate the error or identify the failed part. This LED is controlled by the IMM2.

- **USB connectors:**

  Connect a USB device, such as a USB mouse, keyboard, or other device to any of these connectors.

Rear view

The following illustrations show the connectors and LEDs on the rear of the server.

The following illustration shows the LEDs and connectors on the rear of the fixed power-supply model.

Ethernet 4   Ethernet 3

Power-cord   Serial   PCI slot 1   PCI slot 2
connector   connector

Video   Ethernet 2   Ethernet 1/
connector   Shared system
                                               management

USB 1-2   USB 3-4   NMI button
connector connector
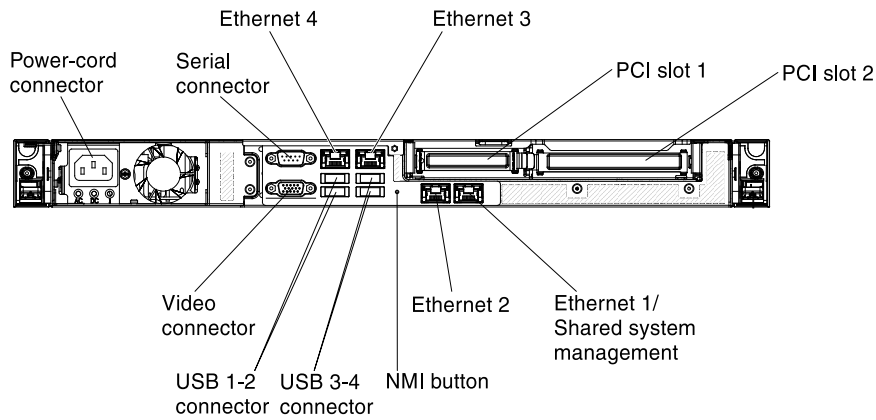
Figure 12. Connectors on the rear of the fixed power-supply model

Ethernet 4   Ethernet 4   Ethernet 3   Ethernet 3
link LED   activity LED   link LED   activity LED

AC power   DC power   Power-supply   Ethernet 2   Ethernet 2   Ethernet 1   Ethernet 1
LED (green)   LED (green)   error LED (yellow) link LED   activity LED   link LED   activity LED
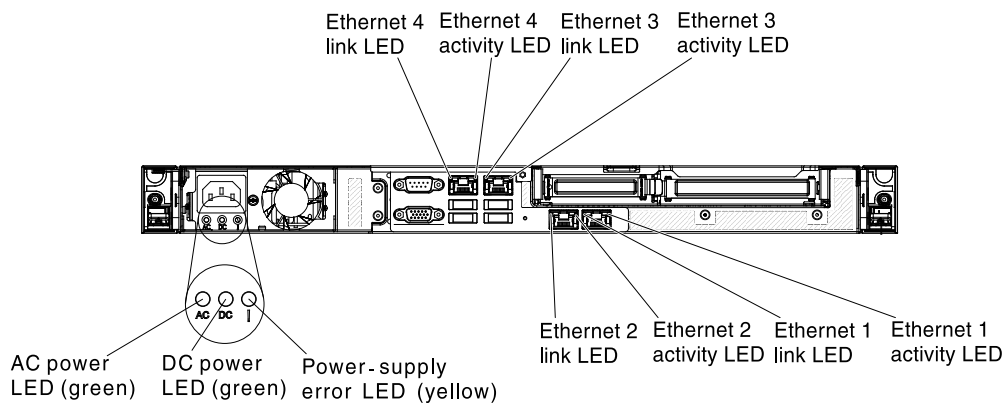
Figure 13. LEDs on the rear of the fixed power-supply model

The following illustration shows the LEDs and connectors on the rear of the redundant power-supply model.

Ethernet 4   Ethernet 3

Power-cord   Serial   PCI slot 1   PCI slot 2
connector   connector

Video   Ethernet 2   Ethernet 1/
connector   Shared system
                                               management

USB 1-2   USB 3-4   NMI button
connector connector
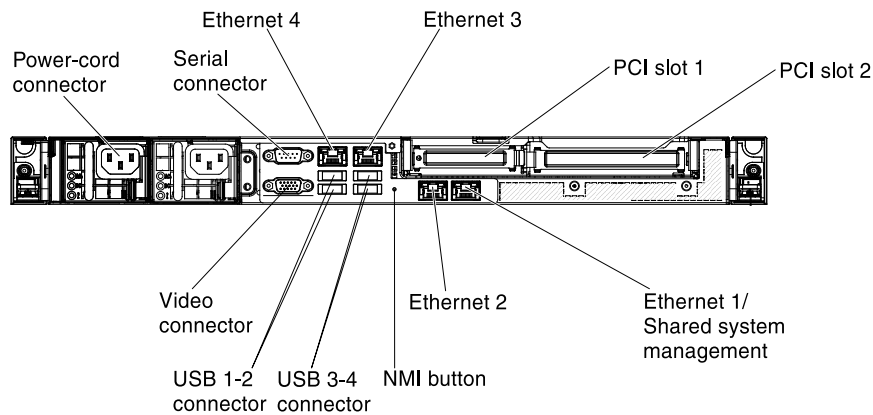
Figure 14. Connectors on the rear of the redundant power-supply model
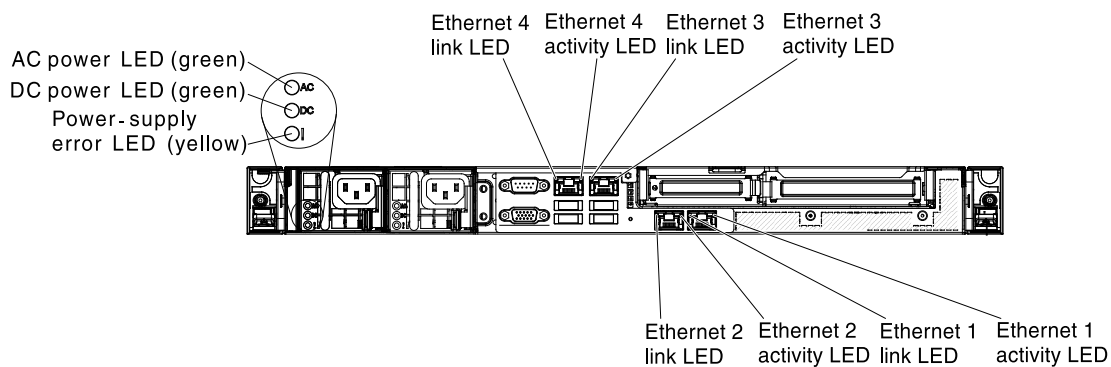
Figure 15. LEDs on the rear of the redundant power-supply model

- **Ethernet link LEDs:** When these LEDs are lit, they indicate that there is an active link connection on the 10BASE-T, 100BASE-TX, or 1000BASE-TX interface for the Ethernet port.

- **Ethernet activity LEDs:** When these LEDs are lit, they indicate that there is activity between the server and the network.

- **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. For any other combination of LEDs, see "Power-supply LEDs" on page 116.

- **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. For any other combination of LEDs, see "Power-supply LEDs" on page 116.

- **Power supply error LED:** When this yellow LED is lit, it indicates that the power supply has failed.

- **Power cord connector:** Connect the power cord to this connector.

- **Video connector:** Connect a monitor to this connector.

- **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).

- **USB connectors:** Connect a USB device, such as a USB mouse, keyboard, or other device to any of these connectors.

- **Ethernet connectors:** 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.

- **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.

- **PCI slot 1:** Dedicated to ServeRAID H1110 SAS/SATA controller

- **PCI slot 2:** Support one PCI Express Gen3 x8 half-length, full-height adapter

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 shutdown.

However, the server can respond to requests from Integrated Management Module II (IMM2), such as a remote request to turn on the server. The power-on LED flashes to indicate that the server is connected to ac power but is not turned on.

Turning on the server

Use this information to turn on the server.

Approximately 5 seconds after the server is connected to ac power, one or more fans might start running to provide cooling while the server is connected to power and the power-on button LED will blink quickly. Approximately 1 to 3 minutes after the server is connected to ac power, the power-control button becomes active (the power-on LED will blink slowly), and one or more fans might start running to provide cooling while the server is connected to power. You can turn on the server by pressing the power-control button.

Step 1.   Press the power-on button to turn on the server.

Step 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.

Note: 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.

Turning off the server

Use this information to turn off the server.

When you turn off the server and leave it connected to ac power, the server can respond to requests from Integrated Management Module II (IMM2), such as a remote request to turn on the server. While the server remains connected to ac 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.
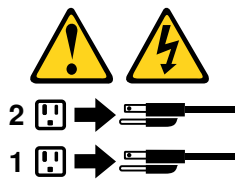
The server can be turned off in any of the following ways:

- 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:

  Note: When you install any PCI adapter, the power cords must be disconnected from the power source before you remove the PCI Express assembly. Otherwise, the Wake on LAN feature might not work.
- 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.

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" on page 23.

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

Step 1. Make sure that the server and the installed firmware levels support the devices that you are installing. If necessary, update the UEFI and IMM2 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 83. For a list of supported optional devices for the server, see http://www.lenovo.com/ serverproven/.

Step 2. Use the best practices to apply current firmware and device-driver updates for the server and optional devices. To download the *Firmware Update Guides* document, go to http://www.ibm.com/ support/entry/portal/docdisplay?lndocid=MIGR-5082923. Additional hints and tips are available from the following website:

- Lenovo support: http://www.lenovo.com/support
- System x configuration tools: http://www.ibm.com/systems/x/hardware/configtools.html

Step 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 123 for information about how to run diagnostics.

Step 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:

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 122.

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 "Sending DSA data to Lenovo" on page 24.

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.

Sending 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**:

  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

Server components

The following illustration shows the major components in the server.

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

Figure 16. Server components

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.

Note: 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

The following illustration shows the internal connectors on the system board.
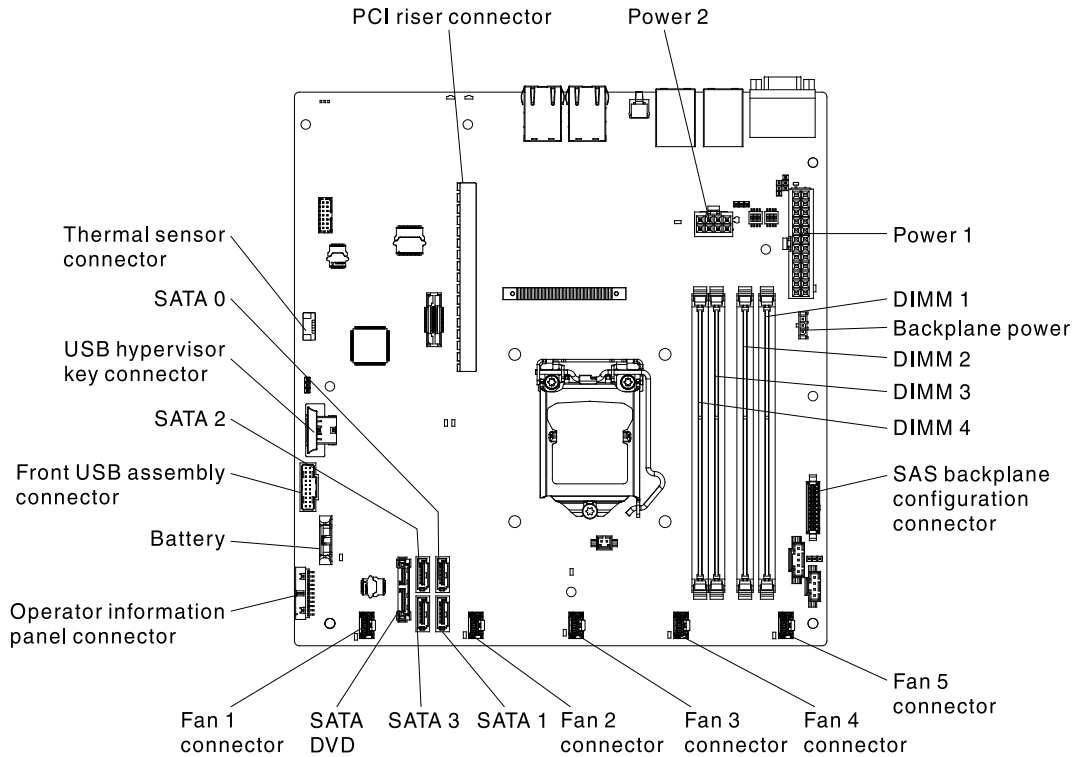
Figure 17. Internal connectors on the system board

System-board external connectors

The following illustration shows the external connectors on the system board.
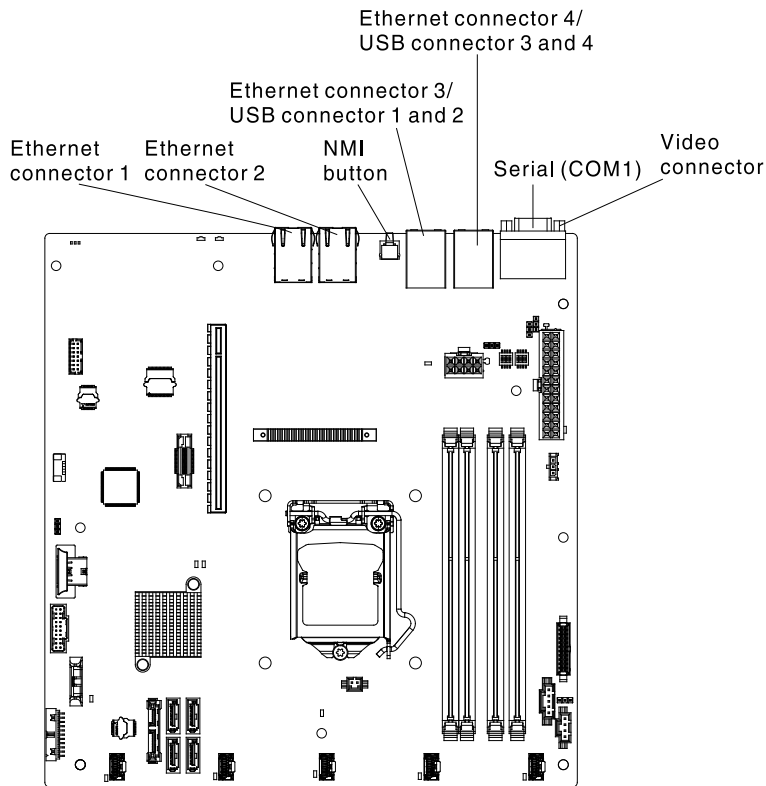
Figure 18. External connectors on the system board

System-board switches and jumpers

The following illustration shows the location and description of the switches, jumpers, and buttons.

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" on page 30, and "Turning off the server" on page 21.

2. Any system-board switch or jumper block that is not shown in the illustrations in this document are reserved.

3. If there is a clear protective sticker on the switch blocks, you must remove and discard it to access the switches.
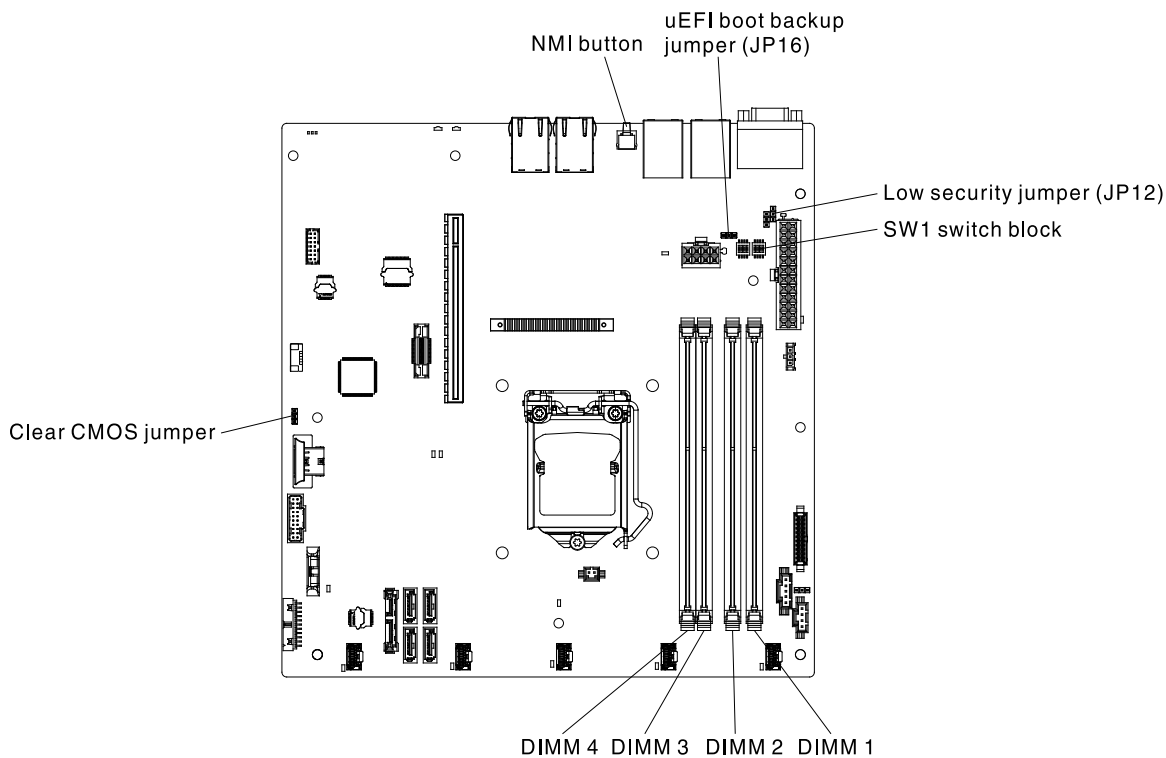
Figure 19. Location of the switches, jumpers, and buttons on the system board

The following table describes the jumpers on the system board.

Table 3. Jumpers definition

Jumper name	Description
Clear CMOS jumper	• Pins 1 and 2: Keep CMOS data (default) • Pins 2 and 3: Clear CMOS data
Low security jumper (JP12)	• Pins 1 and 2: Low security asserted • Pins 2 and 3: Low security not asserted (default)
UEFI boot backup jumper (JP16)	• Pins 1 and 2: Normal (default). Loads the primary server firmware ROM page. • Pins 2 and 3: Boot from backup. Loads the secondary (backup) server firmware ROM page.
Notes: 1. If no jumper is present, the server responds as if the pins are set to the default. 2. Changing the position of the UEFI boot backup jumper from pins 1 and 2 to pins 2 and 3 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.	

The following table describes the functions of the SW1 switch block on the system board.

Table 4. System board SW1 switch block definition

Switch number	Default position	Description
1	Off	Asserts TPM physical presence. When this switch is toggled on, the TPM physical presence is asserted.
2	Off	Power-on password override. Changing the position of this switch bypasses the power-on password check the next time the server is turned on and starts the Setup utility so that you can change or delete the power-on password. You do not have to move the switch back to the default position after the power-on password in overridden. Changing the position of this switch does not affect the administrator password check if an administrator password is set. See "Passwords" on page 90 for additional information about passwords.
3	Off	Default off.
4	Off	Asserts IMM2 reset. When this switch is toggled on, the IMM2 reset is asserted.

The following table describes the functions of the button on the system board.

Table 5. Button definition

Button name	Definition
NMI button	This button is on the rear of the server. Press this button to force a nonmaskable interrupt to the microprocessor. You might have to use a pen or the end of a straightened paper clip to press the button. You can also use it to force a blue-screen memory dump (use this button only when you are directed to do so by Lenovo Support).

System-board LEDs

The following illustration shows the light-emitting diodes (LEDs) on the system board.
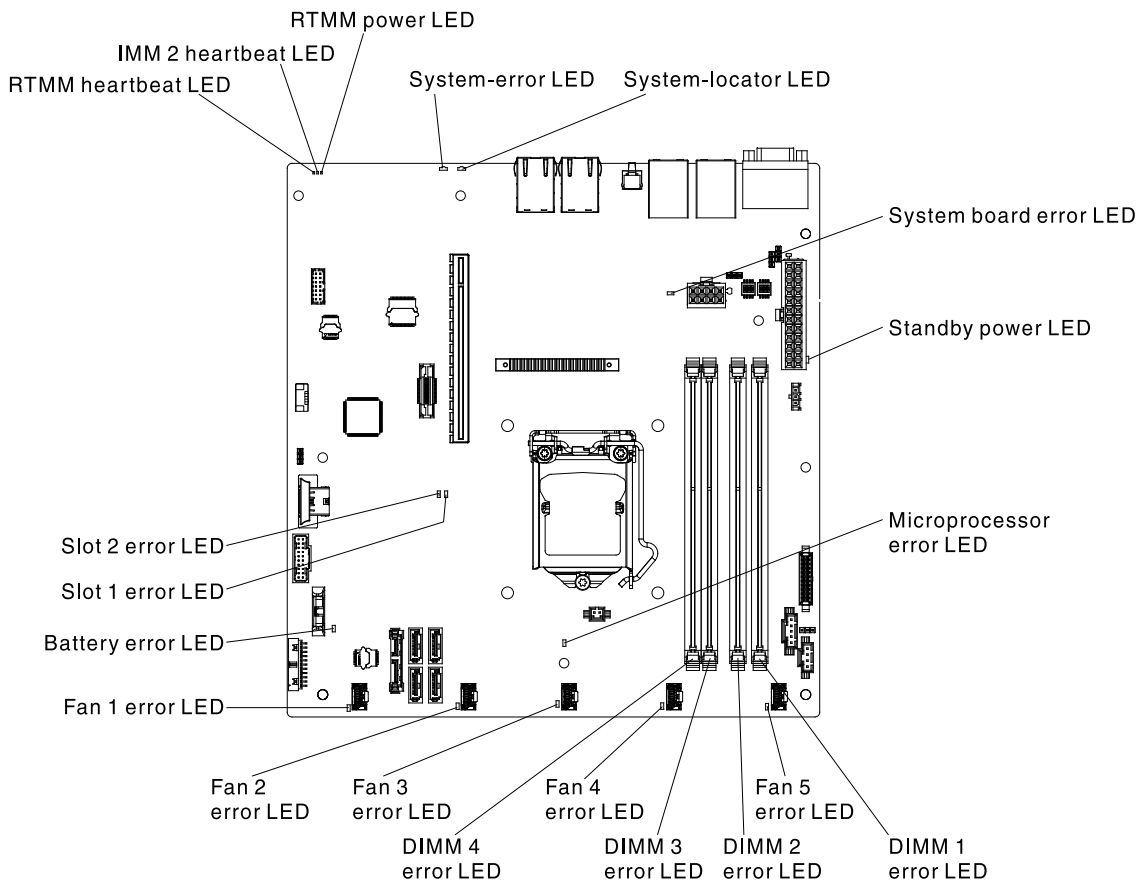
Figure 20. The LEDs on the system board

PCI riser-card assembly connectors

The following illustration shows the locations of the PCI slots on the riser-card assembly.
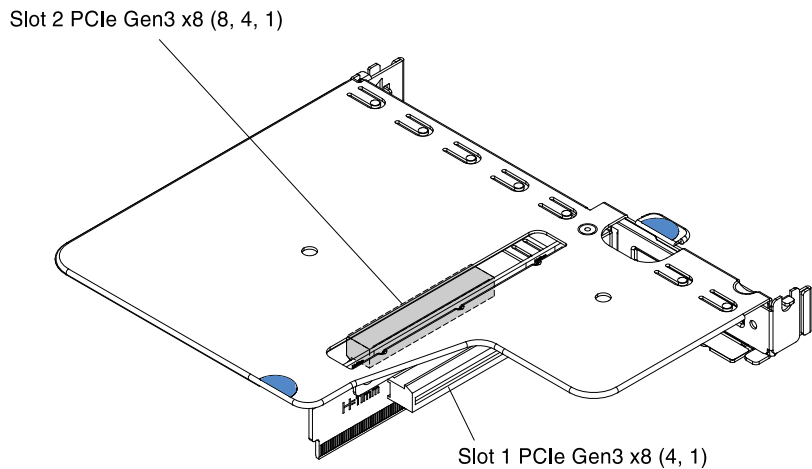
Figure 21. Connectors on PCI riser-card assembly

Installation guidelines

Use the installation guidelines to install the Lenovo System x3250 M5 Type 5458.

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 32, and "Handling static-sensitive devices" on page 32. 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.lenovo.com/ serverproven/.

- 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 https://support.lenovo.com/us/en/ documents/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 123 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, a small Phillips screwdriver, and a T8 torx 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.
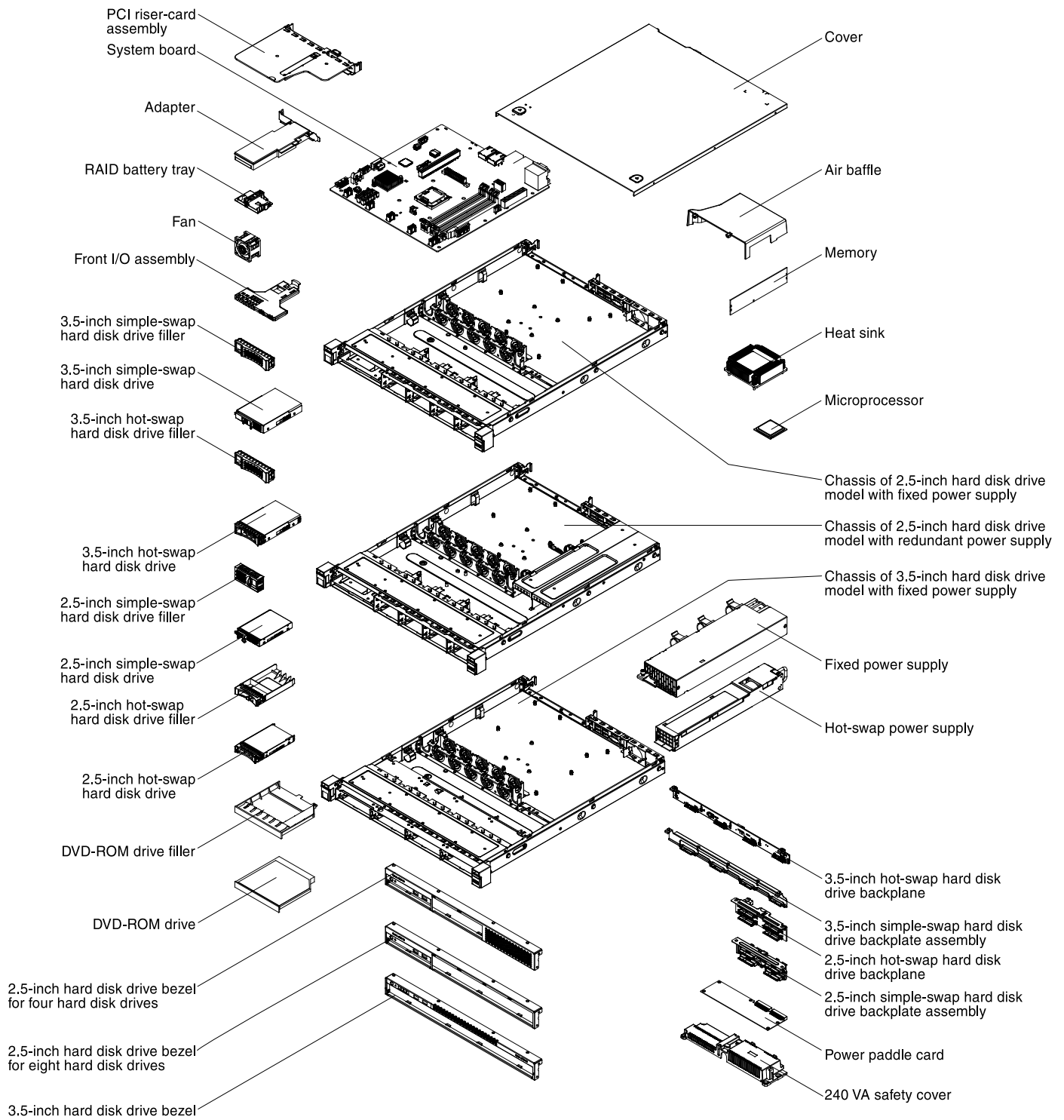
- Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the server, open or close a latch, and so on.

- 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 are 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.

You might have to have the server turned on while the cover is off, to look at system-board LEDs or replace hot-swap components. Follow these guidelines when you work inside a server that is turned on:

- 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 cover

Use this information to remove the cover.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component or installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the server cover, complete the following steps.

Step 1. If the server has been installed in a rack, slide the server out from the rack enclosure. Refer to the *Rack Installation Instructions* for more information on installing or removing the server from the rack.

Step 2. Put the server on a working area before you remove any server components or parts from the server.

Step 3. Put your thumbs on the blue tabs (cover-release buttons). Press on the blue tab or button on the left and slide the cover toward the rear of the server until the cover has disengaged from the chassis.

Cover-release
button

Figure 22. Cover removal

Step 4.   Lift the server cover off the server and set it aside.

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

Removing the air baffle

Use this information to remove the air baffle from the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component or installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the air baffle, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2.   Place your fingers under the front and back of the top of the air baffle; then, lift the air baffle out of the server.
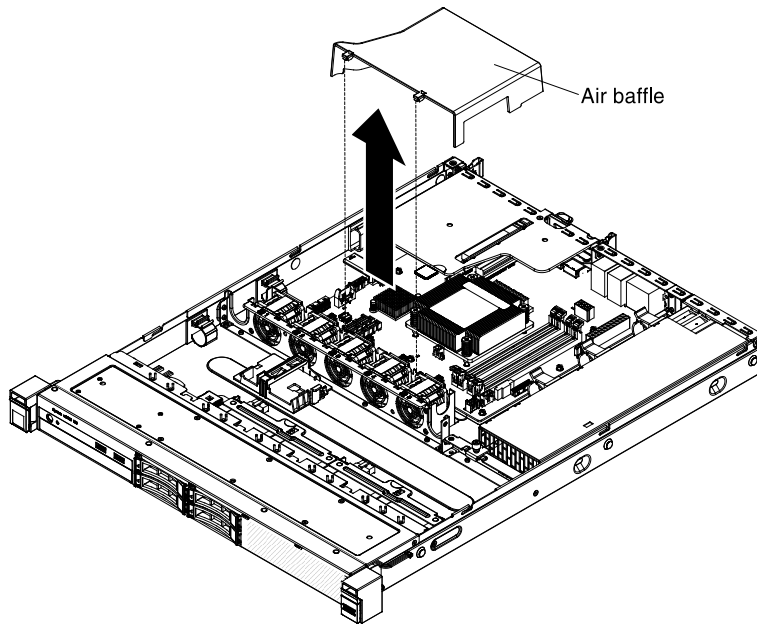
Air baffle

Figure 23. Air baffle removal

Attention: For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

Installing the 2.5-inch simple-swap hard disk drive backplate assembly

Use this information to install the 2.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

There are three types of 2.5-inch simple-swap hard disk drive backplate assemblies:
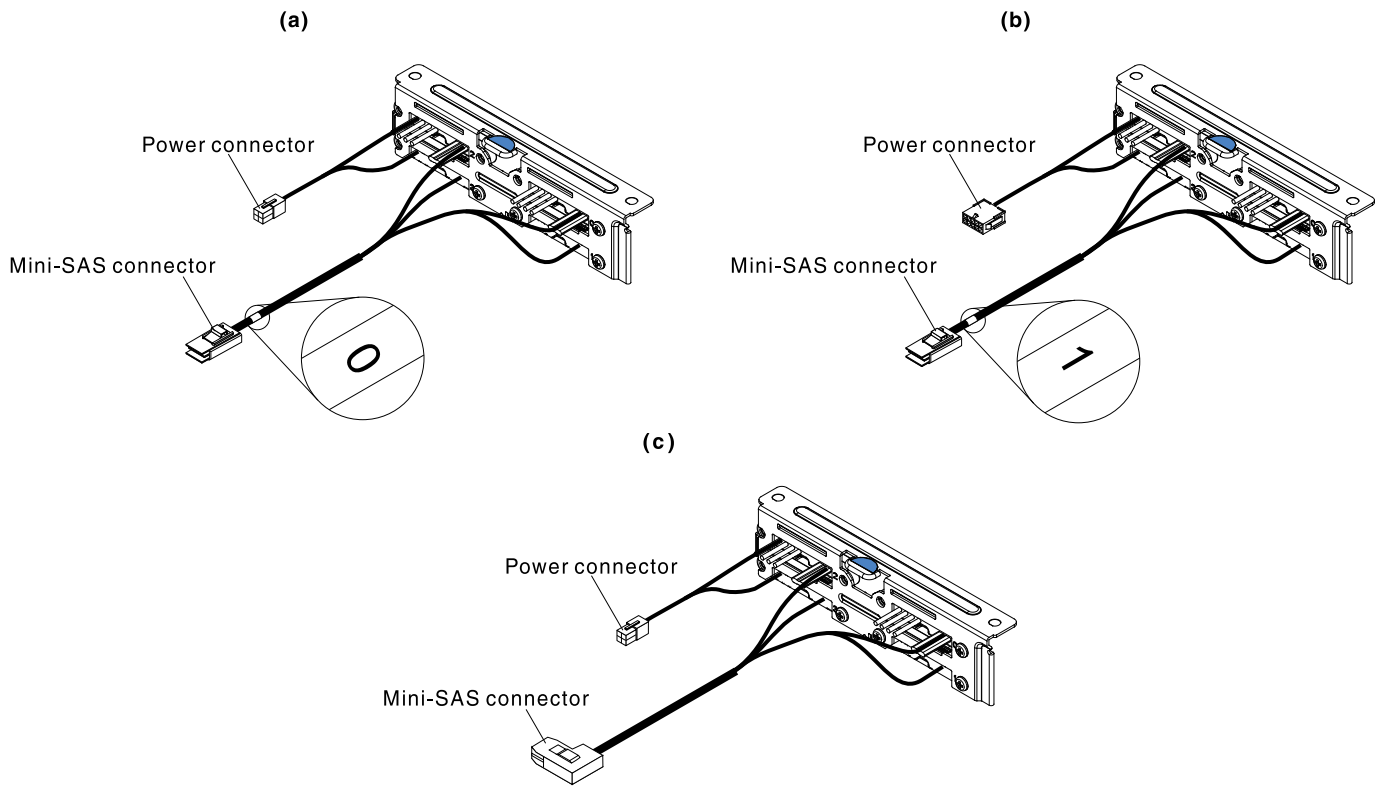
Figure 24. 2.5-inch simple-swap hard disk drive backplate assemblies

To install the 2.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the PCI riser-card assembly if applicable (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Align the backplate assembly with the backplate assembly alignment slots in the chassis.

Step 4. Lower the backplate assembly into the slot in the chassis until the front tab clicks into the latches on the chassis.

Alignment slots
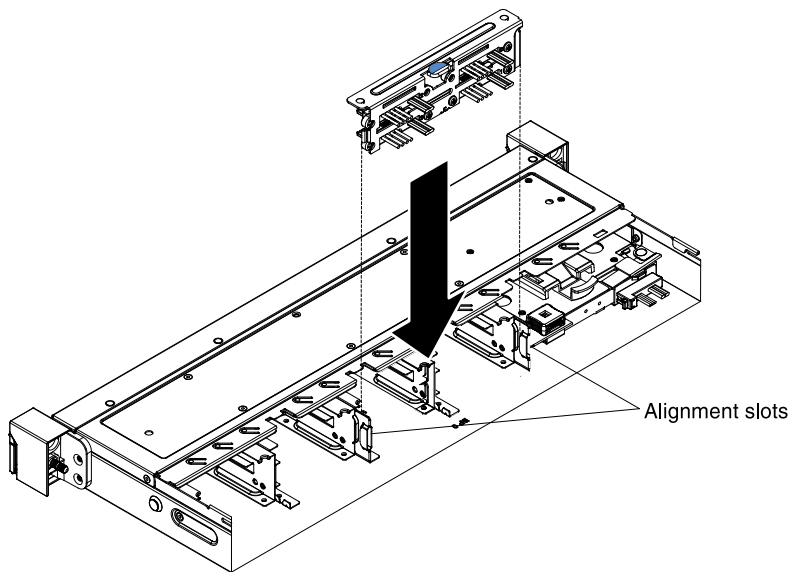
Figure 25. 2.5-inch simple-swap hard disk drive backplate assembly installation

Step 5. Install the Lenovo ServeRAID SAS/SATA controller (see "Installing an Lenovo ServeRAID SAS/SATA controller" on page 60) before connecting the cables to the hardware RAID card.

- If you are installing the 2.5-inch simple-swap hard disk drive backplate assembly for the left side cable connection to the PCI riser-card assembly (hardware RAID card inserted on the left side), connect the cables as follows:
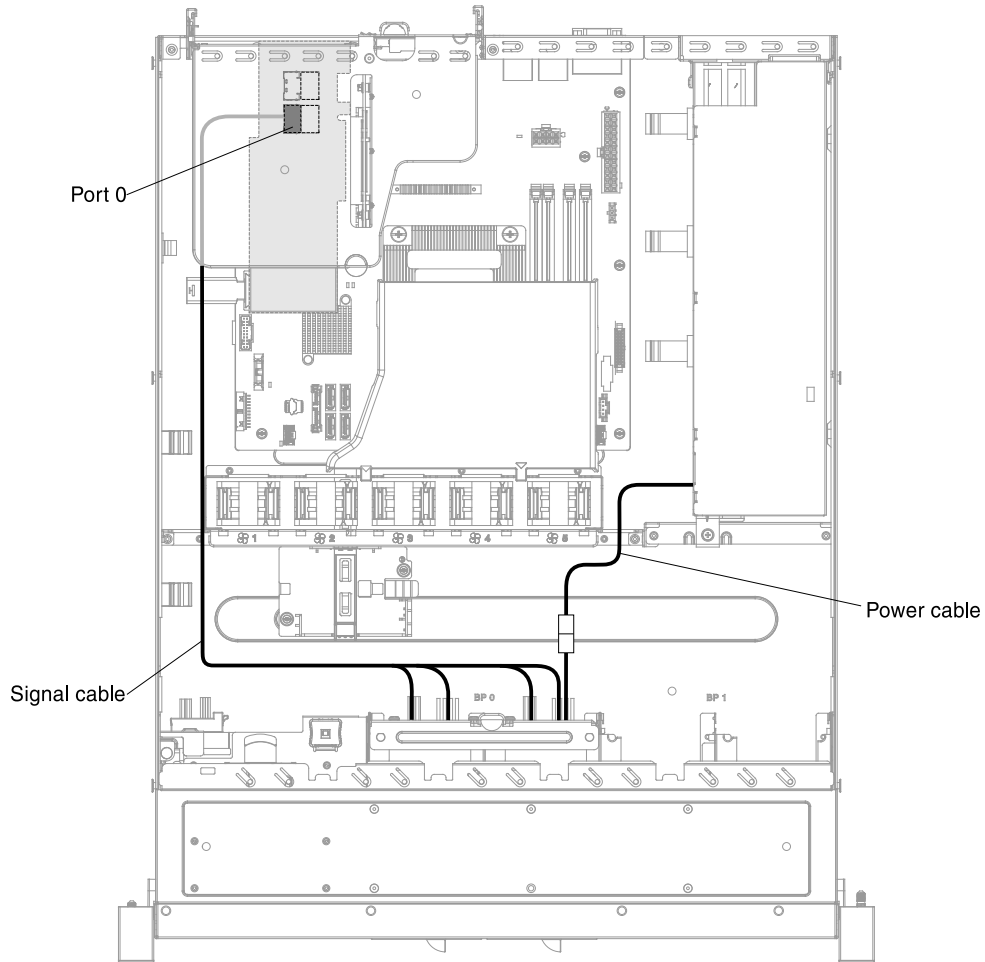
Figure 26. 2.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

If you have more than four 2.5-inch simple-swap hard disk drives, connect the cables as follows:

Port 1

Port 0

Power cable

Signal cable

Power cable

Figure 27. Eight simple-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

- If you are installing the 2.5-inch simple-swap hard disk drive backplate assembly with a right-angled mini-SAS cable connector for the right side cable connection to the PCI riser-card assembly (hardware RAID card inserted on the right side), connect the cables as follows:

Signal cable

Power cable

Figure 28. 2.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Step 6. Make sure the relevant cables pass through the cable clips.

Step 7. Reinstall the PCI riser-card assembly if applicable (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing the 3.5-inch simple-swap hard disk drive backplate assembly

Use this information to install the 3.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

There are two types of 3.5-inch simple-swap hard disk drive backplate assemblies:

(a)

Power connector

Mini-SAS connector

(b)

Power connector

Mini-SAS connector
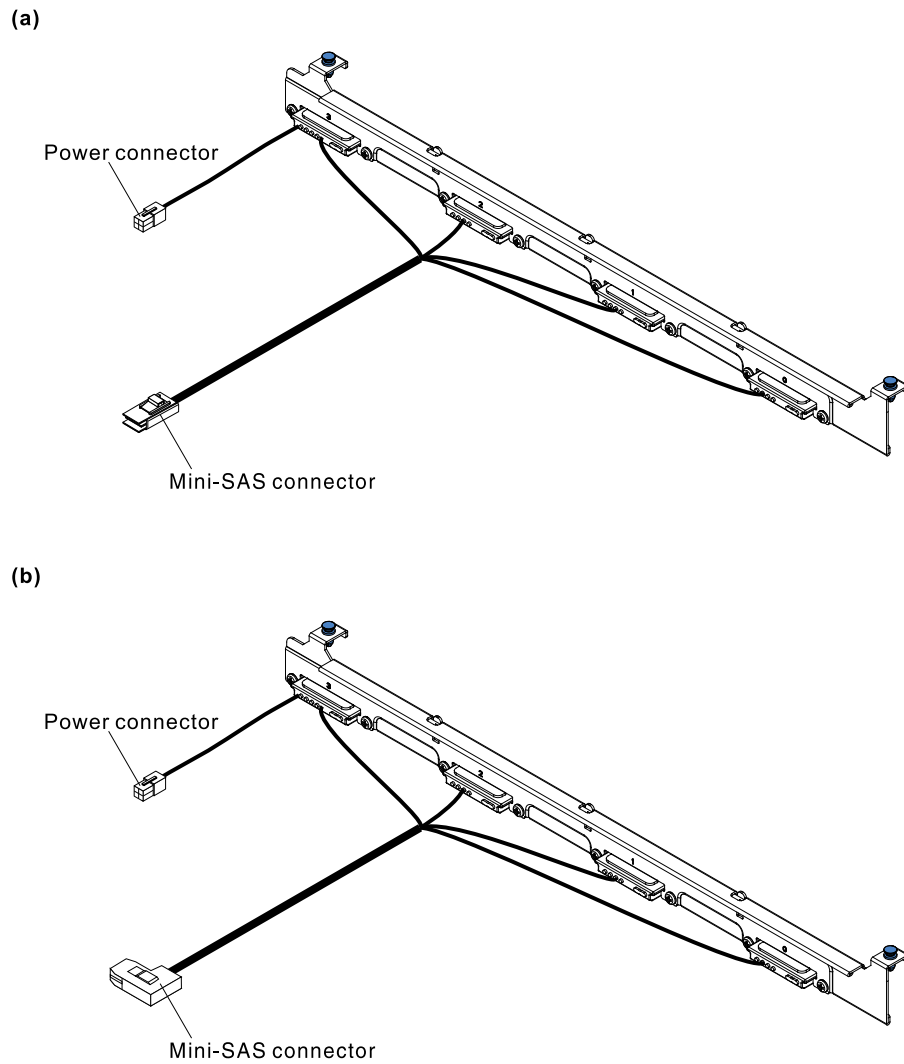
Figure 29. 3.5-inch simple-swap hard disk drive backplate assemblies

To install the 3.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the PCI riser-card assembly if applicable (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Align the tabs of the drive backplate assembly with the backplate assembly slots at the back of the backplate assembly cage.
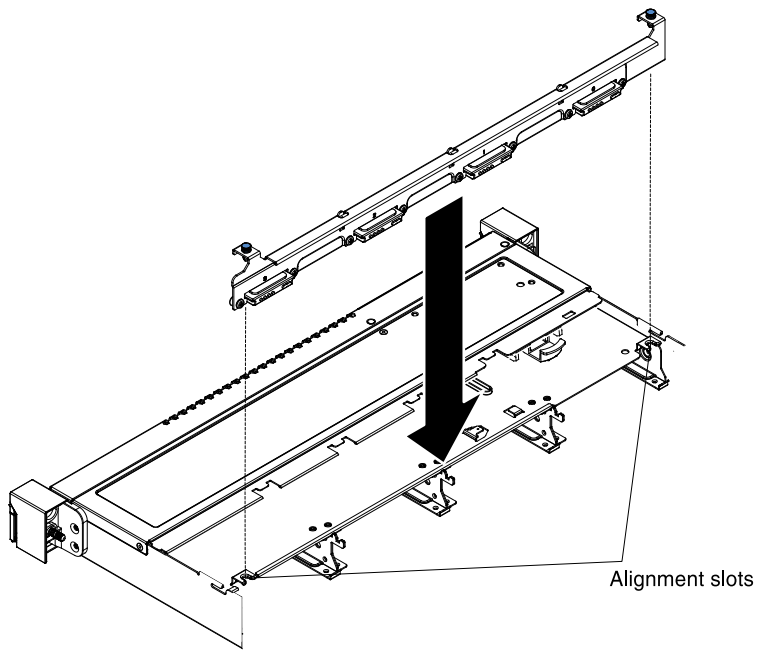
Alignment slots

Figure 30. 3.5-inch simple-swap hard disk drive backplate assembly alignment

Step 4.   Insert the drive backplate assembly tabs into the slots of the backplate assembly cage. Rotate the drive backplate assembly forward and push down the retention latch on top of the drive cage until the backplate assembly is latched.

Retention latch

Unlock   Lock
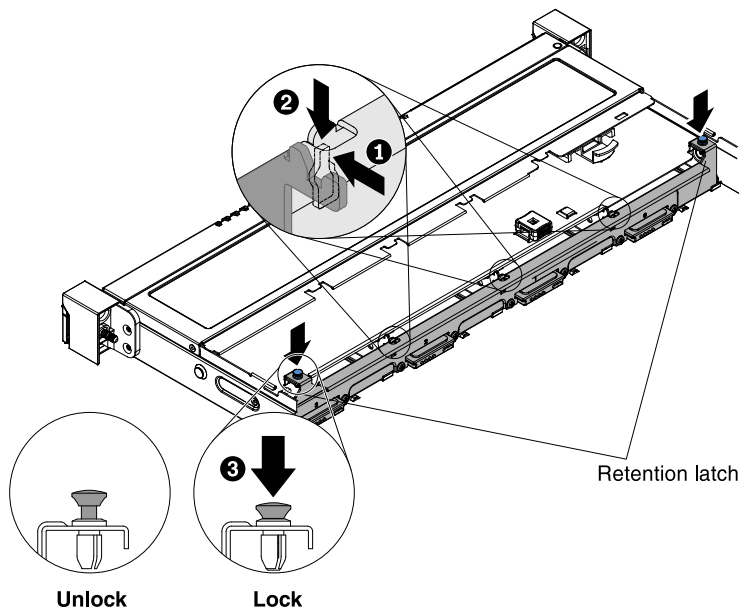
Figure 31. 3.5-inch simple-swap hard disk drive backplate assembly installation

Step 5.   Install the Lenovo ServeRAID SAS/SATA controller (see "Installing an Lenovo ServeRAID SAS/ SATA controller" on page 60) before connecting the cables to the hardware RAID card.

- If you are installing the 3.5-inch simple-swap hard disk drive backplate assembly for the left side cable connection to the PCI riser-card assembly (hardware RAID card inserted on the left side), connect the cables as follows:

Port 0

Signal cable

Power cable
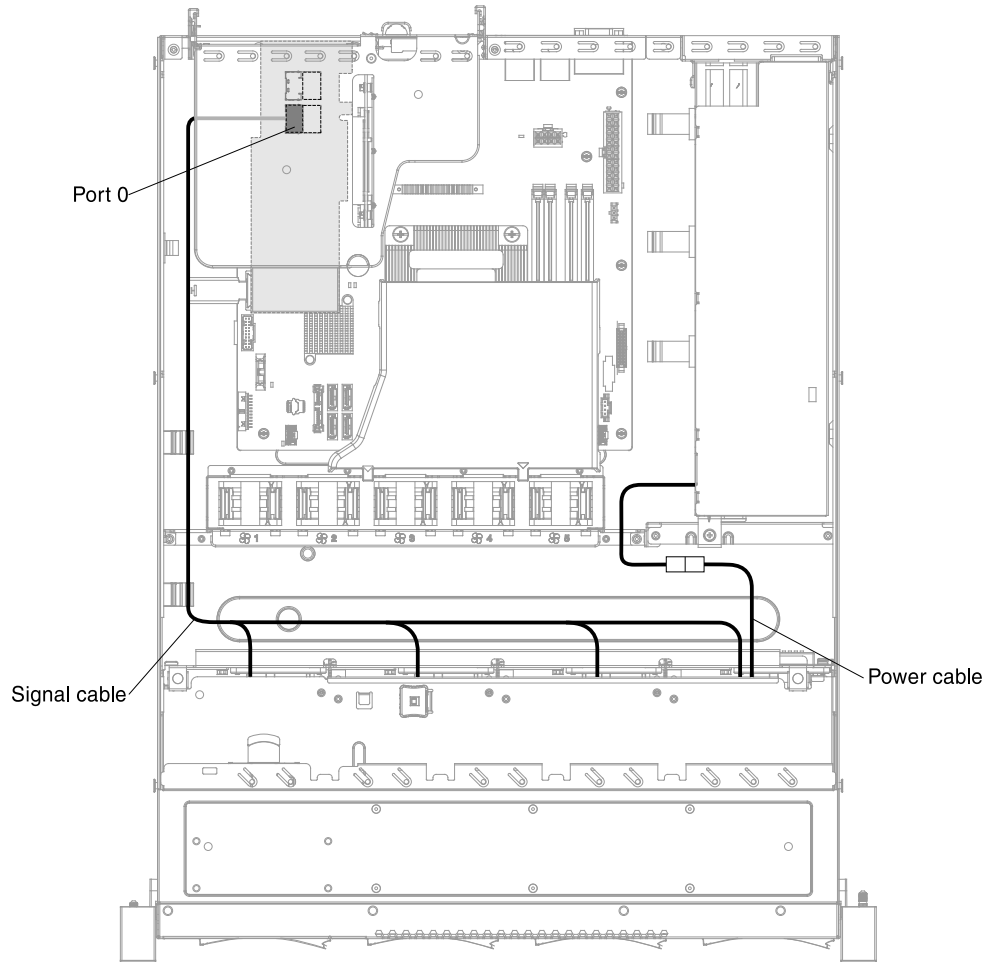
Figure 32. 3.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

- If you are installing the 3.5-inch simple-swap hard disk drive backplate assembly with a right-angled mini-SAS cable connector for the right side cable connection to the PCI riser-card assembly (hardware RAID card inserted on the right side), connect the cables as follows:
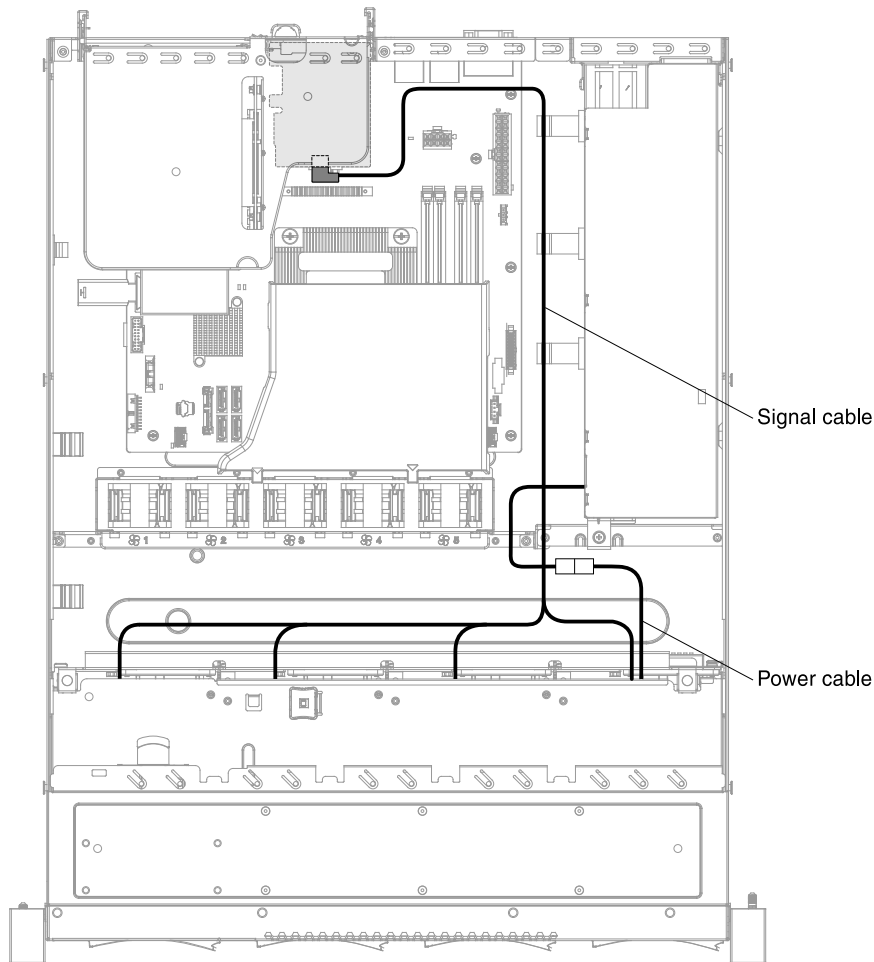
Figure 33. 3.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Step 6.   Make sure the relevant cables pass through the cable clips.

Step 7.   Reinstall the PCI riser-card assembly if applicable (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing the 2.5-inch hot-swap hard disk drive backplane (4 to 8 hard disk drive upgrade)

Use this information to install the 2.5-inch hot-swap hard disk drive backplane (4 to 8 hard disk drive upgrade).

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

The following diagram shows the 2.5-inch hot-swap hard disk drive four to eight upgrade kit contents:

Mini-SAS cable Mini-SAS cable

Power connector

Configuration connector

Mini-SAS connector

Configuration cable 2.5-inch hot-swap hard disk drive backplane
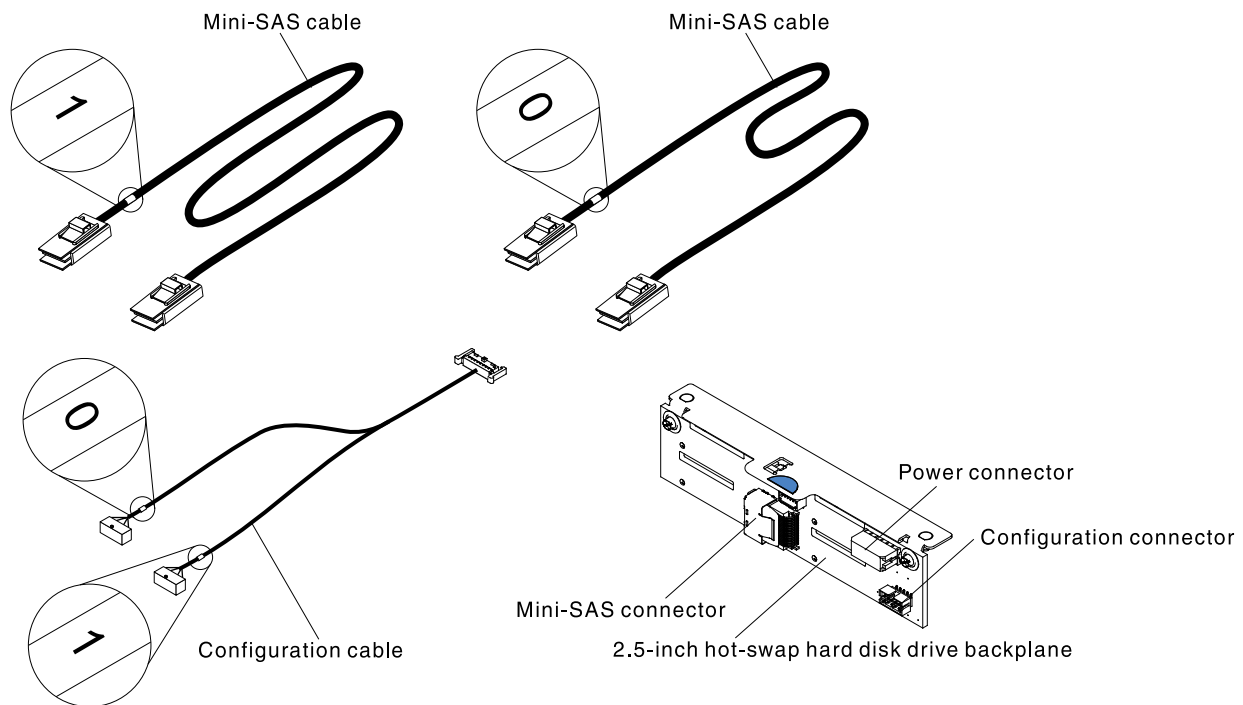
Figure 34. 2.5-inch hot-swap hard disk drive four to eight upgrade kit contents

To install the 2.5-inch hot-swap hard disk drive backplane (4 to 8 hard disk drive upgrade), complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the PCI riser-card assembly if applicable (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Disconnect and remove the existing configuration cable from the system board and the hard disk drive backplane 0. Keep the cable for future use.

Step 4. Connect the power cable from the power paddle card, Y-shaped configuration cable (labeled "1"), and mini-SAS cable (labeled "1") to the connectors on hard disk drive backplane 1. Connect the other end of the of the mini-SAS cable (labeled "1") to the hardware RAID card port 1.

Step 5. Connect the Y-shaped configuration cable (labeled "0") and mini-SAS cable (labeled "0") to the connectors on the hard disk drive backplane 0. Connect the other end of the of the mini-SAS cable (labeled "0") to the hardware RAID card port 0. Connect the other end of the Y-shaped configuration cable to the system board.

Step 6. Align the backplane with the backplane alignment slots in the chassis.

Step 7. Lower the backplane into the slot in the chassis until the front tab clicks into the latches on the chassis.
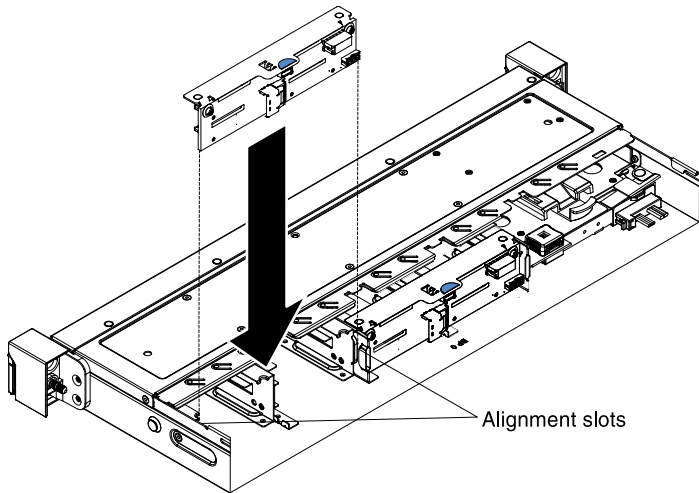
Figure 35. 2.5-inch hot-swap 4 to 8 hard disk drive upgrade backplane installation

Step 8.   Install the Lenovo ServeRAID SAS/SATA controller (see "Installing an Lenovo ServeRAID SAS/ SATA controller" on page 60) before connecting the cables to the hardware RAID card.

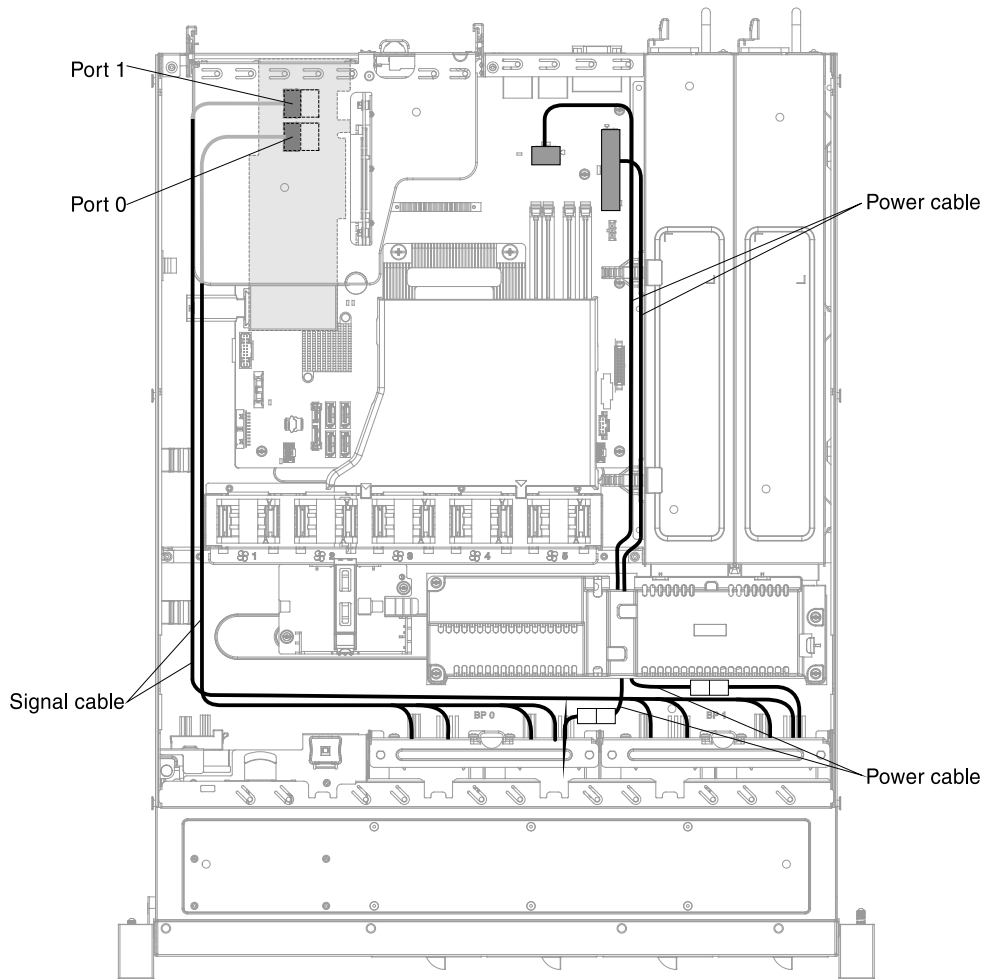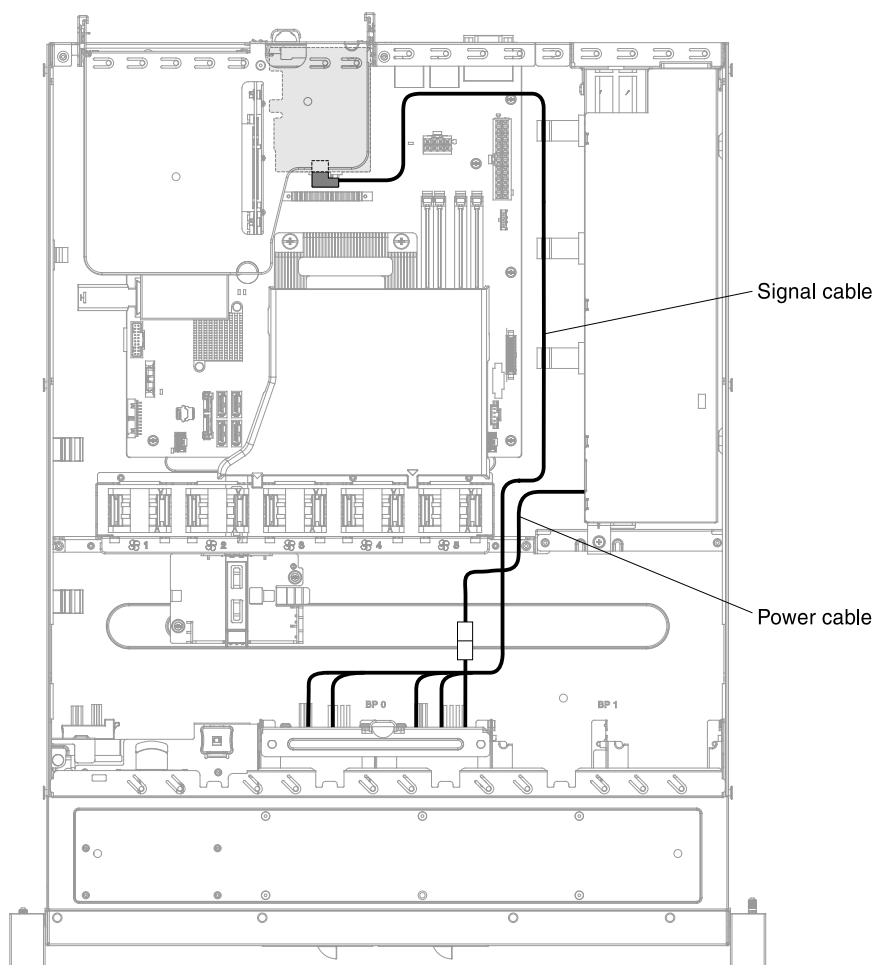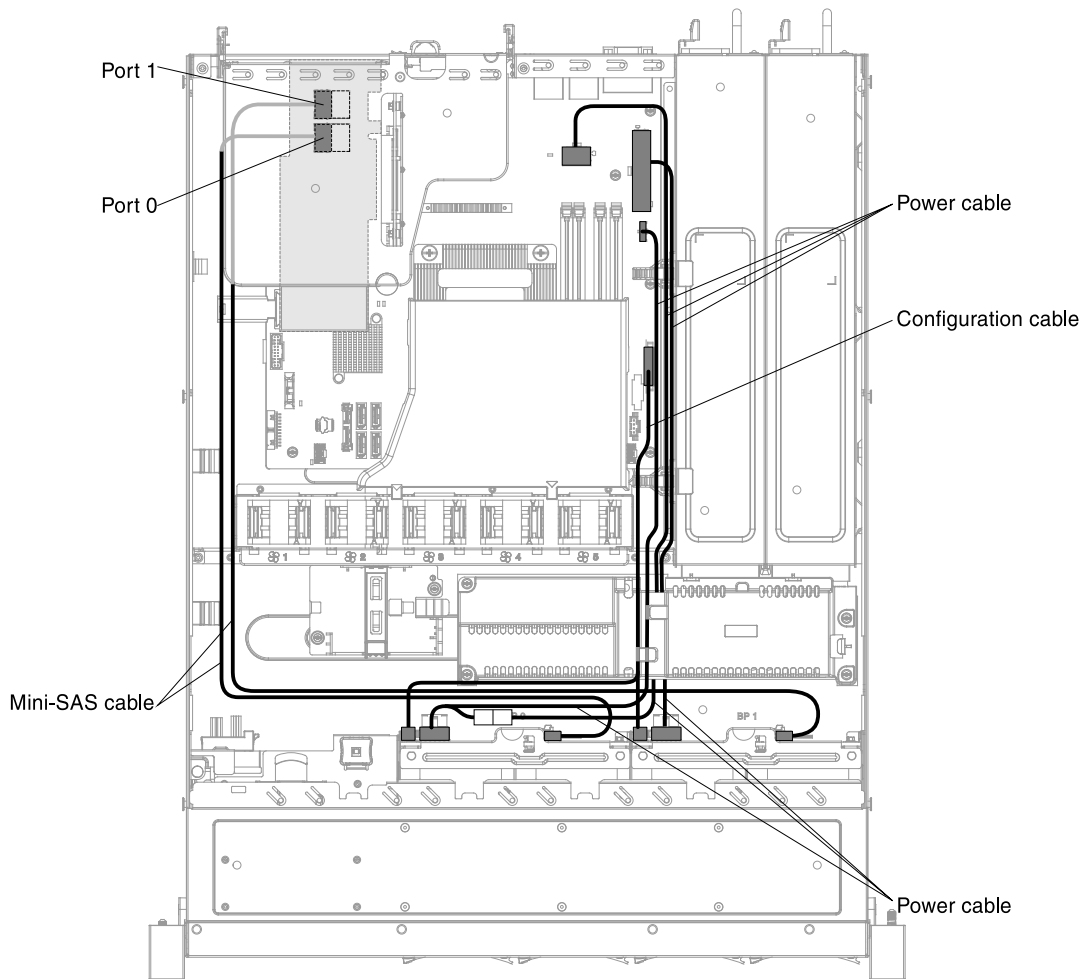*Figure 36. Eight 2.5-inch hot-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)*

Step 9.   Make sure the relevant cables pass through the cable clips.

Step 10. Reinstall the PCI riser-card assembly if applicable (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing drives

This section describes the rules to install drives.

The following notes describe the type of hard disk drives that the server supports and other information that you must consider when you install a hard disk drive. For a list of supported hard disk drives, see http:// www.lenovo.com/ serverproven/.

- 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. If you are installing a SAS or SATA hard disk drive, be sure to set the SAS or SATA ID for that device.
- The fixed power supply models can support up to four 2.5-inch or 3.5-inch hot-swap or simple-swap hard disk drives.
- The redundant power supply models can support up to eight 2.5-inch hot-swap or simple-swap hard disk drives.
- 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 optional devices for the server, see http://www.lenovo.com/ serverproven/.

Drive IDs

This section details the drive IDs.

The drive ID that is assigned to each drive is printed on the front of the server. The following illustrations show the locations of the IDs of the drives. The ID numbers and the drive bay numbers are the same.

2.5-inch hot-swap hard disk drive IDs

This section shows the 2.5-inch hot-swap hard disk drive IDs.
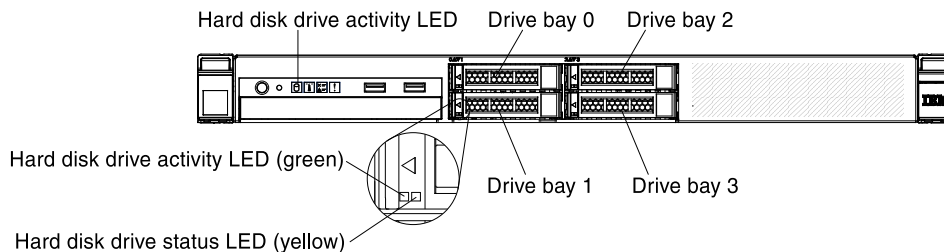
Figure 37. Front view of the four 2.5-inch hot-swap hard disk drives model
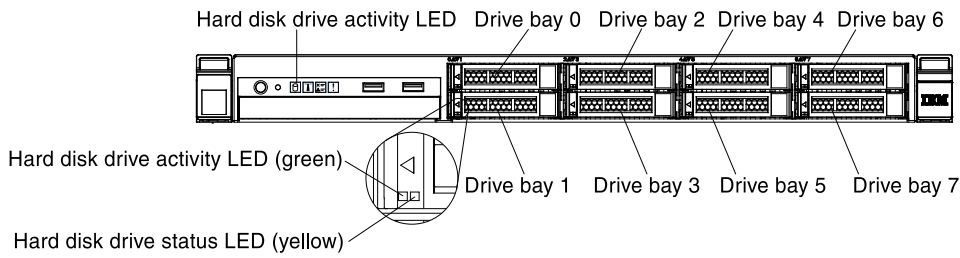
Figure 38. Front view of the eight 2.5-inch hot-swap hard disk drives model

2.5-inch simple-swap hard disk drive IDs

This section shows the 2.5-inch simple-swap hard disk drive IDs.
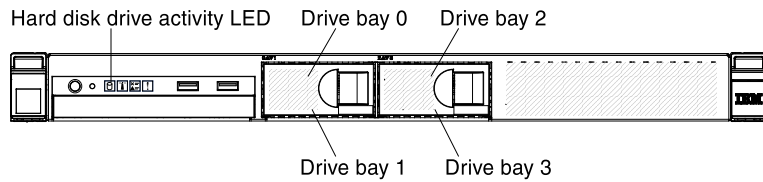
Figure 39. Front view of the four 2.5-inch simple-swap hard disk drives model
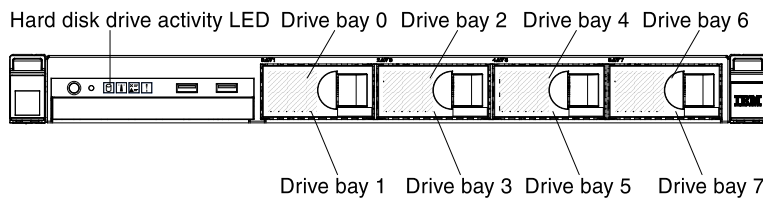
Figure 40. Front view of the eight 2.5-inch simple-swap hard disk drives model

3.5-inch hot-swap hard disk drive IDs

This section shows the 3.5-inch hot-swap hard disk drive IDs.
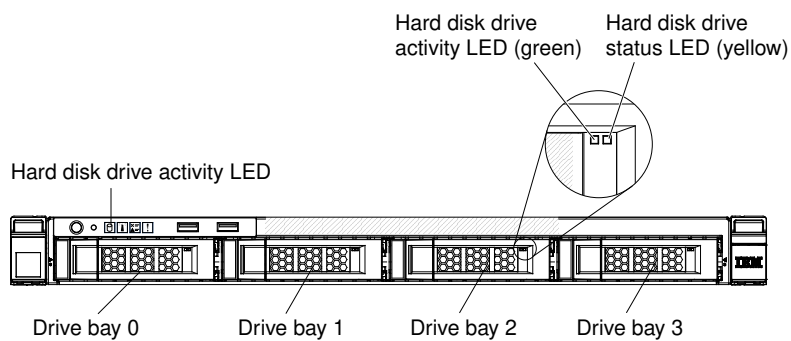
Figure 41. Front view of the 3.5-inch hot-swap hard disk drive model

3.5-inch simple-swap hard disk drive IDs

This section shows the 3.5-inch simple-swap hard disk drive IDs.

Hard disk drive activity LED

Drive bay 0   Drive bay 1   Drive bay 2   Drive bay 3
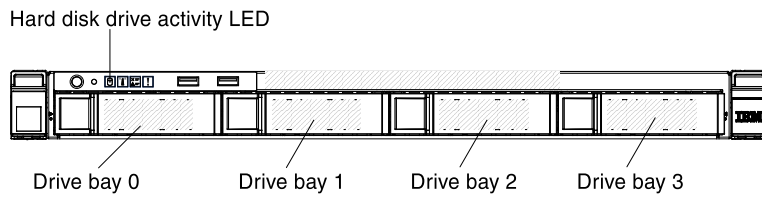
Figure 42. Front view of the 3.5-inch simple-swap hard disk drive model

Installing a hot-swap hard disk drive

Use this information to install a hot-swap hard disk drive.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

To install a hot-swap SAS or SATA hard disk drive, complete the following steps:

Note: If you have only one hard disk drive, you must install it in the left drive bay.

Attention: To avoid damage to the hard disk drive connectors, make sure that the server cover is in place and fully closed whenever you install or remove a hard disk drive.

Step 1.   Remove the filler panel from the empty drive bay. Keep the filler panel in a safe place.

Step 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.

Step 3.   Install the hard disk drive in the drive bay:

    a.   Make sure that the tray handle is in the open (unlocked) position.

    b.   Align the drive with the guide rails in the bay.

2.5-inch hot-swap hard disk drive backplane

Hard disk drive assembly

Filler panel

Figure 43. 2.5-inch hot-swap hard disk drive installation

3.5-inch hot-swap hard disk drive backplane

Hard disk
drive assembly

Filler panel
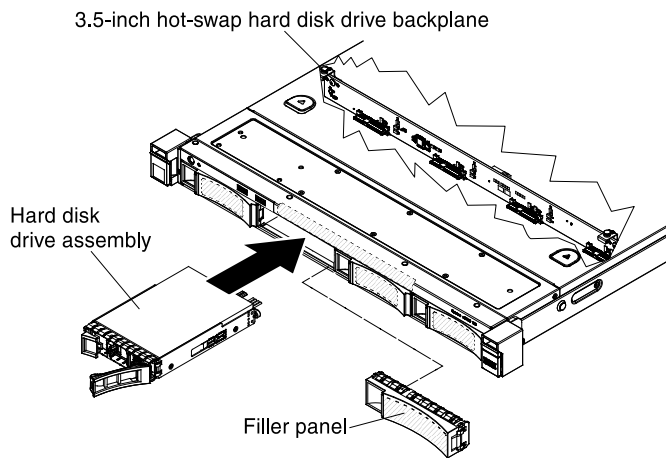
Figure 44. 3.5-inch hot-swap hard disk drive installation

c. Gently push the drive into the bay until the drive stops.

d. Rotate the tray handle to the closed (locked) position.

e. Check the hard disk drive status LED to verify that the hard disk drive is operating correctly. If the yellow hard disk drive status LED of a drive is lit continuously, that drive is faulty and must be replaced. If the green hard disk drive activity LED is flashing, the drive is being accessed.

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

Step 4. If you are installing additional hot-swap hard disk drives, do so now.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing a simple-swap hard disk drive

Use this information to install a simple-swap hard disk drive.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install a simple-swap hard disk drive, complete the following steps:

Step 1. Remove the filler panel from the empty drive bay.

Step 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.

Step 3. Install the hard disk drive in the drive bay:

    a. Grasp the black drive handle and slide the blue release latch to the right and align the drive assembly with the guide rails in the bay.

Figure 45. 2.5-inch simple-swap hard disk drive installation

2.5-inch simple-swap hard disk drive backplate assembly

Hard disk drive assembly

Filler panel

Figure 46. 3.5-inch simple-swap hard disk drive installation

3.5-inch simple-swap hard disk drive backplate assembly

Hard disk drive assembly

Filler panel

    b.   Gently push the drive into the bay until the drive stops.

Step 4.   Reinstall the drive bay filler panel that you removed earlier.

Step 5.   If you are installing additional simple-swap hard disk drives, do so now.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing the optional DVD drive

Use this information to install the DVD drive.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install the DVD drive, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the DVD drive filler panel if it is installed. Locate the blue release tab on the rear of the DVD drive filler panel; then, while you press the tab, push the DVD drive filler panel out of the drive bay.

Release tab

DVD drive filler panel
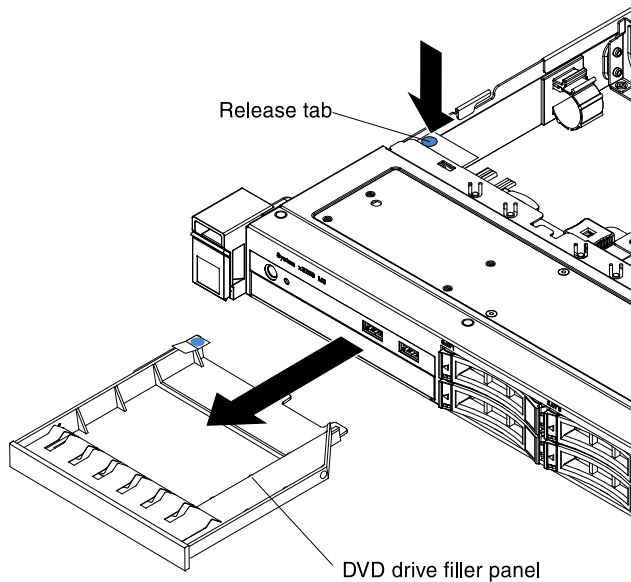
Figure 47. DVD drive filler panel removal

Step 3. Remove the retention clip from the side of the DVD drive filler panel. Save the DVD drive filler panel for future use.

Note: If you are installing an optical 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

Step 4. Touch the static-protective package that contains the new optical drive to any unpainted metal surface on the server; then, remove the optical drive from the package and place it on a static-protective surface.

Step 5. Follow the instructions that come with the drive to set any jumpers or switches.

Step 6. Attach the drive retention clip that you removed from the DVD drive filler panel to the side of the new DVD drive.
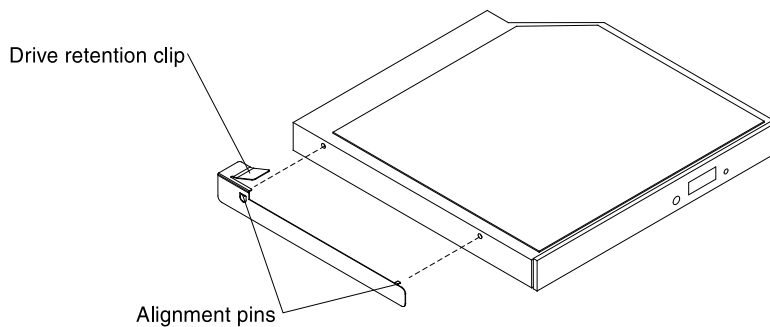
Figure 48. DVD drive retention clip installation

Step 7. Align the DVD drive in the drive bay and slide the DVD drive into the optical drive bay until the DVD drive clicks into place.
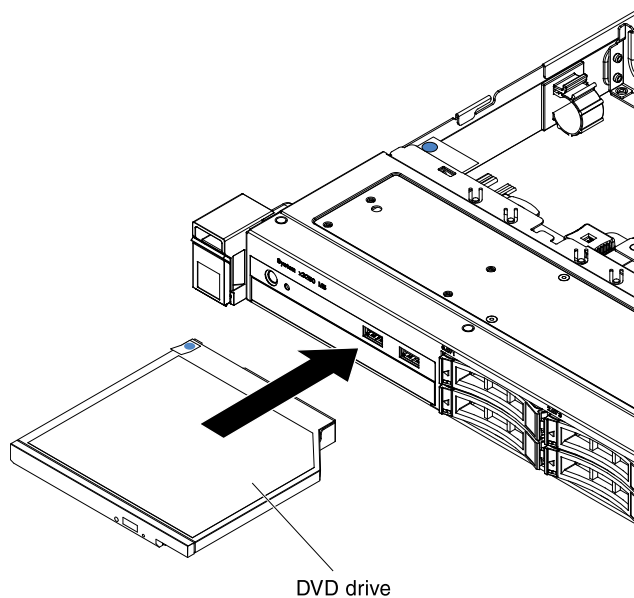
DVD drive

Figure 49. DVD drive installation

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Memory module installation

The following notes describe the types of DIMMs that the server supports and other information that you must consider when you install DIMMs.

- Confirm that the server supports the DIMM that you are installing (see http://www.lenovo.com/serverproven/).
- 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. You can use the Setup utility to view the server configuration information, see "Using the Setup utility" on page 85 for more information.
- The server supports only industry-standard double-data-rate 3 (DDR3), 1333 or 1600 MHz, PC3L-12800 (single-rank or dual-rank), unbuffered or synchronous dynamic random-access memory (SDRAM) dual inline memory modules (DIMMs) with error correcting code (ECC).
- The server supports a maximum of four single-rank or dual-rank unbuffered DIMMs.
- 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.
- The specifications of a DDR3 DIMM are on a label on the DIMM, in the following format.
- *gGBeRxf* PC3*v-wwwwwm-aa-bb-cc*

  where:

  - *gGB* is the total capacity of the DIMM (for example, 1GB, 2GB, or 4GB)
  - *eR* is the number of ranks
    - 1R = single-rank

- – 2R = dual-rank
- – 4R = quad-rank
- *xf* is the device organization or bit width (for example, x4, x8, or x16)
    - – x4 = x4 organization (4 DQ lines per SDRAM)
    - – x8 = x8 organization
    - – x16 = x16 organization
- *v* is the SDRAM and support component supply voltage (VDD)
    - – Blank = 1.5 V specified
    - – L = 1.35 V specified, 1.5 V operable

      Note: Values for these voltages are 'specified' which means the device characteristics such as timing are supported at this voltage. Values are 'operable' which means that the devices can be operated safely at this voltage. However, device characteristics such as timing may not be guaranteed. All devices must be 'tolerant' of the highest DDR3 nominal voltage of 1.5 V, meaning that they may not operate at 1.5 V but may be powered at that voltage without damage to the devices.
    - – *wwwww* is the DIMM bandwidth, in MBps
        - • 6400 = 6.40 GBps (DDR3-800 SDRAMs, 8-byte primary data bus)
        - • 8500 = 8.53 GBps (DDR3-1066 SDRAMs, 8-byte primary data bus)
        - • 10600 = 10.66 GBps (DDR3-1333 SDRAMs, 8-byte primary data bus)
        - • 12800 = 12.80 GBps (DDR3-1600 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

Notes:

1. To determine the type of a DIMM, see the label on the DIMM. The information on the label is in the format xGB nRxx PC3v-xxxxxx-xx-xx-xx. The numeral in the sixth numerical position indicates whether the DIMM is single-rank (n=1) or dual-rank (n=2).

2. 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 "Configuring the server" on page 84.

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

DIMM 4 DIMM 3 DIMM 2 DIMM 1

Figure 50. The location of the DIMM connectors on the system board

The following sections provide additional information specific to unbuffered and registered DIMMs that you must consider.

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 6. 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	1600	Dual-rank
2	2	Unbuffered DDR3 ECC	1600	Dual-rank

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

Table 7. Maximum memory population using ranked UDIMMs (depending on your model)

Number of UDIMMs	DIMM type	Size	Total memory
4	Dual-rank UDIMMs	4 GB	16 GB
4	Dual-rank UDIMMs	8 GB	32 GB

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

Table 8. UDIMM population rule

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

Installing a DIMM

Use this information to install a DIMM.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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

DIMM 4   DIMM 3   DIMM 2   DIMM 1

Figure 51. The location of the DIMM connectors on the system board

To install a DIMM, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 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 9. DIMM installation sequence

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

Step 3.   Open the retaining clip on each end of the DIMM connector.

Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.
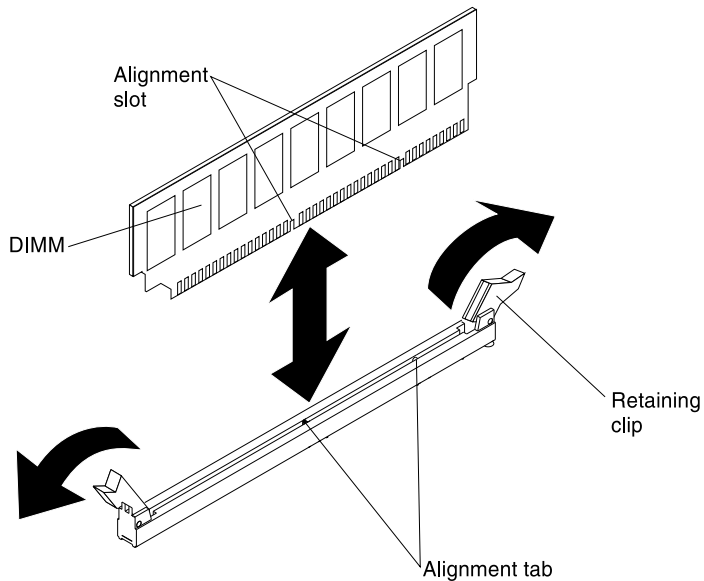
Figure 52. DIMM installation

Step 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.

Step 5.   Turn the DIMM so that the alignment slot align correctly with the alignment tab.

Step 6.   Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector.

Step 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.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing an adapter

Use this information to install an adapter.

The following notes describe the types of adapters that the server supports and other information that you must consider when you install an adapter:

- To confirm that the server supports the adapter that you are installing, see http://www.lenovo.com/serverproven/.
- Locate the documentation that comes with the adapter and follow those instructions in addition to the instructions in this section.
- The adapter slots are on the PCI riser-card assembly. You must first remove the PCI riser-card assembly to access the adapter slots.
- The expansion slots on the PCI riser-card assembly accommodate the various form factors of the non-hot-plug adapters as follows:
  – PCI slot 1: Dedicated to ServeRAID H1110 SAS/SATA Controller
  – PCI slot 2: Support one PCI Express Gen3 x8 half-length, full-height adapter

Slot 2 PCIe Gen3 x8 (8, 4, 1)

Slot 1 PCIe Gen3 x8 (4, 1)
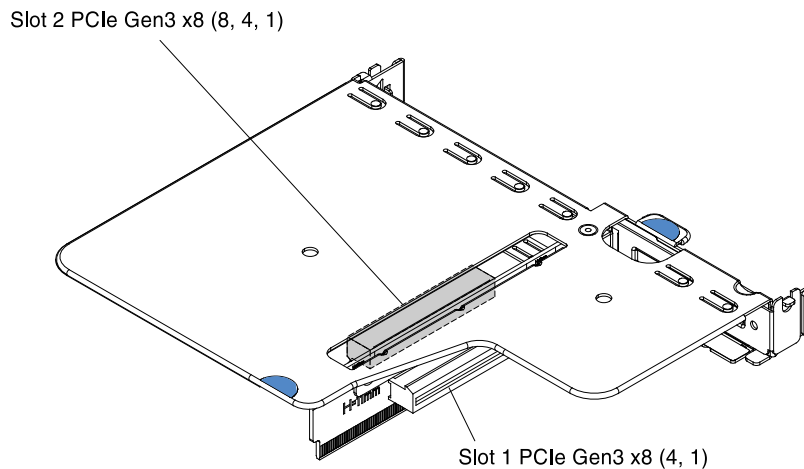
Figure 53. PCI riser-card assembly

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install an adapter, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Touch the static-protective package that contains the adapter to any unpainted metal surface on the server; then, remove the adapter from the package.

Step 4. Place the adapter, component side up, on a flat, static-protective surface and set any jumpers or switches as described by the adapter manufacturer, if necessary.

Step 5. Remove the expansion-slot filler from the PCI riser-card assembly and save for future use.

Step 6. Align the gold finger on the adapter with the connector on the PCI riser-card assembly, then, insert the adapter into the PCI riser-card assembly. Press the edge of the connector *firmly* into the PCI riser-card assembly. Make sure that the adapter is securely installed in the PCI riser-card assembly.

Important: Make sure that the U-shaped opening in the metal adapter bracket engages the tab on the expansion-slot filler.

Figure 54. Adapter installation

Step 7.   Install the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 77).

Attention: When you install an adapter, make sure that the adapter is correctly seated in the PCI riser-card assembly and that the PCI riser-card assembly is securely seated in the riser-card connector on the system board before you turn on the server. An incorrectly seated adapter might cause damage to the system board, the PCI riser-card assembly, or the adapter.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Note: If the server is configured for RAID operation through an optional ServeRAID adapter, you might have to reconfigure your disk arrays after you install an adapter. See the ServeRAID documentation on the *Lenovo ServeRAID Support* CD for additional information about RAID operation and complete instructions for using ServeRAID Manager.

Installing an Lenovo ServeRAID SAS/SATA controller

Use this information to install an Lenovo ServeRAID SAS/SATA controller.

For configuration information, see the ServeRAID SAS/SATA controller documentation at http://www.lenovo.com/support.

Important: To ensure that any of your Lenovo ServeRAID SAS/SATA controllers function properly on UEFI-based servers, make sure that the ServeRAID SAS/SATA controller firmware and supporting device drivers are updated to the latest version.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To install an Lenovo ServeRAID SAS/SATA controller, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Remove the expansion-slot filler on the slot that you intend to use and save for future use.

Attention: PCI expansion-slot fillers must be installed on all vacant slots. This maintains the electronic emissions standards of the server and ensures proper ventilation of server components.
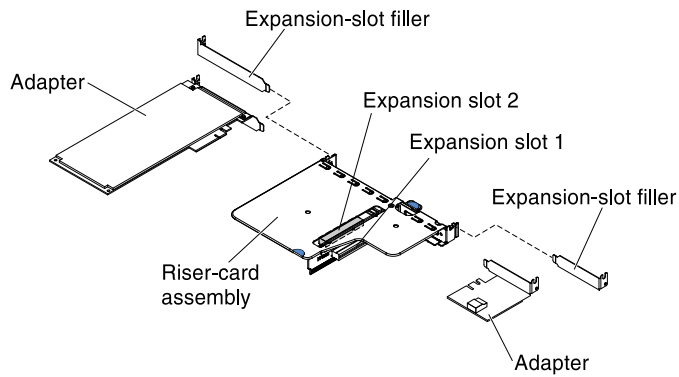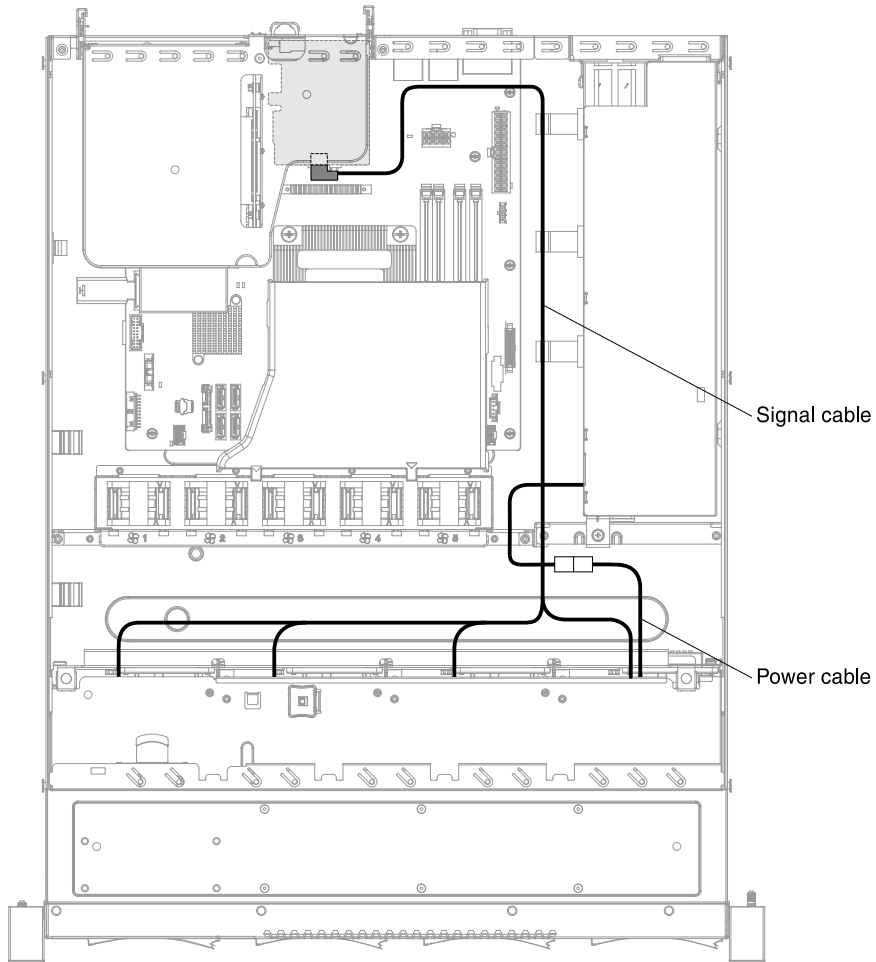
Figure 55. ServeRAID SAS/SATA controller installation

Step 4.   Touch the static-protective package that contains the new ServeRAID SAS/SATA controller to any unpainted surface on the outside of the server; then, grasp the ServeRAID SAS/SATA controller by the top edge or upper corners of the ServeRAID SAS/SATA controller and remove it from the package.

Step 5.   Take the signal cable that is attached to the drive backplate assembly/backplane and connect it to the ServeRAID SAS/SATA controller.

Port 0

Signal cable

Power cable
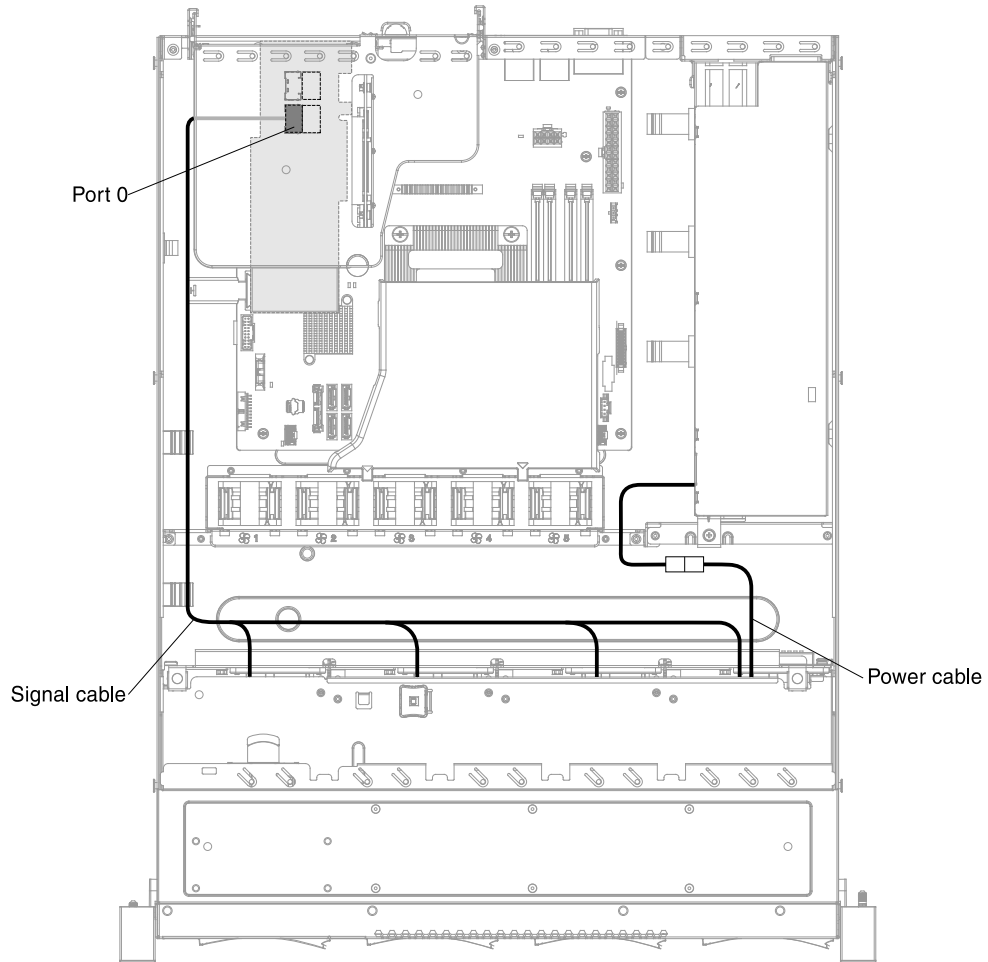
Figure 56. ServeRAID SAS/SATA controller signal cable connection for simple-swap hard disk drive models (left PCI module connection)

Figure 57. ServeRAID SAS/SATA controller signal cable connection for simple-swap hard disk drive models (right PCI module connection)

Signal cable

Power cable

Port 0

Mini-SAS cable

Configuration cable

Power cable

Figure 58. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (left PCI module connection)

Mini-SAS cable

Configuration cable

Power cable

Figure 59. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (right PCI module connection)

Port 1

Port 0

Power cable

Configuration cable

Mini-SAS cable

BP 1

Power cable
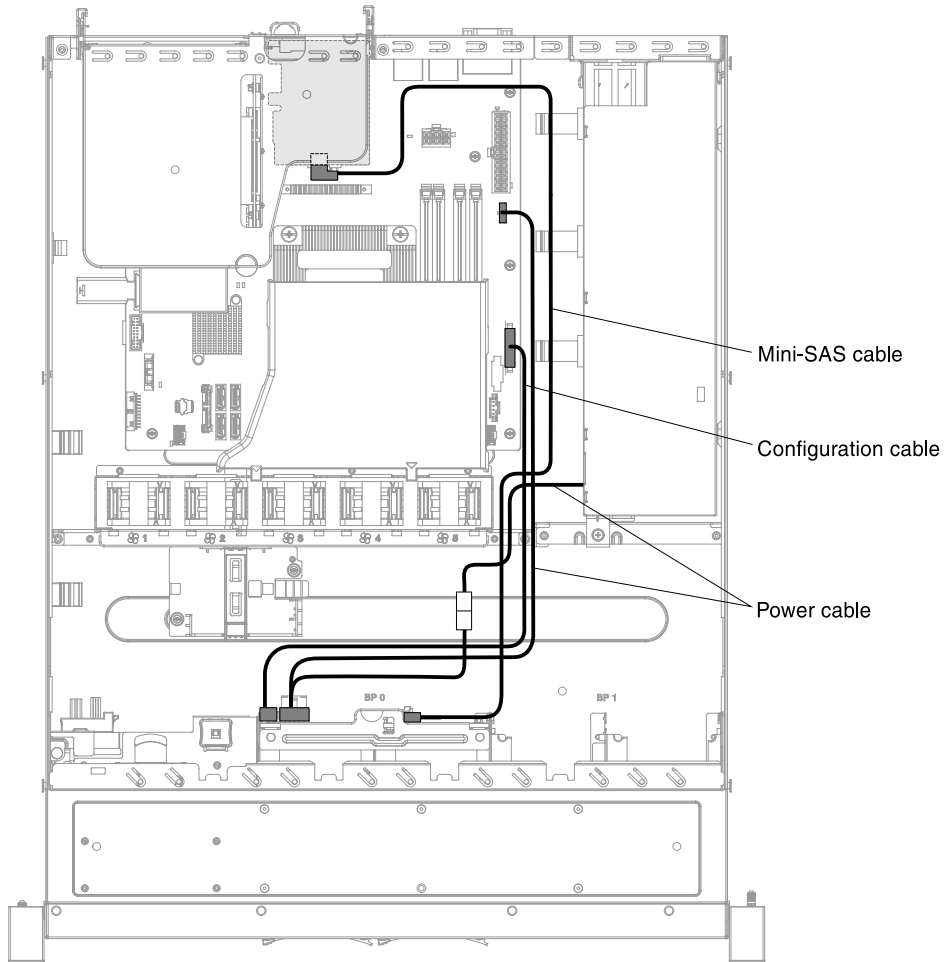
Figure 60. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (left PCI module connection with two backplanes)

Step 6. Make sure the relevant cables pass through the cable clips.

Step 7. Align the ServeRAID SAS/SATA controller so that the keys align correctly with the connector on the PCI riser-card assembly.

Step 8. Insert the ServeRAID SAS/SATA controller into the connector on the PCI riser-card assembly until it is firmly seated.

Attention: Incomplete insertion might cause damage to the server or the ServeRAID SAS/SATA controller.

Step 9. Install the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Note: When you restart the server, you are prompted to import the existing RAID configuration to the new ServeRAID SAS/SATA controller.

Installing an optional ServeRAID SAS/SATA controller memory module

Use this information to install an optional ServeRAID SAS/SATA controller memory module.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To install an optional ServeRAID SAS/SATA controller memory module, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Remove the ServeRAID SAS/SATA controller if necessary ("Removing an Lenovo ServeRAID SAS/ SATA controller" on page 188).

Step 4.   Touch the static-protective package that contains the memory card to any unpainted metal surface on the server; then, remove the memory card from the package.

Step 5.   Align the memory module with the connector on the ServeRAID SAS/SATA controller and push it into the connector until it is firmly seated.
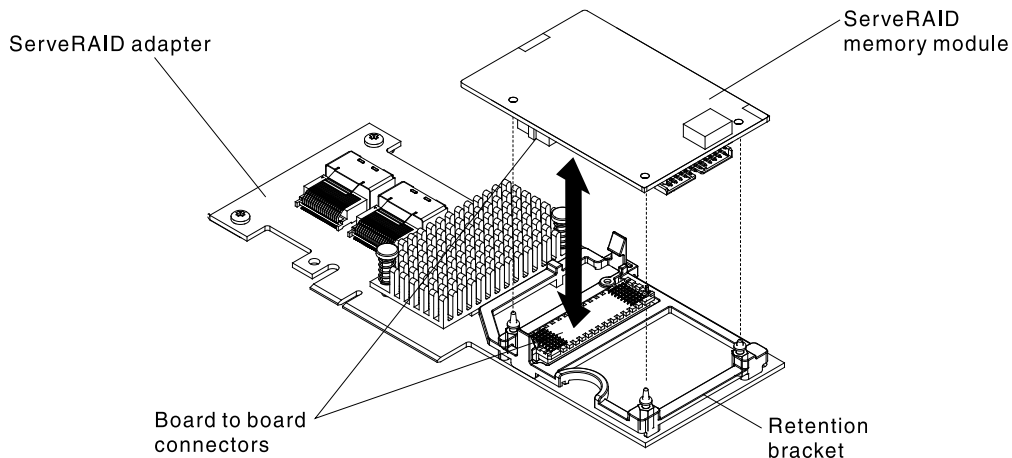
Figure 61. ServeRAID SAS/SATA controller memory module installation

Step 6.   Reinstall the ServeRAID SAS/SATA controller ("Installing an Lenovo ServeRAID SAS/SATA controller" on page 60).

Step 7.   Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing a RAID adapter battery or flash power module

Use this information to install a RAID adapter battery or flash power module in the server.

When you install any RAID adapter that comes with batteries or flash power modules, it is sometimes necessary to install the batteries or flash power modules in another location in the server to prevent the batteries or flash power modules from overheating. Depending on your server model, a battery must be installed remotely near the optical drive cage or the backplane.

Note: RAID adapter battery or flash power module is only supported in the 2.5-inch models.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install a RAID adapter battery or flash power module in the server, complete the following steps:

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Install the ServeRAID adapter in the PCI riser-card assembly (see "Installing an Lenovo ServeRAID SAS/SATA controller" on page 60).

Step 4.   Connect one end of the cable to the connector.

Step 5.   Make sure the relevant cables pass through the cable clips.
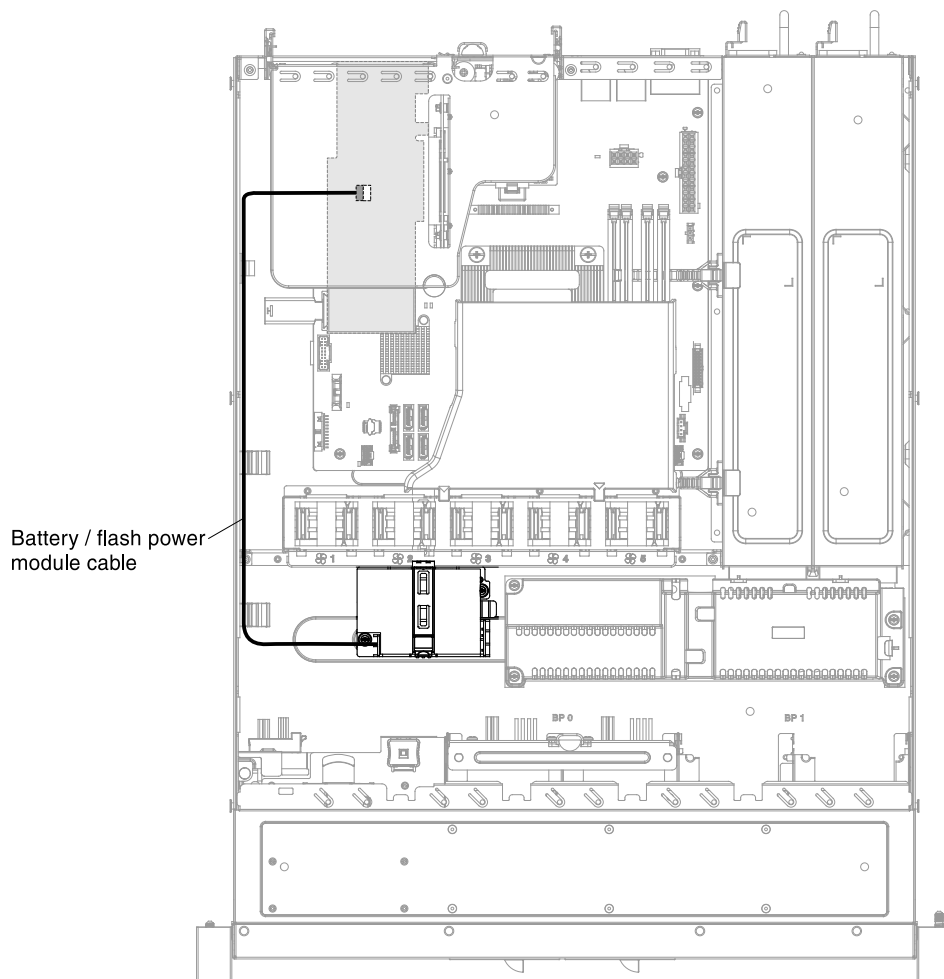
Figure 62. RAID adapter battery or flash power module cable connection

Attention: Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Step 6.   Remove any cable covering or obstructing the holder before opening the holder.

Step 7.   Install the battery or flash power module:

a.   Remove the retainer.

b. Release the retention clip in the open position.

c. Align the cable connector with the slot on the holder. Place the battery or flash power module into the holder and make sure that the holder engages the battery or flash power module securely.
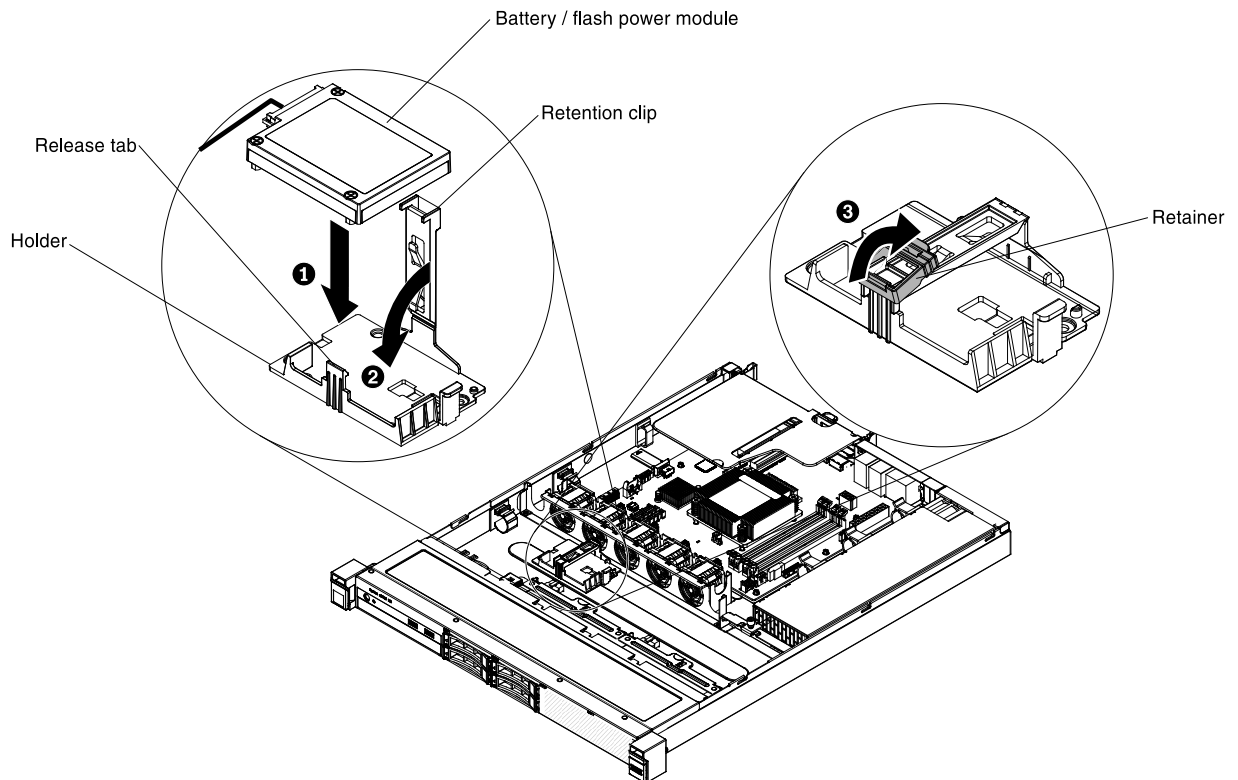
Figure 63. RAID adapter battery or flash power module installation

Note: The positioning of the remote battery or flash power module depends on the type of the remote batteries or flash power modules that you install.

d. Connect the other end of the cable to the cable connector on the battery or flash power module.

e. Lower and press down on the retention clip until it snaps in place to hold the battery or flash power module firmly in place.

f. Install the retainer.

Step 8. Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing a USB embedded hypervisor flash device

Use this information to install a USB embedded hypervisor flash device.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install a hypervisor flash device, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 33).

Step 2. Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Locate the USB embedded hypervisor flash device connector on the system board.

USB hypervisor
key connector
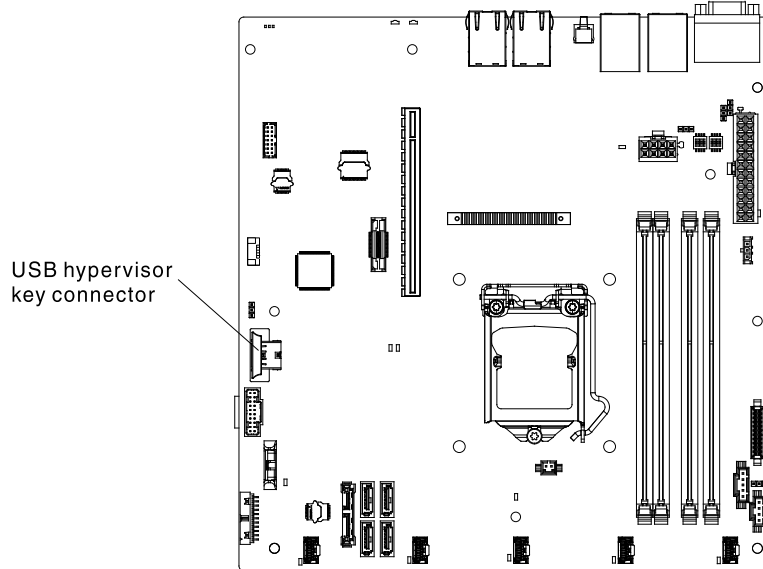
Figure 64. Location of the USB embedded hypervisor flash device connector

Step 4. Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.

Step 5. Slide the lockbar on the flash device connector to the locked position until it is firmly seated.
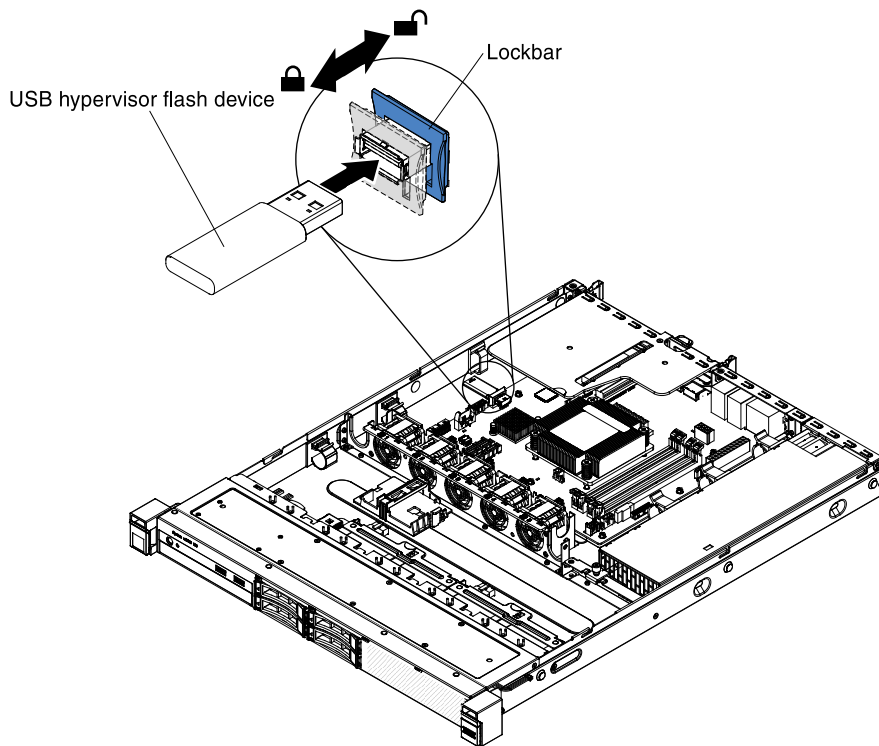
Figure 65. USB embedded hypervisor flash device installation
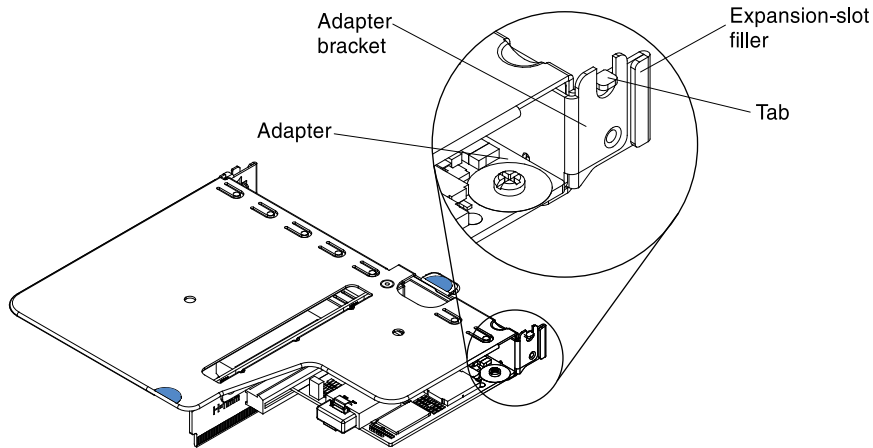
Step 6.   Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 77).

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing a hot-swap power supply

Use this information to install a hot-swap power supply.

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

- Depending on your server model, the server comes standard with one 460-watt hot-swap power supply. For redundancy support, you must install an additional hot-swap power supply, if one is not installed in your model.
- Make sure that the devices that you are installing are supported. For a list of supported optional devices for the server, see http://www.lenovo.com/ serverproven/.

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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

To install a hot-swap power supply, complete the following steps.

Step 1. Grasp the side clip and pull to remove the power-supply filler panel from the empty power-supply bay. Save the power-supply filler panel in case you remove the power supply at a later time.

Important: During normal operation, each power-supply bay must contain either a power supply or power-supply filler panel for proper cooling.
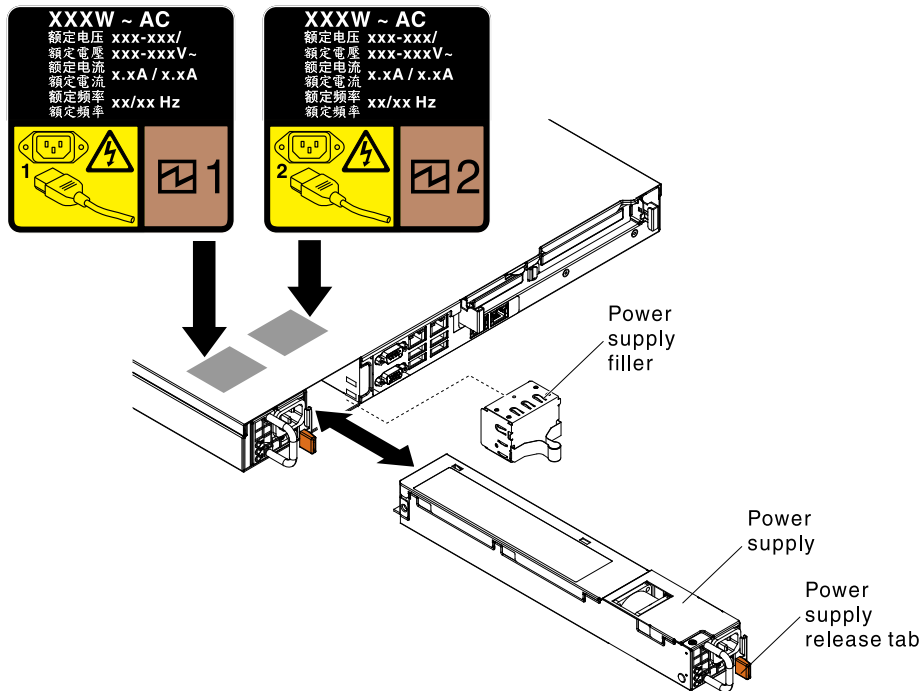
Figure 66. Hot-swap power supply installation

Step 2.   Slide the hot-swap power supply into the bay until the release latch clicks into place.

Step 3.   Connect one end of the power cord for the new power supply into the ac connector on the back of the power supply; then, connect the other end of the power cord into a properly grounded electrical outlet.

Step 4.   If the server is turned off, turn on the server.

Step 5.   Make sure that the ac power LED on the power supply is lit, indicating that the power supply is operating correctly. If the server is turned on, make sure that the dc power LED on the power supply is lit also.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 77.

Installing the *Operating temperature enhancement kit*

Use this information to install the *Operating temperature enhancement kit* in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Thermal sensor cable
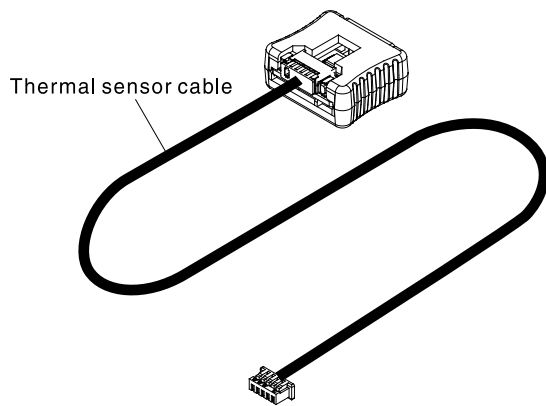
Figure 67. Operating temperature enhancement kit

To install the *Operating temperature enhancement kit*, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 33).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Connect the *Operating temperature enhancement kit* to the system board (see "System-board internal connectors" on page 26 for the location of the *Operating temperature enhancement kit* connector on the system board).

Step 4.   Route the cable along the chassis. Make sure the relevant cables pass through the cable clips.
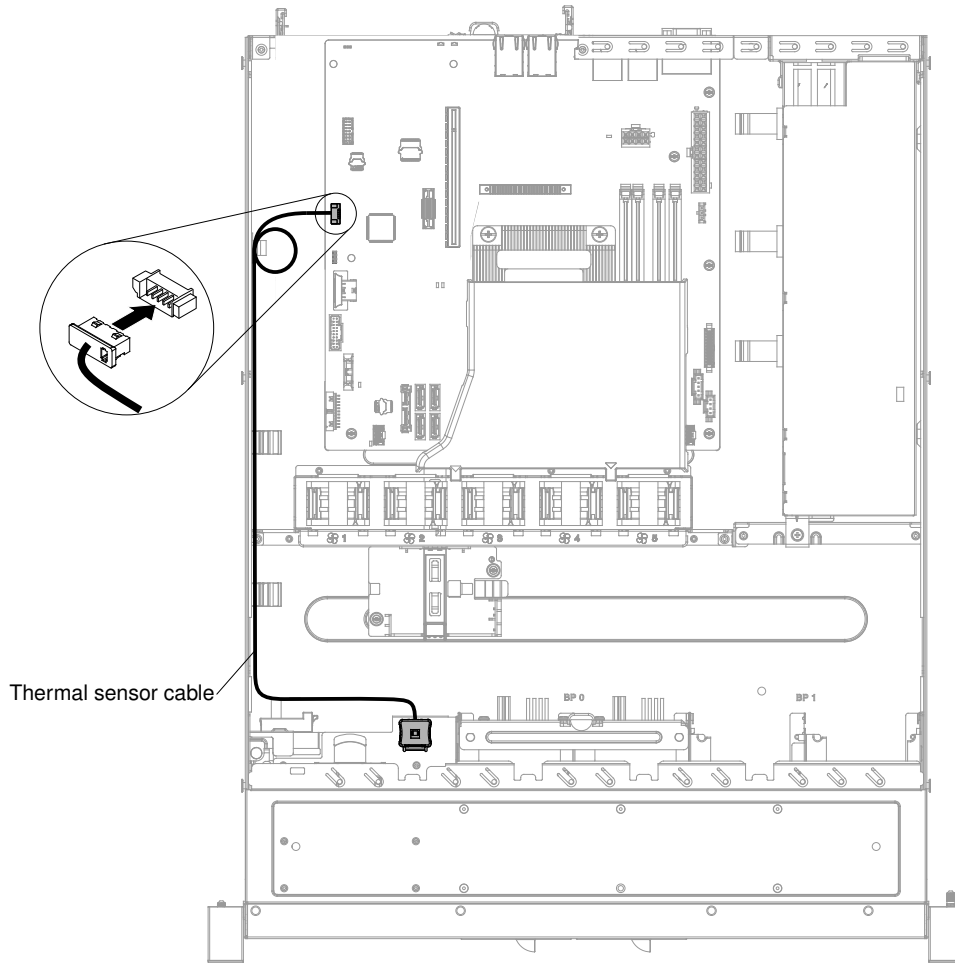
Figure 68. Operating temperature enhancement kit connection for 2.5-inch hard disk drive model
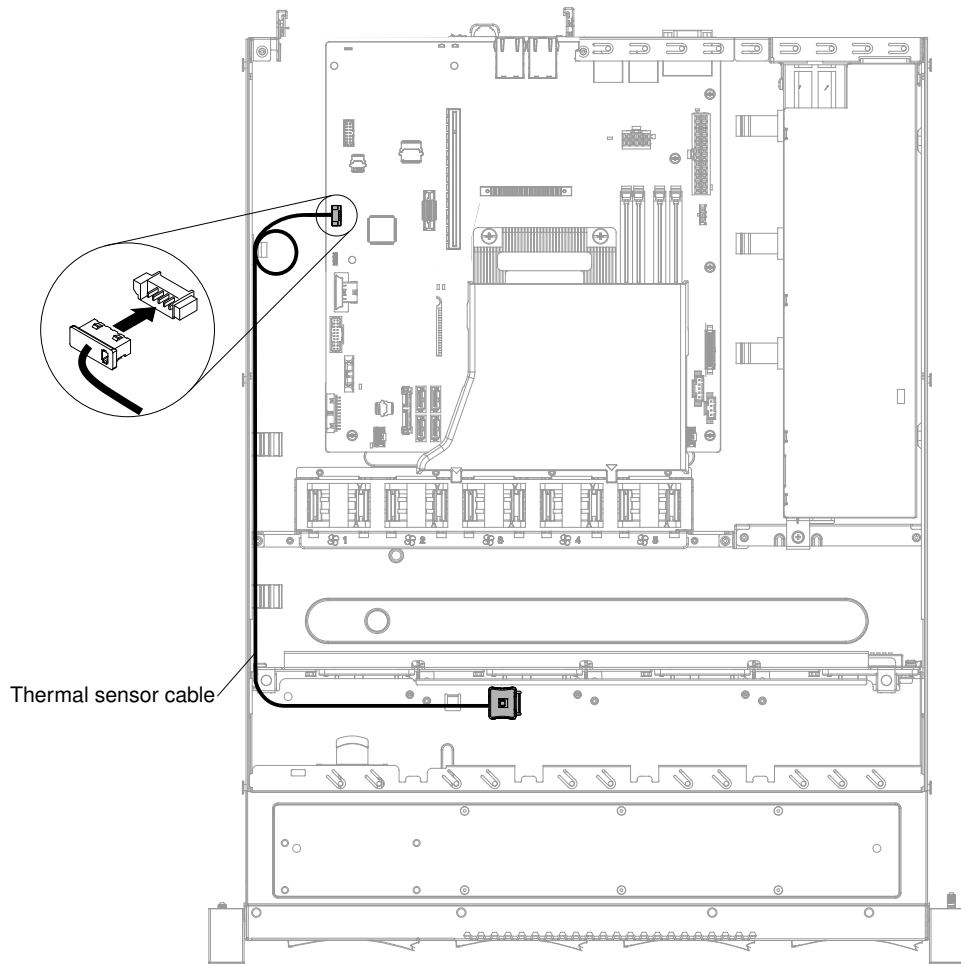
Figure 69. Operating temperature enhancement kit connection for 3.5-inch hard disk drive model

Attention: Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Step 5. Route the cable through the cable holder and slide the *Operating temperature enhancement kit* into the connecting slot on the hard disk drive cage until the *Operating temperature enhancement kit* locks into place with an audible click.
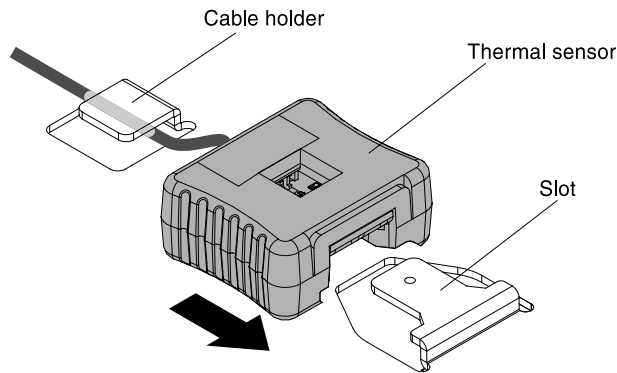
Figure 70. Operating temperature enhancement kit installation

Step 6. Reinstall the PCI riser-card assembly (see).

If you have other devices to install, do so now. Otherwise, go to .

Completing the installation

Use this information to complete the installation.

To complete the installation, complete the following steps.

Step 1.   If you removed the PCI riser-card assembly, reinstall it (see "Replacing the PCI riser-card assembly" on page 77).

Step 2.   If you removed the air baffle, reinstall it (see "Replacing the air baffle" on page 78).

Step 3.   If you removed the server cover, replace it (see "Replacing the cover" on page 79).

Step 4.   Install the server in the rack cabinet (see the *Rack Installation Instructions* that comes with the server for instructions).

Step 5.   Reconnect the cables and power cords (see "Connecting the cables" on page 80).

Step 6.   Update the server configuration (see "Updating the server configuration" on page 82).

Step 7.   Start the server. Confirm that it starts correctly and recognizes the newly installed devices, and make sure that no error LEDs are lit.

Step 8.   (Business Partners only) Complete the additional steps in "Instructions for Business Partners" on page 23.

Replacing the PCI riser-card assembly

Use this information to replace the PCI riser-card assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the PCI riser-card assembly, complete the following steps.

Step 1.   Install the adapter in the PCI riser-card assembly (see "Replacing an adapter" on page 186 or "Replacing an Lenovo ServeRAID SAS/SATA controller" on page 189).

Step 2.   Reconnect any adapter cables that you disconnected when you removed the PCI riser-card assembly.

Step 3.   Carefully align the PCI riser-card assembly with the guides on the rear of the server and with the PCI riser-card connector on the system board; then, place your thumbs on locations marked by the blue tabs and press down on the PCI riser-card assembly. Make sure that the riser-card assembly is fully seated in the connector on the system board.

Blue tab

Riser-card
assembly

Figure 71. PCI riser-card assembly installation

Step 4.   Reinstall the cover (see "Replacing the cover" on page 79).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Replacing the air baffle

Use this information to replace the air baffle.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the air baffle, complete the following steps.

Step 1.   Align the air baffle pins with the baffle pin holes on the server chassis and fan cage assembly; then, lower the air baffle into the server. Press the air baffle down until it is securely seated.

Figure 72. Air baffle installation

Step 2. Reinstall the cover (see "Replacing the cover" on page 79).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Replacing the cover

Use this information to replace the cover.

Make sure that all cables, adapters, and other server 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.

Important: Before you slide the cover forward, make sure that all the tabs on the front, rear, and side of the cover engage the chassis correctly. If all the tabs do not engage the chassis correctly, it will be very difficult to remove the cover later.

To replace the server cover, complete the following steps.

Step 1. Position the cover on top of the server.

Step 2. Slide the cover toward the front of the server.

Figure 73. Cover installation

Step 3. Make sure that the cover correctly engages all the inset tabs on the server.

Step 4. Slide the server all the way into the rack until the server locks into place with an audible click.

Step 5. Reconnect the power cords and all external cables, and turn on the server and peripheral devices.

Step 6. Check the "Server controls, LEDs, and power" on page 15.

Connecting the cables

Use this information to connect the cables.

The following illustration shows the locations of the input and output connectors on the front of the server.
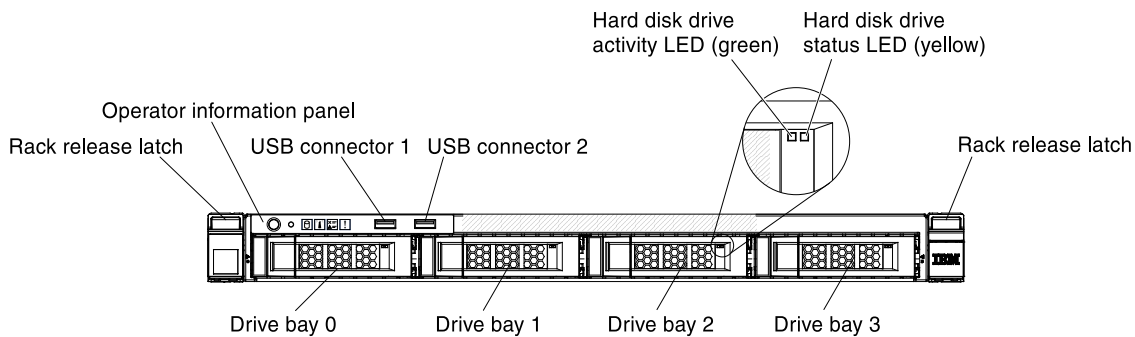
Figure 74. Input and output connectors on the front of the 3.5-inch hard disk drive server model
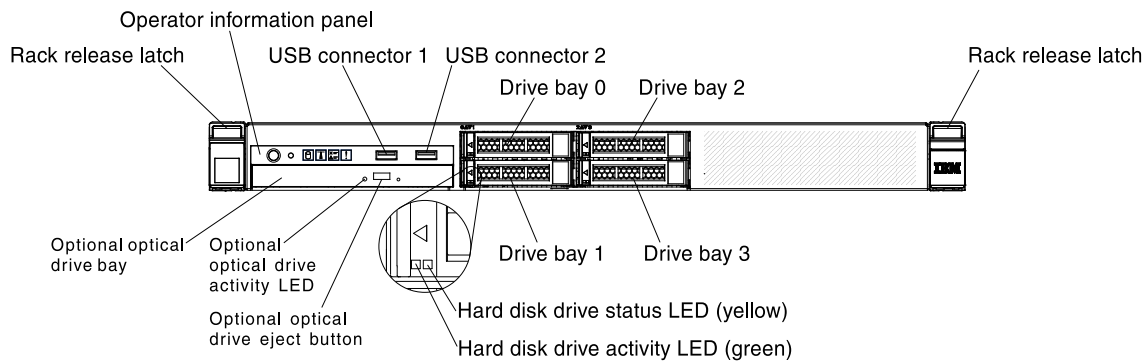
Figure 75. Input and output connectors on the front of the 2.5-inch hard disk drive server model

The following illustration shows the locations of the input and output connectors on the rear of the server.
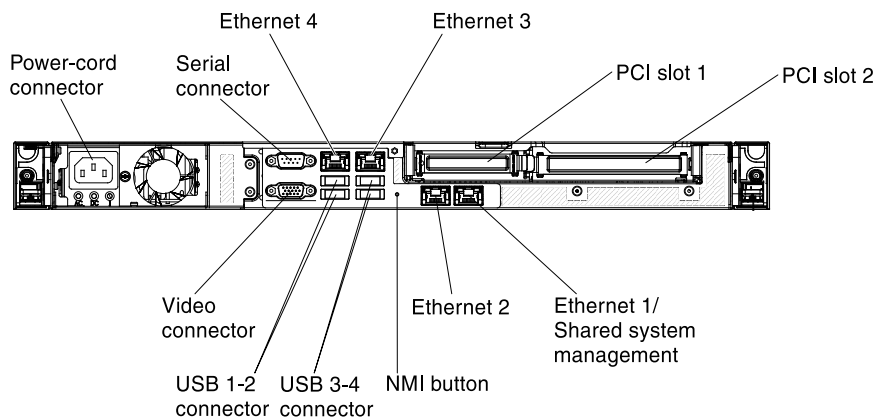
Figure 76. Input and output connectors on the back of the fixed power-supply server model
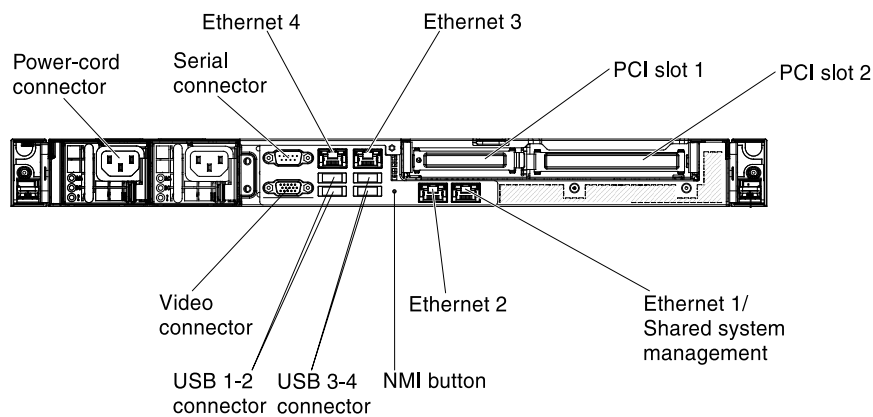
Figure 77. Input and output connectors on the back of the redundant power-supply server model

Step 1. You must turn off the server before you connect or disconnect cables.

Step 2. See the documentation that comes with any external devices for additional cabling instructions. It might be easier for you to route cables before you connect the devices to the server.

Step 3. Cable identifiers are printed on the cables that come with the server and optional devices. Use these identifiers to connect the cables to the correct connectors.

Refer to the "Internal cable routing and connectors" on page 259 for internal cable routing information.

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 Ethernet controller, see "Configuring the Ethernet controller" on page 96.

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 https://support.lenovo.com/us/en/ documents/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 II (IMM2) 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.

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 85.

- **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 91.

- **Integrated Management Module II (IMM2)**

  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 IMM2, see "Using the Integrated Management Module II (IMM2)" on page 92 and the *Integrated Management Module II User's Guide* at https://pubs.lenovo.com/imm2/.

- **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 95.

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

  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 IMM2 memory and mapping it to the server as a virtual drive

  The blue-screen capture feature captures the video display contents before the IMM2 restarts the server when the IMM2 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 94.

- **Ethernet controller configuration**

  For information about configuring the Ethernet controller, see "Configuring the Ethernet controller" on page 96.

- **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 96.

- **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 97.

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

  Use this program as an alternative to the Setup utility for modifying UEFI settings and IMM2 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 97.

- **Configuring RAID arrays**

  For information about configuring RAID arrays, see "Configuring RAID arrays" on page 97.

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

Table 10. 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-H1110 adapter	LSI Utility (Setup utility, press Ctrl+C), ServerGuide, Human Interface Infrastructure (HII)	MegaRAID Storage Manager (MSM), SAS2IRCU (Command Line) Utility for Storage Management
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
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 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.

To start the Setup utility, complete the following steps:

Step 1.   Turn on the server.

> **Note:** Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.

Step 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.

Step 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 II (IMM2) 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.

Note: In the legacy mode, this system has limited ROM space for installed options. At most four network interface cards (NICs) are supported for legacy PXE boot. If more than four NICs are installed, legacy PXE boot will not be attempted on some of the NICs. To enable legacy PXE boot on the desired NIC connectors, prioritize the desired NIC connectors by changing the **Rom execution Order** or disable the NIC connectors that you do not use from **Enable/Disable Adapter Option ROM Support** menu.

– **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 II (IMM2)**

Select this choice to view or change the settings for the Integrated Management Module II (IMM2).

– **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 IMM2. The default is **Enable**.

– **Network Configuration**

Select this choice to view the system management network interface port, the IMM2 MAC address, the current IMM2 IP address, and host name; define the static IMM2 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 IMM2.

– **Reset IMM2 to Defaults**

Select this choice to view or reset IMM2 to the default settings.

– **Reset IMM2**

Select this choice to reset IMM2.

– **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 Log**

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 II (IMM2).

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 90 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 90 for more information.

- – **Clear Power-on Password**

    Select this choice to clear a power-on password. See "Power-on password" on page 90 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 91 for more information.

– **Clear Administrator Password**

Select this choice to clear an administrator password. See "Administrator password" on page 91 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.

- Change the position of the power-on password switch (enable switch 2 of the system board switch block (SW1) to bypass the password check (see "System-board switches and jumpers" on page 27 for more information).

   Attention: Before you change any switch settings or move any jumpers, turn off the server; then, disconnect all power cords and external cables. See the safety information that begins "Safety" on page v. Do not change settings or move jumpers on any system-board switch or jumper blocks that are not shown in this document.

   The default for all of the switches on switch block SW1 is Off.

   While the server is turned off, move switch 2 of the switch block SW1 to the On position to enable the power-on password override. You can then start the Setup utility and reset the power-on password. You do not have to return the switch to the previous position.

   The power-on password override switch does not affect the administrator password.

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.

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:

Step 1.   Turn off the server.

Step 2.   Restart the server.

Step 3.   When the prompt `<F12> Select Boot Device` is displayed, press `F12`.

Step 4.   Use the Up arrow and Down arrow keys to select an item from the menu and press Enter.

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, place the UEFI boot backup jumper in the backup position (pins 2 and 3) to enable the UEFI recovery mode. See "System-board switches and jumpers" on page 27 for the location of the UEFI boot backup jumper.

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, move the UEFI boot backup jumper back to the primary position (pins 1 and 2).

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**.

Changing the Power Policy option to the default settings after loading UEFI defaults

The default settings for the Power Policy option are set by the IMM2.

To change the Power Policy option to the default settings, complete the following steps.

Step 1.   Turn on the server.

> **Note:** Approximately 20 seconds after the server is connected to AC power, the power-control button becomes active.

Step 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.

Step 3.   Select **System Settings ➔ Integrated Management Module**, then set **Power Restore Policy** setting to `Restore`.

Step 4.   Go back to **System Configuration and Boot Management ➔ Save Settings**.

Step 5.   Go back and check the **Power Policy** setting to verify that it is set to `Restore` (the default).

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 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, a 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 https://pubs.lenovo.com/imm2/.

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 IMM2 memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM2 restarts the server when the IMM2 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 IMM2 host name

Use this information to obtain the IMM2 host name.

If you are logging on to the IMM2 for the first time after installation, the IMM2 defaults to DHCP. If a DHCP server is not available, the IMM2 uses a static IP address of 192.168.70.125. The default IPv4 host name is "IMM-" (plus the last 12 characters on the IMM2 MAC address). The default host name also comes on the IMM2 network access tag that comes attached to the power supply on the rear of the server. The IMM2 network access tag provides the default host name of the IMM2 and does not require you to start the server.

The IPv6 link-local address (LLA) is derived from the IMM2 default host name. The IMM2 LLA is on the IMM2 network access tag is on the power supply on the rear of the server. To derive the link-local address, complete the following steps:

Step 1.   Take the last 12 characters on the IMM2 MAC address (for example, 5CF3FC5EAAD0).

Step 2.   Separate the number into pairs of hexadecimal characters (for example, 5C:F3:FC:5E:AA:D0).

Step 3.   Separate the first six and last six hexadecimal characters.

Step 4.   Add "FF" and "FE" in the middle of the 12 characters (for example, 5C F3 FC FF FE 5E AA D0).

Step 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).

Step 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.

Step 7.   Convert the binary back to hexadecimal (for example, 5E F3FCFFFE5EAAD0).

Obtaining the IP address for the IMM2

Use this information to obtain the IP address for the IMM2.

To access the web interface to use the remote presence feature, you need the IP address or host name of the IMM2. You can obtain the IMM2 IP address through the Setup utility and you can obtain the IMM2 host name from the IMM2 network access tag. The server comes with a default IP address for the IMM2 of 192.168.70.125.

To obtain the IP address, complete the following steps:

Step 1.   Turn off the server.

Note: Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.

Step 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.

Step 3. From the Setup utility main menu, select **System Settings**.

Step 4. On the next screen, select **Integrated Management Module**.

Step 5. On the next screen, select **Network Configuration**.

Step 6. Find the IP address and write it down.

Step 7. Exit from the Setup utility.

Logging on to the web interface

Use this information to log on to the web interface.

To log on to the IMM2 web interface, complete the following steps:

Step 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 IMM2 to which you want to connect.

Note: If you are logging on to the IMM2 for the first time after installation, the IMM2 defaults to DHCP. If a DHCP host is not available, the IMM2 assigns a static IP address of 192.168.70.125. TheIMM2 network access tag provides the default host name of the IMM2 and does not require you to start the server.

Step 2. On the Login page, type the user name and password. If you are using the IMM2 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 IMM2 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.

Step 3. Click **Log in** to start the session. The System Status and Health page provides a quick view of the system status.

Note: If you boot to the operating system while in the IMM2 GUI and the message "Booting OS or in unsupported OS" is displayed under **System Status ➙ System State**, disable Windows 2008 or 2012 firewall or type the following command in the Windows 2008 or 2012 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 IMM2 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.

The USB flash device can be installed in USB connectors on the system board (see "System-board internal connectors" on page 26 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:

Step 1.   Turn on the server.

Note: Approximately 5 to 10 seconds after the server is connected to power, the power-control button becomes active.

Step 2.   When the prompt `<F1> Setup` is displayed, press `F1`.

Step 3.   From the Setup utility main menu, select **Boot Manager**.

Step 4.   Select **Add Boot Option**; then, select **Generic Boot Option ➙ Embedded Hypervisor**. Press Enter, and then select Esc.

Step 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.

Step 6.   Select **Save Settings** and then select **Exit Setup**.

If the embedded hypervisor flash device image becomes corrupt, you can download the image from http:// www.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 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.

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.

To find device drivers and information about configuring the Ethernet controllers, go to 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 https://fod.lenovo.com/lkms, 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 https://fod.lenovo.com/lkms, log in, and click **Help**.

Configuring RAID arrays

Through the Setup utility, you can access utilities to configure RAID arrays.

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:

Step 1.   Turn on the server.

> **Note:** Approximately 10 seconds after the server is connected to power, the power-control button becomes active.

Step 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.

Step 3.   Select **System Settings → Storage**.

Step 4.   Press Enter to refresh the list of device drivers.

Step 5.   Select the device driver for your RAID controller and press Enter.

Step 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 IMM2 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 https://support.lenovo.com/us/en/ documents/ LNVO-ASU.

Using Lenovo XClarity Administrator

The initial setup of Lenovo XClarity Administrator includes the following:

- Preparing the network
- Installing and configuring the Lenovo XClarity Administrator virtual appliance
- Managing systems
- Setting up automatic problem notification optionally

To manage systems based on the network topology that is implemented in your environment, there are a number of different ways to connect manageable systems to the network and to set up the Lenovo XClarity Administrator. If you plan to use Lenovo XClarity Administrator to manage the server, you must check for the latest applicable Lenovo XClarity Administrator updates. For installing the Lenovo XClarity Administrator in VMware ESXi-based and Hyper-V environments and downloading Lenovo XClarity Administrator updates, go to:
https://support.lenovo.com/us/en/ documents/LNVO-XCLARIT

Lenovo XClarity Administrator offers a free, 90-day trial license that enables you to use all available features (including operating-system deployment, firmware maintenance, and configuration management) for a limited time. To continue using Lenovo XClarity Administrator after the 90-day trial period, you are required to purchase a full-function-enablement license for each Lenovo XClarity Administrator instance. You can purchase and download the license from:
https://support.lenovo.com/us/en/documents/lnvo-lxcaupd

Updating Systems Director

Use this information to update the Systems Director.

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

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

Step 1. Check for the latest version of Systems Director:

    a. Go to http://www.ibm.com/systems/software/director/resources.html.

    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.

Step 2. Install the Systems Director program.

Installing updates with your management server is connected to the Internet

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

Step 1. Make sure that you have run the Discovery and Inventory collection tasks.

Step 2. On the Welcome page of the Systems Director web interface, click **View updates**.

Step 3. Click **Check for updates**. The available updates are displayed in a table.

Step 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

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

Step 1. Make sure that you have run the Discovery and Inventory collection tasks.

Step 2. On a system that is connected to the Internet, go to http://www.ibm.com/support/ fixcentral.

Step 3. From the **Product family** list, select **Systems Director**.

Step 4. From the **Product** list, select **Systems Director**.

Step 5. From the **Installed version** list, select the latest version, and click **Continue**.

Step 6. Download the available updates.

Step 7. Copy the downloaded files to the management server.

Step 8. On the management server, on the Welcome page of the Systems Director web interface, click the **Manage** tab, and click **Update Manager**.

Step 9. Click **Import updates** and specify the location of the downloaded files that you copied to the management server.

Step 10. Return to the Welcome page of the Web interface, and click **View updates**.

Step 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.

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.

Step 1. Download the Advanced Settings Utility (ASU):

    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.

Step 2. ASU sets the UUID in the Integrated Management Module II (IMM2). Select one of the following methods to access the Integrated Management Module II (IMM2) 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)

Step 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*

Step 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 IMM2 internal LAN/USB IP address. The default value is 169.254.95.118.

  imm_user_id
  > The IMM2`account` (1 of 12 accounts). The default value is USERID.

  imm_password
  > The IMM2 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 IMM2 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):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.

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

4. Select **Advanced Settings Utility (ASU)**.

5. 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 IMM2 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 IMM2 LAN IP address. There is no default value. This parameter is required.

  imm_user_id
  > The IMM2`account` (1 of 12 accounts). The default value is USERID.

  imm_password
  > The IMM2 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 https://support.lenovo.com/us/en/ documents/LNVO-CENTER. From the **ToolsCenter** page, scroll down for the available tools.

Step 5. Restart the server.

Updating the DMI/SMBIOS data

Use this information to update the DMI/SMBIOS data.

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.

Step 1. Download the Advanced Settings Utility (ASU):

a. Go to http://www.lenovo.com/support.

b. Click **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.

Step 2. ASU sets the DMI in the Integrated Management Module II (IMM2). Select one of the following methods to access the Integrated Management Module II (IMM2) 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)

Step 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*

Step 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 aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa`, where *aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa* 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 IMM2 internal LAN/USB IP address. The default value is 169.254.95.118.

imm_user_id
   The IMM2 `account` (1 of 12 accounts). The default value is USERID.

imm_password
   The IMM2 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 IMM2 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.

  1. Go to http://www.lenovo.com/support.
  2. Click **Downloads** tab at the top of the panel.
  3. Under **ToolsCenter**, select **View ToolsCenter downloads**.
  4. Select **Advanced Settings Utility (ASU)**.
  5. 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 IMM2 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 IMM2 LAN IP address. There is no default value. This parameter is required.

  imm_user_id
  > The IMM2`account` (1 of 12 accounts). The default value is USERID.

imm_password

> The IMM2 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 https://support.lenovo.com/us/en/ documents/LNVO-CENTER. From the **ToolsCenter** page, scroll down for the available tools.

Step 5. Reset IMM to the factory defaults. Go to https://sysmgt.lenovofiles.com/help/topic/com.lenovo.systems.management.xcc.doc/NN1ia_c_resettingthexcc.html for more information.

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 649 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 Lenovo or an approved warranty service provider, follow these procedures in the order in which they are presented to diagnose a problem with your server.

Step 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

Step 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 112 for information about using light path diagnostics LEDs.
- **Event logs:** See "Event logs" on page 119 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.

Step 3. **Run 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 Lenovo or an approved warranty service provider. For instructions for running DSA, see the *Dynamic System Analysis Installation and User's Guide*.

To download the latest version of DSA code and the *Dynamic System Analysis Installation and User's Guide*, go to https://support.lenovo.com/us/ en/documents/LNVO-DSA.

Step 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 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 83. For more information about the Bootable Media Creator, see https://support.lenovo.com/ us/en/documents/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 b).

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.

Step 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.lenovo.com/ serverproven/ 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 Lenovo 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 108. For information about configuring the server, see Chapter 3 "Configuration information and instructions" on page 83.

Step 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 Lenovo software or devices, go to http://www.lenovo.com/support.

Step 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.lenovo.com/support.

Step 8. **Use the troubleshooting tables.**

See "Troubleshooting by symptom" on page 125 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 Lenovo 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 Lenovo. 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 Lenovo 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 x3250 M5 server.

To find service bulletins that are available for the Lenovo System x3250 M5 server, go to http://www.lenovo.com/support and search for 5458, 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 in "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.

    Important: 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 132 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) error codes" on page 503. If the server is halted and no error message is displayed, see "Troubleshooting by symptom" on page 125 and "Solving undetermined problems" on page 140.
- For information about power-supply problems, see "Solving power problems" on page 138, "Power problems" on page 135, and "Power-supply LEDs" on page 116.
- For intermittent problems, check the event log; see "Event logs" on page 119 and Appendix C "DSA diagnostic test results" on page 517.

Performing the checkout procedure

Use this information to perform the checkout procedure.

To perform the checkout procedure, complete the following steps:

Step 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.

Step 2. Complete the following steps:

a. Check the power supply LEDs (see "Power-supply LEDs" on page 116).

b. Turn off the server and all external devices.

c. Check all internal and external devices for compatibility at http://www.lenovo.com/serverproven/.

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 125.

h. Check the system-error LED on the operator information panel. If it is lit, check the light path diagnostics LEDs (see "Light path diagnostics" on page 112).

i. Check for the following results:

- Successful completion of POST (see "POST" on page 121 for more information).
- Successful completion of startup, which is indicated by a readable display of the operating-system desktop.

Step 3. Is there a readable image on the monitor screen?

- **No:** Find the failure symptom in "Troubleshooting by symptom" on page 125; if necessary, see "Solving undetermined problems" on page 140.
- **Yes:** Run DSA (see "Running DSA Preboot diagnostic programs" on page 123).
  - If DSA reports an error, follow the instructions in Appendix C "DSA diagnostic test results" on page 517.
  - If DSA does not report an error but you still suspect a problem, see "Solving undetermined problems" on page 140.

Diagnostic tools

The following tools are available to help you diagnose and solve hardware-related problems.

- **Light path diagnostics**

  Use light path diagnostics to diagnose system errors quickly. See "Light path diagnostics" on page 112 for more information.

- **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 119 for more information.

- **Integrated Management Module II (IMM2)**

  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 IMM2 provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM2 lights LEDs to help you diagnose the problem, records the error in the IMM2 event log, and alerts you to the problem. Optionally, the IMM2 also provides a virtual presence capability for remote server management capabilities. The IMM2 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 92, Appendix A "Integrated Management Module II (IMM2) error messages" on page 283, and the *Integrated Management Module II User's Guide* at https://pubs.lenovo.com/imm2/.

- **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

    – IMM2 configuration information

    – IMM2 environmental information

    – 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

    – Option card driver and firmware information

    – RAID controller configuration

    – Service processor (Integrated Management Module II (IMM2)) 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 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 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://shop.lenovo.com/us/en/systems/solutions/.

For additional information, see "Dynamic System Analysis" on page 122 and Appendix C "DSA diagnostic test results" on page 517.

– 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

– IMM2 configuration information

– IMM2 environmental information

– Installed hardware, including PCI and USB information

– Light path diagnostics status

– Microprocessor, input/output hub, and UEFI error logs

– Network interfaces and settings

– Option card driver and firmware information

– RAID controller configuration

– Service processor (Integrated Management Module II (IMM2)) 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. IMM2 I2C bus

3. Light path diagnostics panel

4. Memory modules

5. Microprocessors

6. Optical devices (CD or DVD)

7. SAS or SATA drives

8. LSI controller

9. Broadcom network adapter

10. FusionIO storage

11. Intel GPU

12. Nvidia GPU

See "Running DSA Preboot diagnostic programs" on page 123 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 125 for more information.

Light path diagnostics

Light path diagnostics is a system of LEDs on various external and internal components of the server that leads you to the failed component. When an error occurs, LEDs are lit along the path of the front panel, the operator information panel, 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 32.

If an error occurs, view the light path diagnostics LEDs and look at the operator information panel 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 IMM2 event log or system-error log might be required.

The following illustration shows the operator information panel on the front of the server.
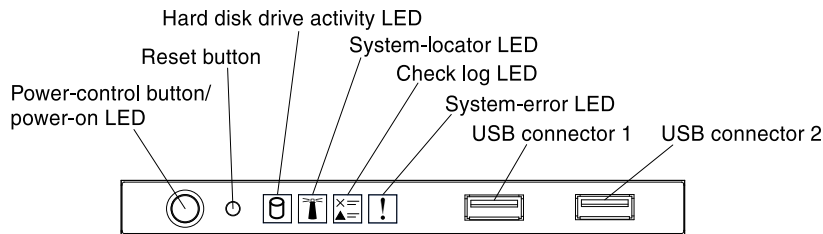
Figure 78. Operator information panel

The following table describes the LEDs on the operator information panel and suggested actions to correct the detected problems.

- 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.

Table 11. The suggested actions to correct the detected problem for each LED light

LED	Description	Action
System locator (blue)	This LED is used as a presence detection button. You can use Systems Director or IMM2 to light this LED remotely.	Use this LED to visually locate the server among other servers.
Check log (yellow)	An error has occurred and cannot be isolated without performing certain procedures.	1. Check the IMM2 event log and the system-error log for information about the error. 2. Save the log if necessary and clear the log afterwards.
System-error (yellow)	An error has occurred.	1. Check the light path diagnostics LEDs and follow the instructions. 2. Check the IMM2 event log and the system-error log for information about the error. 3. Save the log if necessary and clear the log afterwards.

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 122).
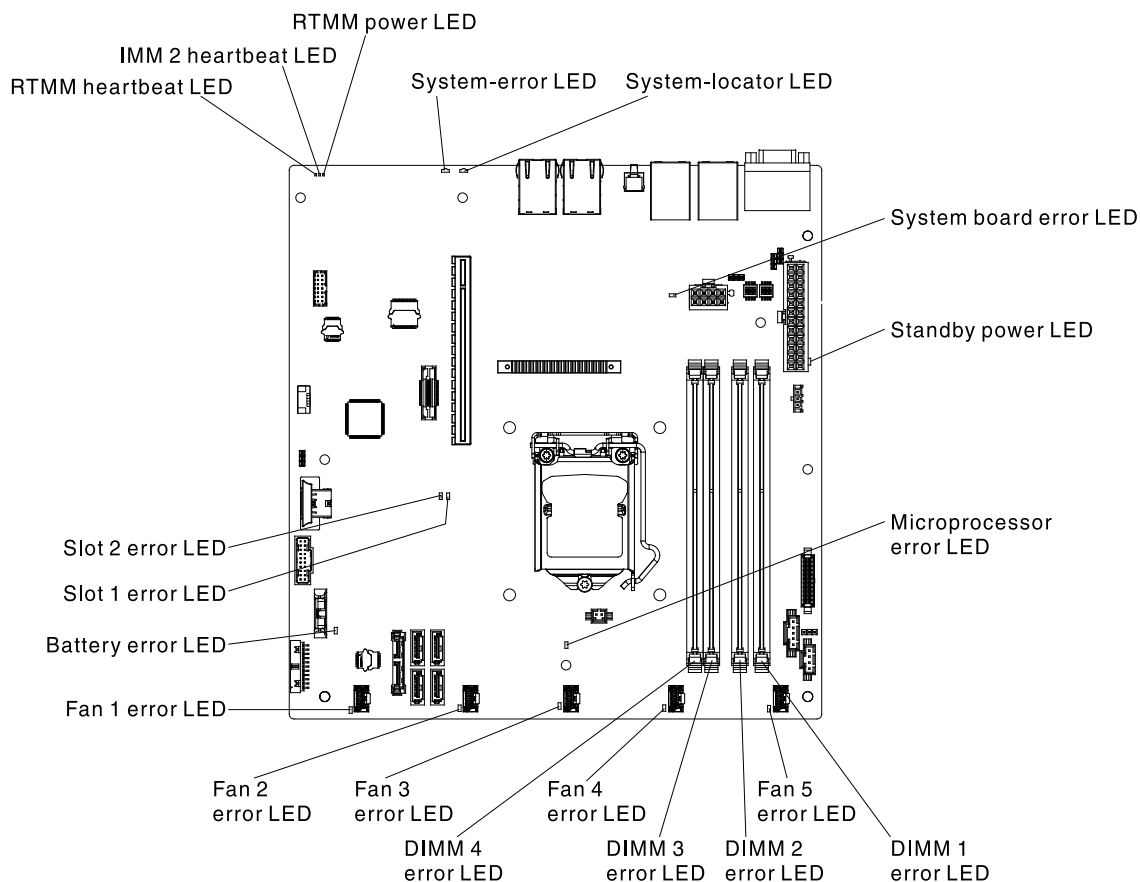
Figure 79. The LEDs on the system board

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 32.

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 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 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.

- 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.

Table 12. The suggested actions to correct the detected problem for each LED light

LED	Description	Action

Battery error LED	A battery has failed or is incorrectly installed.	1. Remove the coin battery.
		2. Reseat the battery.
		3. Replace the following components one at a time, in the order shown, restarting the server each time:
		  a. Battery.
		  b. (Trained technician only) System board.

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.

Fan 1 to 5 error LEDs	A fan has failed or is incorrectly installed.	1. Remove the fan that has the lit error LED.
		2. Reseat the fan.
		3. Replace the following components one at a time, in the order shown, restarting the server each time:
		  a. Fan.
		  b. (Trained technician only) System board.

Table 12. The suggested actions to correct the detected problem for each LED light (continued)

LED	Description	Action
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 141). 2. (Trained technician only) Replace the system board.

Microprocessor error LED	Microprocessor has failed, is missing, or has been incorrectly installed.
	Note: (Trained technician only) Make sure that the microprocessor is installed correctly, see "Replacing a microprocessor and heat sink" on page 242.
		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.

Slot 1 to 2 error LEDs	A PCIe slot device has failed or is incorrectly installed.	1. Check the system-event log to determine the reason for the lit LED.
		2. Remove the slot PCIe device that has the lit error LED.
		3. Reseat the failing device.
		4. Replace the following components one at a time, in the order shown, restarting the server each time:
		  a. PCIe device.
		  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.
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
- Five cooling fans

The following illustration shows the LEDs and connectors on the rear of the fixed power-supply model.
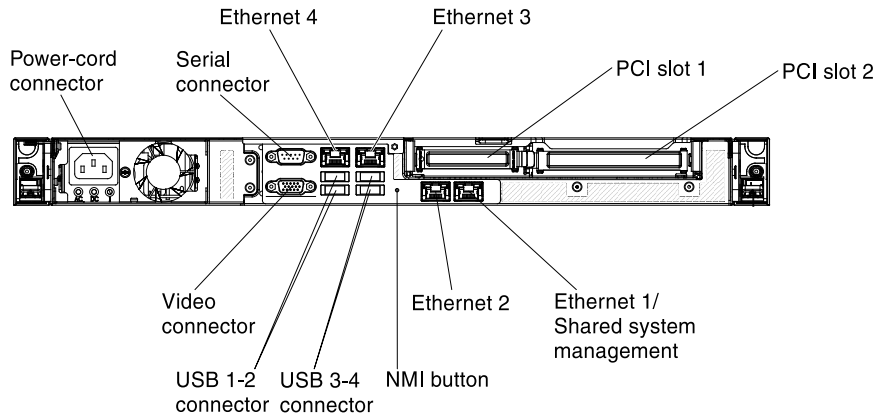
Figure 80. LEDs and connectors on the rear of the fixed power-supply model

The following illustration shows the LEDs and connectors on the rear of the redundant power-supply model.
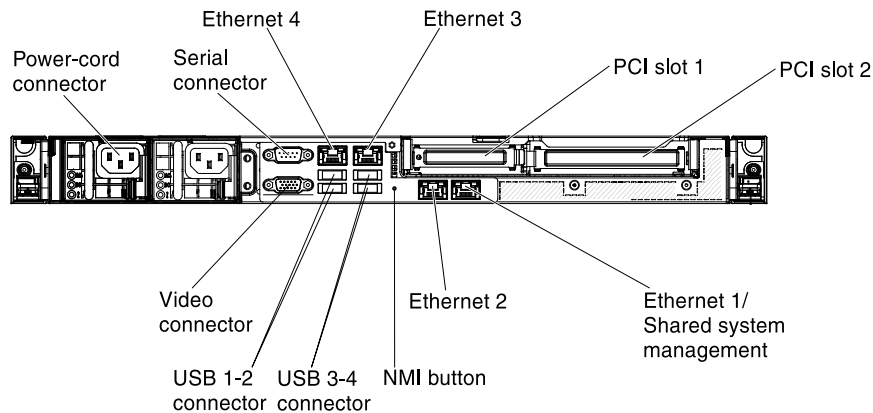
Figure 81. LEDs and connectors on the rear of the redundant power-supply model

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 13. 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	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 for the location of these LEDs).

Table 14. 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.
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. (Trained technician only) If this LED does not blink within 30 seconds of connecting a power source to the server, replace the system board.

Event logs

Error codes and messages are displayed in POST event log, system-event log, Integrated Management Module II (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 86). For more information about POST error codes, see Appendix B "UEFI (POST) error codes" on page 503.

- **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 II (IMM2). 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 283.

  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 IMM2 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 IMM2, POST, and system management interrupt (SMI) events. You can view the IMM2 event log through the

IMM2 web interface. For more information, see "Logging on to the web interface" on page 95. You can also view the IMM2 event log through the Dynamic System Analysis (DSA) program (as the ASM event log). For more information about IMM2 error messages, see Appendix A "Integrated Management Module II (IMM2) error messages" on page 283.

- **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 IMM2 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" on page 120). For more information about DSA and DSA messages, see "Dynamic System Analysis" on page 122 and Appendix C "DSA diagnostic test results" on page 517.

Viewing event logs through the Setup utility

Use this information to view the event logs through the Setup utility.

To view the POST event log or system-event log, complete the following steps:

Step 1. Turn on the server.

Step 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.

Step 3. Select **System Event Log** and use one of the following procedures:

- To view the POST event log, select **POST Event Viewer**.
- 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 IMM2 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 IMM2 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 https://support.lenovo.com/us/ en/documents/LNVO-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 IMM2 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 95.

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 15. 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 IMM2 host name" on page 94 and "Logging on to the web interface" on page 95.
The server is hung, and no communication can be made with the IMM2.	• 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 123 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 120.

Clearing the event logs

Use this information to clear the event logs.

To clear the event logs, complete the following steps.

Note: The POST error log is automatically cleared each time the server is restarted.

Step 1. Turn on the server.

Step 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.

Step 3. To clear the IMM2 system-event log, select **System Event Log ➙ 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) error codes" on page 503 for more information.

If POST detects a problem, an error message is sent to the POST event log, see "Event logs" on page 119 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 II (IMM2)) status and configuration
- System configuration
- Vital product data 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 517.

If you cannot find a problem by using DSA, see "Solving undetermined problems" on page 140 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 https://support.lenovo.com/us/ en/documents/LNVO-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 restart 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 https://support.lenovo.com/ us/en/documents/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

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 https://support.lenovo.com/us/ en/documents/LNVO-DSA.

Running DSA Preboot diagnostic programs

Use this information to run the DSA Preboot diagnostic programs.

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:

Step 1. If the server is running, turn off the server and all attached devices.

Step 2. Turn on all attached devices; then, turn on the server.

Step 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.

Step 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.

Step 5. Type **gui** to display the graphical user interface, or type **cmd** to display the DSA interactive menu.

Step 6. Follow the instructions on the screen to select the diagnostic test to run.

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.

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.

- 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.

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 website. For more information and to download Electronic Service Agent, go to http://www.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) error codes" on page 503, Appendix A "Integrated Management Module II (IMM2) error messages" on page 283, and Appendix C "DSA diagnostic test results" on page 517 for more information.

Troubleshooting by symptom

Use the troubleshooting tables to find solutions to problems that have identifiable symptoms.

If you cannot find a solution to the problem in these tables, see Appendix C "DSA diagnostic test results" on page 517 for information about testing the server and "Running DSA Preboot diagnostic programs" on page 123 for additional information about running DSA Preboot program. For additional information to help you solve problems, see "Start here" on page 105.

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:

Step 1. Check the system-error LED on the operator information panel; if it is lit, check the light path diagnostics LEDs (see "Light path diagnostics" on page 112).

Step 2. Remove the software or device that you just added.

Step 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 517).

Step 4. Reinstall the new software or new device.

DVD drive problems

- 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.

Table 16. DVD drive's symptoms and actions

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. Check the connector and signal cable for bent pins or damage. 5. Reseat the DVD drive. 6. 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.

General problems

- 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.

Table 17. General symptoms and actions

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 144 for more information. 2. See "Recovering the server firmware (UEFI update failure)" on page 141 for more information.

Hard disk drive problems

- 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.

Table 18. Hard disk drive symptoms and actions

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.
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 123). **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 122). 3. If the drive fails the test, replace the drive.

Table 18. Hard disk drive symptoms and actions (continued)

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 122). • 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 140.
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 140.

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 122).
	
	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 140.

Hypervisor problems

- 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.

Table 19. Hypervisor's symptoms and actions

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 a USB embedded hypervisor flash device" on page 199 and "Installing a USB embedded hypervisor flash device" on page 69). 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

- 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.

Table 20. Intermittent problems and actions

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 IMM2 event log (see "Event logs" on page 119).

Keyboard, mouse, or USB-device problems

- 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.

Table 21. Keyboard, mouse, or USB-device's symptoms and actions

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

- 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.

Table 22. Memory problems and actions

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.
	   • 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 123).
	
	 5. Make sure that there is no memory mismatch when the server is at the minimum memory configuration.
	
	 6. Add one pair of DIMMs at a time, making sure that the DIMMs in each pair match.
	
	 7. Reseat the DIMM.
	
	 8. Re-enable all DIMMs using the Setup utility, and then restart the server.
	
	 9. Replace the following components one at a time, in the order shown, restarting the server each time:
	
	   a. DIMMs
	   b. (Trained technician only) Replace the system board

Multiple rows of DIMMs in a branch 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. Replace the failing DIMM. 3. (Trained technician only) Replace the system board

Microprocessor problems

- 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.

Table 23. Microprocessor's symptoms and actions

Symptom	Action
When using the Core-I3 or Pentium microprocessor and the Integrated Graphics Device (IGD) has been enabled in the Setup utility, the video controller can display a yellow color exclamation mark under the Windows OS device manager.	1. Run the Setup utility and select **System settings ➙ Device and I/O Ports ➙ Internal Graphics**. 2. Set the value to **Disable**.

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.

- 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.

Table 24. Monitor and video's symptoms and actions

The monitor and video's symptoms and actions table with one level of row and column headers.

Table 24. Monitor and video's symptoms and actions (continued)

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. Make sure that:
	  • The server is turned on. If there is no power to the server, see "Power problems" on page 135.
	  • The monitor cables are connected correctly.
	  • The monitor is turned on and the brightness and contrast controls are adjusted correctly.
	  • No POST errors are generated when the server is turned on.
	
	3. Make sure that the correct server is controlling the monitor, if applicable.
	
	4. Make sure that damaged server firmware is not affecting the video; see "Updating the firmware" on page 83.
	
	5. Observe the checkpoint LEDs on the system board; if the codes are changing, go to next step.
	
	6. 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
	
	7. See "Solving undetermined problems" on page 140.

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 123).
	
	  • If the server passes the video diagnostics, the video is good; see "Solving undetermined problems" on page 140.
	
	  • (Trained technician only) If the server fails the video diagnostics, replace the system board.

Table 24. Monitor and video's symptoms and actions (continued)

Symptom	Action
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 and cable. 3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Monitor b. (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 83) with the correct language. 2. Reseat the monitor and cable. 3. Replace the following components one at a time, in the order shown, restarting the server each time: a. Monitor b. (Trained technician only) System board

Network connection problems

- 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.

Table 25. Network connection problems and actions

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

- 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.

Table 26. Optional-device problems and actions

Symptom	Action

An Lenovo optional device that was just installed does not work.	1. Make sure that:
	  • The device is designed for the server (see http://www.lenovo.com/serverproven/).
	  • 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 Lenovo 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

- 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.

Table 27. Power problems and actions

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 27). 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. (Trained technician only) The microprocessors are installed in the correct sequence. 4. Reseat the following components: a. DIMMs b. (Trained technician only) Power-supply cables to all internal components c. (Trained technician only) Power switch connector 5. Replace the following components one at a time, in the order shown, restarting the server each time: a. DIMMs b. Power supply c. (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 116. 8. See "Solving undetermined problems" on page 140.
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.

Table 27. Power problems and actions (continued)

Symptom	Action
	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 140.

Serial port problems

- 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.

Table 28. Serial port problems and actions

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.
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

Software problems

- 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.

Table 29. Software problems and actions

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

- 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.

Table 30. Universal Serial Bus (USB) port problems and actions

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 85 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.

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:

Step 1. Turn off the server and disconnect all power cords.

Step 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.

Step 3. Turn on the server and check the lit LEDs on the system board (see "System-board LEDs" on page 29).

Step 4. Turn off the server and disconnect all power cords.

Step 5. 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 140).

Step 6. 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.

If the server does not start from the minimum configuration, see "Power-supply LEDs" on page 116 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.

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:

Step 1. Make sure that the correct device drivers, which come with the server are installed and that they are at the latest level.

Step 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.

Step 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.

Step 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.

Step 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.

Step 6. Check for operating-system-specific causes of the problem.

Step 7. Make sure that the device drivers on the client and server are using the same protocol.

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.

If you suspect that a software problem is causing failures (continuous or intermittent), see "Software problems" on page 137.

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 26 for more information. If you suspect that the UEFI firmware is corrupted, see "Recovering the server firmware (UEFI update failure)" on page 141.

If the power supplies are working correctly, complete the following steps:

Step 1. Turn off the server.

Step 2. Make sure that the server is cabled correctly.

Step 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 4 GB DIMM.

Step 4. Turn on the server. If the problem remains, suspect the following components in the following order:

   1. Power supply

   2. Memory

   3. Microprocessor

   4. System board

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.

The model number and serial number of the server are located on the front bezel.
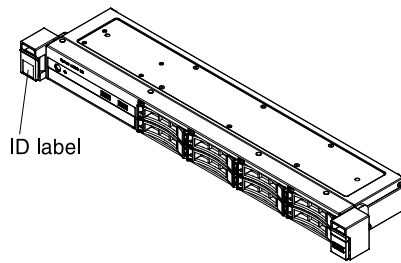
Figure 82. ID label on the front of the server

- 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 649 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 IMM2 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 (JP16), 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.

To recover the server firmware and restore the server operation to the primary bank, complete the following steps:

Step 1. Read the safety information that begins on "Safety" on page v and "Installation guidelines" on page 30.

Step 2. Turn off the server, and disconnect all power cords and external cables.

Step 3. Unlock and remove the cover (see "Removing the cover" on page 159).

Step 4. Locate the UEFI boot backup jumper on the system board.
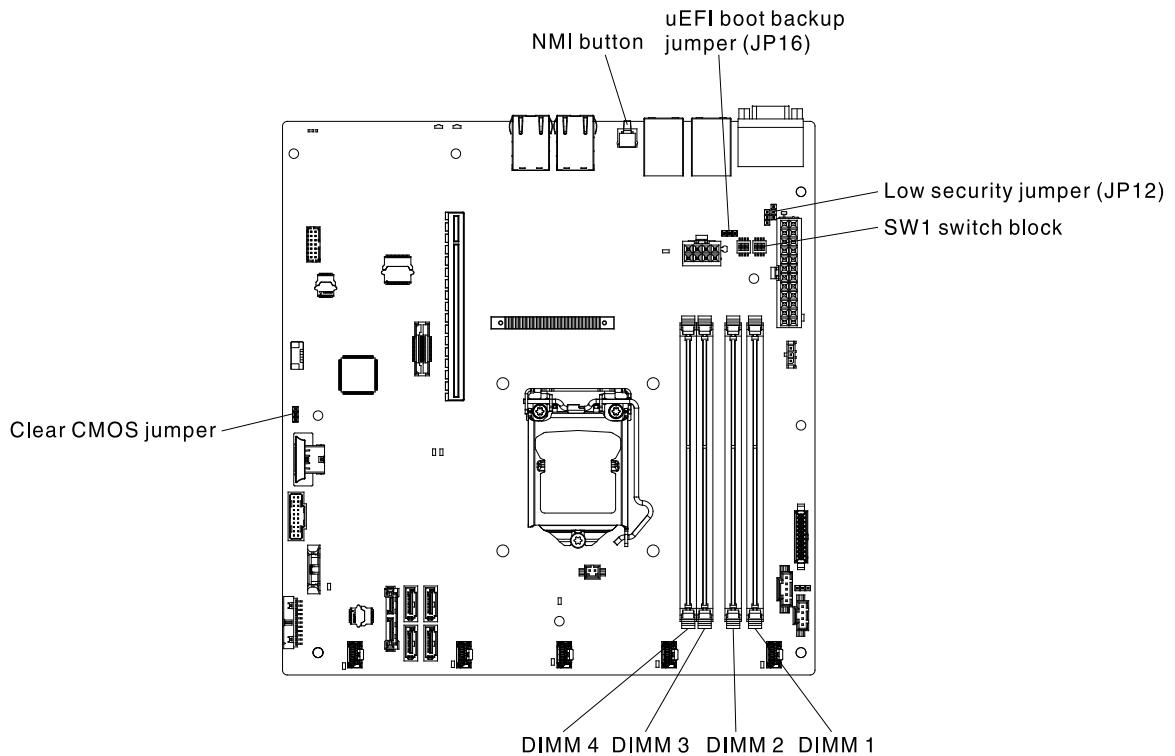
Figure 83. Location of the switches, jumpers, and buttons on the system board

Step 5. Move the UEFI boot backup jumper from pins 1 and 2 to pins 2 and 3 to enable the UEFI recovery mode.

Step 6. Reinstall the server cover; then, reconnect all power cords.

Step 7. Restart the server. The system begins the power-on self-test (POST).

Step 8. Boot the server to an operating system that is supported by the firmware update package that you downloaded.

Step 9. Perform the firmware update by following the instructions that are in the firmware update package readme file.

Step 10. Turn off the server and disconnect all power cords and external cables, and then remove the cover (see "Removing the cover" on page 159).

Step 11. Move the UEFI boot backup jumper from pins 2 and 3 back to the primary position (pins 1 and 2).

Step 12. Reinstall the cover (see "Replacing the cover" on page 160).

Step 13. Reconnect the power cord and any cables that you removed.

Step 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.

Step 15. Remove cover (see "Removing the cover" on page 159).

Step 16. Reset the CMOS by removing the system battery (see "Removing the system battery" on page 211).

Step 17. Leave the system battery out of the server for approximately 5 to 15 minutes.

Step 18. Reinstall the system battery (see "Replacing the system battery" on page 213).

Step 19. Reinstall the cover (see "Replacing the cover" on page 160).

Step 20. Reconnect the power cord and any cables that you removed.

Step 21. Restart the server. The system begins the power-on self-test (POST).

Step 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.

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.

Step 1. Boot the server to an operating system that is supported by the firmware update package that you downloaded.

Step 2. Perform the firmware update by following the instructions that are in the firmware update package readme file.

Step 3. Restart the server.

Step 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 https://pubs.lenovo.com/imm2/.

Automated boot recovery (ABR)

Use this information for Automated boot recovery (ABR).

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 141. After you have recovered the firmware in the primary bank, complete the following steps:

Step 1. Restart the server.

Step 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 x3250 M5 Type 5458

The parts listing of Lenovo System x3250 M5 Type 5458.

The following replaceable components are available for the Lenovo System x3250 M5 Type 5458 server, except as specified otherwise in "Replaceable server components" on page 147. For an updated parts listing, go to http://www.lenovo.com/support.

Replaceable server components

The replaceable server components for Lenovo System x3250 M5 Type 5458.

Replaceable components consist of structural parts, and field replaceable units (FRUs):

- **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. See "Structural parts" on page 154 for the list of structural parts.
- **Consumable parts:** Purchase and replacement of consumable parts is your responsibility. If Lenovo acquires or installs a consumable 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:** 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 649.

Visit http://www.lenovo.com/ serverproven/ for the latest options supporting plan.

The following illustration shows the major components in the server. The illustrations in this document might differ slightly from your hardware. For a list of structural parts, see "Structural parts" on page 154.
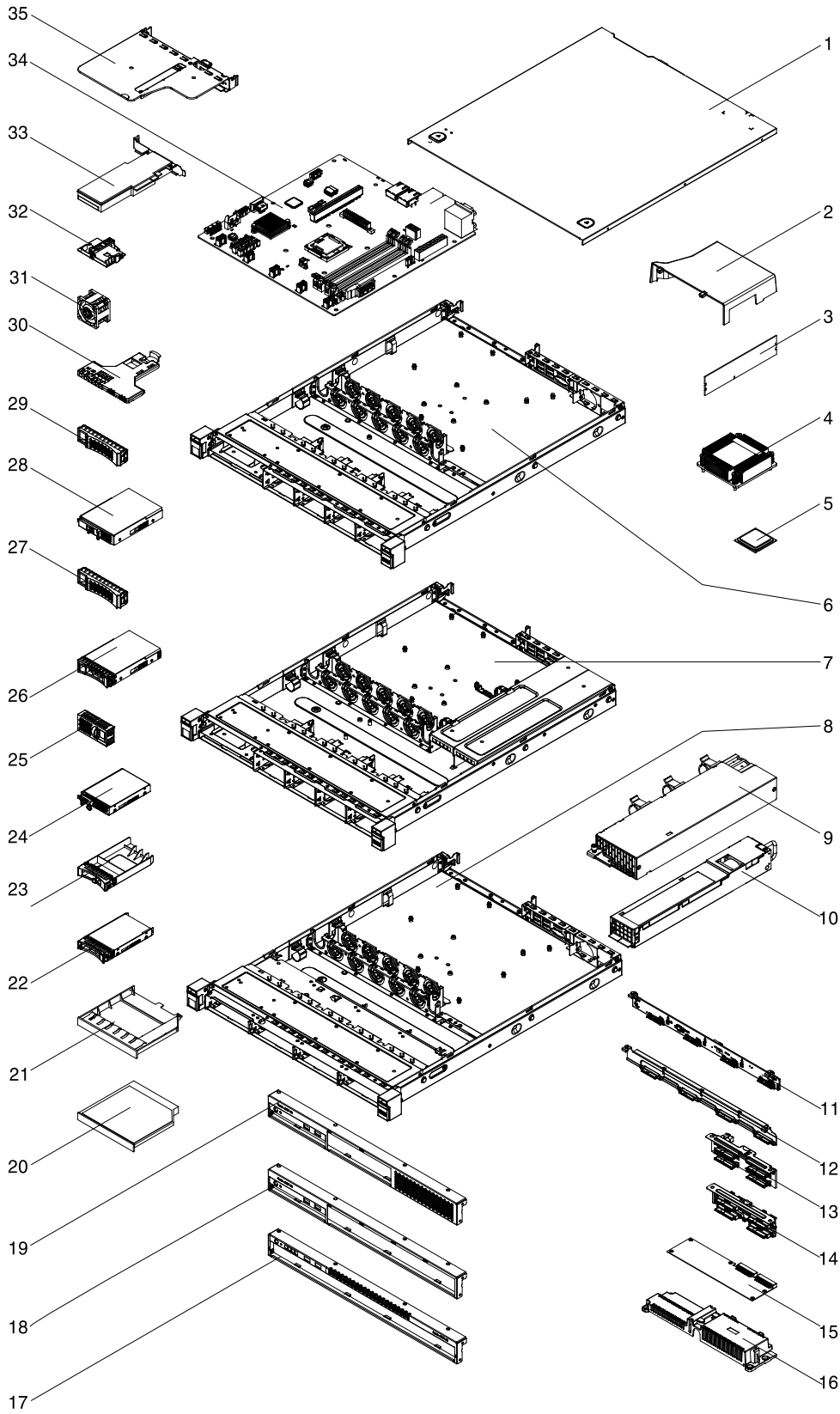
Figure 84. Server components

The following table lists the part numbers for the server replaceable components.

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
3	Memory, 4 GB dual-rank 1.35 V, DDR3, 1600 MHz, UDIMM	00D5014	
3	Memory, 8 GB dual-rank 1.35 V, DDR3, 1600 MHz, UDIMM	00D5018	
4	Heat sink		00AM068
5	Microprocessor, Intel Pentium G3430, 3.3 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00AL293
5	Microprocessor, Intel Pentium G3220, 3.0 GHz, 3 MB, 1333 MHz, 54 W (2-core)		00AL294
5	Microprocessor, Intel Pentium G3420, 3.2 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00Y8236
5	Microprocessor, Intel Pentium G3420T, 2.7 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00AL295
5	Microprocessor, Intel Pentium G3220T, 2.6 GHz, 3MB, 1333 MHz, 35 W (2-core)		00AL296
5	Microprocessor, Intel Core-i3 4340, 3.6 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00AL297
5	Microprocessor, Intel Core-i3 4330, 3.5 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00AL298
5	Microprocessor, Intel Core-i3 4130, 3.4 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00AL299
5	Microprocessor, Intel Core-i3 4330T, 3.0 GHz, 4 MB, 1600 MHz, 35 W (2-core)		00AL300
5	Microprocessor, Intel Core-i3 4130T, 2.9 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00AL301
5	Microprocessor, Intel Xeon E3-1285v3, 3.6 GHz, 8 MB cache, 1600 MHz, 84 W (4-core), VHD **Note:** The VHD function is applicable to Windows Server 2008 R2 and 2012. You can enable the VHD function from the UEFI Setup Utility program.		00AM094
5	Microprocesssor, Intel Xeon E3-1265Lv3, 2.5 GHz, 8 MB cache, 1600 MHz, 45 W (4-core)		00AM095
5	Microprocessor, Intel Xeon E3-1230Lv3, 1.8 GHz, 8 MB cache, 1600 MHz, 45 W (4-core)		00AM096
5	Microprocessor, Intel Xeon E3-1220Lv3, 1.1 GHz, 4 MB cache, 1600 MHz, 13 W (2-core)		00AM097
5	Microprocessor, Intel Xeon E3-1280v3, 3.6 GHz, 8 MB cache, 1600 MHz, 95 W (4-core)		00Y8231
5	Microprocessor, Intel Xeon E3-1270v3, 3.5 GHz, 8 MB cache, 1600 MHz, 80 W (4-core)		00Y8232
5	Microprocessor, Intel Xeon E3-1240v3, 3.4 GHz, 8 MB cache, 1600 MHz, 80 W (4-core)		00Y8233

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
5	Microprocessor, Intel Xeon E3-1230v3, 3.3 GHz, 8 MB cache, 1600 MHz, 80 W (4-core)		00Y8234
5	Microprocessor, Intel Xeon E3-1220v3, 3.1 GHz, 8 MB cache, 1600 MHz, 80 W (4-core)		00Y8235
5	Microprocessor, Intel Xeon E3-1285Lv3, 3.1 GHz, 8 MB cache, 1600 MHz, 65 W (4-core), VHD **Note:** The VHD function is applicable to Windows Server 2008 R2 and 2012. You can enable the VHD function from the UEFI Setup Utility program.		00Y8237
5	Microprocessor, Intel Core-i3 4150, 3.5 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA427
5	Microprocessor, Intel Xeon E3-1231 v3, 3.4 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA451
5	Microprocessor, Intel Xeon E3-1241 v3, 3.5 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA452
5	Microprocessor, Intel Pentium G3440, 3.3 GHz, 3 MB, 1600 MHz, 53 W (2-core)		00KA450
5	Microprocessor, Intel Xeon E3-1271 v3, 3.6 GHz, 8 MB, 1600 MHz, 80 W (4-core)		00KA453
5	Microprocessor, Intel Xeon E3-1286 v3, 3.7 GHz, 8 MB, 1600 MHz, 84 W (4-core)		00FL448
5	Microprocessor, Intel Core-i3 4360, 3.7 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA424
5	Microprocessor, Intel Core-i3 4350, 3.6 GHz, 4 MB, 1600 MHz, 54 W (2-core)		00KA425
5	Microprocessor, Intel Core-i3 4150, 3.5 GHz, 3 MB, 1600 MHz, 54 W (2-core)		00KA427
5	Microprocessor, Intel Core-i3 4150T, 3.0 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KA428
5	Microprocessor, Intel Pentium G3450, 3.4 GHz, 3 MB, 1600 MHz, 53 W (2-core)		00KA429
5	Microprocessor, Intel Pentium G3240, 3.1 GHz, 3 MB, 1333 MHz, 53 W (2-core)		00KA431
5	Microprocessor, Intel Pentium G3450T, 2.7 GHz, 3 MB, 1333 MHz, 35 W (2-core)		00KA432
5	Microprocessor, Intel Pentium G1840, 2.8 GHz, 2 MB, 1333 MHz, 53 W (2-core)		00KA434
5	Microprocessor, Intel Xeon E3-1286L v3, 3.2 GHz, 8 MB, 1600 MHz, 65 W (4-core)		00FL449
5	Microprocessor, Intel Core-i3 4350T, 3.1 GHz, 4 MB, 1600 MHz, 35 W (2-core)		00FL456
5	Microprocessor, Intel Celeron G1850, 2.9 GHz, 2 MB, 1333 MHz, 53 W (2-core)		00FL459

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
5	Microprocessor, Intel Pentium G3440T, 2.8 GHz, 3 MB, 1600 MHz, 35 W (2-core)		00KC537
5	Microprocessor, Intel Celeron G1840T, 2.5 GHz, 2 MB, 1333 MHz, 35 W (2-core)		00KC538
5	Microprocessor, Intel Xeon E3-1281 v3, 3.7 GHz, 8 MB, 1600 MHz, 82 W (4-core)		00KA454
5	Microprocessor, Intel Xeon E3-1275L v3, 2.7 GHz, 8 MB, 1600 MHz, 45 W (4-core)		00KA455
5	Microprocessor, Intel Xeon E3-1240L v3, 2.0 GHz, 8 MB, 1600 MHz, 25 W (4-core)		00KA456
9	Power supply, fixed, 300 Watt	94Y8210	
10	Power supply, hot-swap, 460 Watt	69Y5939	
11	Backplane, 3.5-inch hot-swap HDD SAS/SATA	00AL347	
12	Backplate assembly, 3.5-inch simple-swap HDD SATA	00AL334	
12	Backplate assembly, 3.5-inch simple-swap HDD SAS/SATA, L-type connector (right-angle)	00AL335	
12	Backplate assembly, 3.5-inch simple-swap HDD SAS/SATA, vertical-type connector	00AL336	
13	Backplane, 2.5-inch hot-swap HDD SAS/SATA	94Y7587	
14	Backplate assembly, 3.5-inch simple-swap HDD SATA (vertical)	00AL338	
14	Backplate assembly, 2.5-inch simple-swap HDD SAS/SATA, L-type connector (right-angle)	00AL339	
14	Backplate assembly, 2.5-inch simple-swap HDD SAS/SATA, vertical-type connector for drive bay 0-3	00AL340	
14	Backplate asssembly, 2.5-inch simple-swap HDD SAS/SATA, vertical-type connector for drive bay 4-7	00AL341	
14	Power paddle card		00AM100
16	Cover, safety 240 VA		81Y7526
20	DVD drive, SATA	44W3254	
20	UltraSlim Enhanced SATA DVD-ROM	00MV942	
20	UltraSlim Enhanced SATA Multi-Burner	44W3256	
20	UltraSlim Enhanced SATA Multi-Burner	00MV943	
22	Solid state drive, 2.5-inch hot-swap, SATA, 64 GB	49Y5840	
22	Enterprise entry solid state drive, 2.5-inch hot-swap, SATA, 120 GB	00YC366	
22	Enterprise entry solid state drive, 2.5-inch hot-swap, SATA, 240 GB	00YC371	
22	Enterprise entry solid state drive, 2.5-inch hot-swap, SATA, 480 GB	00YC376	
22	Enterprise entry solid state drive, 2.5-inch hot-swap, SATA, 960 GB	00YC381	
22	Hard disk drive, 2.5-inch hot-swap, 250 GB, 7.2 K	81Y9723	

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
22	Hard disk drive, 2.5-inch hot-swap, 500 GB, 7.2 K	81Y9727	
22	Hard disk drive, 2.5-inch hot-swap, 300 GB, 10 K	90Y8878	
22	Hard disk drive, 2.5-inch hot-swap, 146 GB, 15 K	90Y8927	
22	Hard disk drive, 2.5-inch hot-swap, near-line SAS, 1 TB, 7.2 K, 6 Gbps	81Y9691	
24	Solid state drive, 2.5-inch simple-swap, SATA, 64 GB	49Y5850	
26	Hard disk drive, 3.5-inch hot-swap, 500 GB, 7.2 K	81Y9787	
26	Hard disk drive, 3.5-inch hot-swap, 1 TB, 7.2 K	81Y9791	
26	Hard disk drive, 3.5-inch hot-swap, Near-Line SATA, 2 TB, 7.2 K	81Y9795	
26	Hard disk drive, 3.5-inch hot-swap, Near-Line SAS, 6 TB, 7.2 K	00ML214	
26	Enterprise entry solid state drive, 3.5-inch hot-swap, SATA, 960 GB	00YC421	
26	Enterprise performance solid state drive, 3.5-inch hot-swap, SATA, 200 GB	00YC336	
26	Enterprise performance solid state drive, 3.5-inch hot-swap, SATA, 400 GB	00YC341	
26	Enterprise performance solid state drive, 3.5-inch hot-swap, SATA, 800 GB	00YC346	
28	Hard disk drive, 3.5-inch, simple-swap, 3 TB, 7.2 K	81Y9815	
28	Hard disk drive, 3.5-inch simple-swap, 2 TB, 7.2 K	81Y9811	
28	Hard disk drive, 3.5-inch simple-swap, 1 TB 7.2 K	81Y9807	
28	Hard disk drive, 3.5-inch simple-swap, 500 GB, 7.2 K	81Y9803	
28	Hard disk drive, 2.5-inch hot-swap, 500 GB, 7.2 K	90Y8954	
28	Solid state drive, 2.5-inch hot-swap, 120 GB SATA	00AJ356	
28	Solid state drive, 2.5-inch hot-swap, 240 GB SATA	00AJ361	
28	Solid state drive, 2.5-inch hot-swap, 480 GB SATA	00AJ366	
28	Solid state drive, 2.5-inch hot-swap, 800 GB SATA	00AJ371	
28	Solid state drive, 2.5-inch simple-swap, 120 GB SATA	00AJ376	
28	Solid state drive, 2.5-inch simple-swap, 240 GB SATA	00AJ381	
28	Solid state drive, 2.5-inch simple-swap, 480 GB SATA	00AJ386	
30	Front I/O assembly	00AL324	
31	Fan, system	00AM069	
33	Emulex 10 GbE virtual fabric adapter III	95Y3766	
33	PCI-e NVRAM adapter	73Y0695	
33	Mellanox ConnectX-3 10 GbE adapter	00D9692	
33	Mellanox ConnextX-2 dual-port 10 GbE adapter	81Y9993	
33	Intel X520-DA2 dual-port 10 GbE SFP+ adapter	49Y7962	

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
33	Intel X540-T2 dual-port 10 Gb BaseT Adapter	49Y7972	
33	Intel X710-DA2 2x10GbE SFP+ Adapter	01DA902	
33	Intel PRO/1000 PF server adapter	42C1752	
33	Intel I340-T2 Ethernet dual-port adapter	94Y5166	
33	Intel I340-T4 Ethernet quad-port adapter	94Y5167	
33	QLogic 10 Gb SFP+ SR optical transceiver	42C1816	
33	QLogic 8200 dual-port 10 Gb SFP+ VFA adapter	90Y4605	
33	10 Gb SFP+ SR optical transceiver	46C9297	
33	Broadcom NetXtreme II dual-port 10 Gb BaseT adapter	49Y7912	
33	Broadcom NetXtreme I dual-port GbE adapter	90Y9373	
33	ServeRAID H1110 SAS/SATA Controller	81Y4494	
33	ServeRAID M1115 SAS/SATA Controller	46C8928	
33	ServeRAID M5110 SAS/SATA Controller	00AE807	
33	ServeRAID M5120 SAS/SATA Controller	00AE811	
33	ServeRAID M5100 series 512 MB cache (RAID 5 upgrade)	81Y4485	
33	ServeRAID M5100 series 512 MB flash (RAID 5 upgrade)	46C9027	
33	ServeRAID M5100 series 1 GB flash (RAID 5 upgrade)	46C9029	
33	6 Gb SAS host bus adapter (HBA)	46C8935	
33	N2115 SAS/SATA HBA	46C8989	
33	N2125 SAS/SATA HBA	46C9011	
34	System board		00KG100
	Thermal sensor kit	46W9221	
	Battery, 3.0 volt	33F8354	
	Battery, ServeRAID-M5100 series	81Y4491	
	Cable, mini-SAS connector cable, vertical-type for port 0	00AL337	
	Cable, mini-SAS connector cable, vertical-type for port 1	00AL342	
	Cable, 6Gbps external mini-SAS, SFF-8088 to SFF-8088, 1 m	00YE299	
	Cable, 6Gbps external mini-SAS, SFF-8088 to SFF-8088, 2 m	00YE300	
	Cable, 6Gbps external mini-SAS, SFF-8088 to SFF-8088, 4 m	00YE301	
	Cable, 6Gbps external mini-SAS, SFF-8088 to SFF-8088, 6 m	00YE302	
	Cable, 6Gbps external mini-SAS, SFF-8644 to SFF-8088, 0.5 m	00YE303	
	Cable, 7Gbps external mini-SAS, SFF-8644 to SFF-8088, 1 m	00YE304	
	Cable, 8Gbps external mini-SAS, SFF-8644 to SFF-8088, 2 m	00YE305	
	Cable, 9Gbps external mini-SAS, SFF-8644 to SFF-8088, 4 m	00YE306	

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)
	Cable, 10Gbps external mini-SAS, SFF-8644 to SFF-8088, 6 m	00YE307	
	Cable, configuration (four HDDs)	00AL343	
	Cable, configuration (eight HDDs)	00AL344	
	Cable, power (for four hot-swap HDDs)	00AL345	
	Cable, SATA slimline	81Y6774	
	Cable, SAS signal (840 mm)	81Y7527	
	PCI riser card	81Y7494	
	USB memory key, 4 G	00WH143	
	Pro Keyboard USB, US English, 103P	00AL883	
	Keyboard with pointing device, USB, US English, 103P	00MW364	

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 Lenovo retail store.

Index	Description	Part number
1	Server cover, fixed power supply model	00MW387
1	Server cover, hot-swap power supply model	00MW386
	Optical blank filler	00D8658

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 available for purchase from the retail store.

Table 31. Structural parts, Type Type 5458

Index	Description	Part number
2	Air baffle	00AL326
6	Chassis assembly, 2.5-inch HDD (fixed power supply model without front bezel)	00AL320
6	Chassis assembly, 2.5-inch HDD (fixed power supply model without front bezel)	00MV841
7	Chassis assembly, 2.5-inch HDD (hot-swap power supply model without front bezel)	00AL321
7	Chassis assembly, 2.5-inch HDD (hot-swap power supply model without front bezel)	00MV842
8	Chassis assembly, 3.5-inch HDD (fixed power supply model without front bezel)	00AL319
8	Chassis assembly, 3.5-inch HDD (fixed power supply model without front bezel)	00MV840

Table 31. Structural parts, Type Type 5458 (continued)

Index	Description	Part number
17	Bezel, four 3.5-inch hot-swap hard disk bays	00AL328
17	Bezel, four 3.5-inch simple-swap hard disk bays	00AL329
18	Bezel, eight 2.5-inch hot-swap hard disk bays	00MW284
18	Bezel, eight 2.5-inch simple-swap hard disk bays	00MW285
19	Bezel, four 2.5-inch hot-swap hard disk bays	00MW282
19	Bezel, four 2.5-inch simple-swap hard disk bays	00MW283
21	Filler, DVD-ROM drive (blank)	00D8658
23	Filler, single 2.5-inch hot-swap hard disk drive bay	44T2248
25	Filler, single 2.5-inch simple-swap hard disk drive bay	49Y4560
27	Filler, single 3.5-inch hot-swap hard disk drive bay	69Y5364
29	Filler, single 3.5-inch simple-swap hard disk drive bay	69Y5368
32	Remote RAID battery/power module tray	94Y7609
35	PCI riser-card assembly	00AL327
	Holder, battery (retainer)	00Y8545
	Filler, hot-swap power supply	49Y4821
	Rack mount kit	00AL346
	Miscellaneous parts kit, (screws)	00AL318
	Label, (system service, FRU/CRU)	00AL315
	Label, (system service, FRU/CRU)	00MV837
	Label, chassis	00AL317

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
39M5076 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
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 39M5377 39M5378 39M5509 39M5512	Canada, United States of America

Chapter 6. Removing and replacing server 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 x3250 M5 Type 5458" on page 147 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 649.

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 server 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 cover

Use this information to remove the cover.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component or installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the server cover, complete the following steps.

Step 1.   If the server has been installed in a rack, slide the server out from the rack enclosure. Refer to the *Rack Installation Instructions* for more information on installing or removing the server from the rack.

Step 2.   Put the server on a working area before you remove any server components or parts from the server.

Step 3.   Put your thumbs on the blue tabs (cover-release buttons). Press on the blue tab or button on the left and slide the cover toward the rear of the server until the cover has disengaged from the chassis.

Figure 85. Cover removal

Step 4.   Lift the server cover off the server and set it aside.

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

Replacing the cover

Use this information to replace the cover.

Make sure that all cables, adapters, and other server 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.

Important: Before you slide the cover forward, make sure that all the tabs on the front, rear, and side of the cover engage the chassis correctly. If all the tabs do not engage the chassis correctly, it will be very difficult to remove the cover later.

To replace the server cover, complete the following steps.

Step 1.   Position the cover on top of the server.

Step 2.   Slide the cover toward the front of the server.

Figure 86. Cover installation

Step 3. Make sure that the cover correctly engages all the inset tabs on the server.

Step 4. Slide the server all the way into the rack until the server locks into place with an audible click.

Step 5. Reconnect the power cords and all external cables, and turn on the server and peripheral devices.

Step 6. Check the "Server controls, LEDs, and power" on page 15.

Removing the air baffle

Use this information to remove the air baffle from the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component or installing an optional device in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the air baffle, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Place your fingers under the front and back of the top of the air baffle; then, lift the air baffle out of the server.
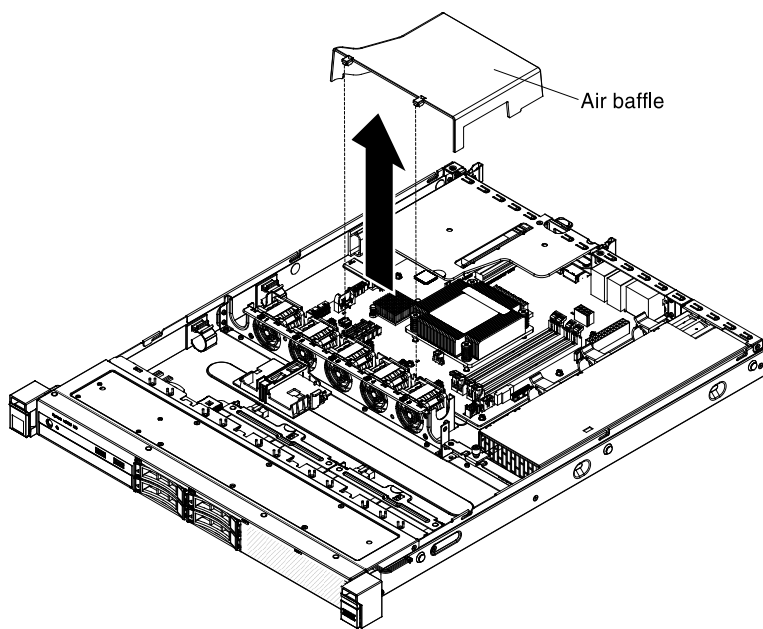
Figure 87. Air baffle removal

> **Attention:** For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

Replacing the air baffle

Use this information to replace the air baffle.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the air baffle, complete the following steps.

Step 1. Align the air baffle pins with the baffle pin holes on the server chassis and fan cage assembly; then, lower the air baffle into the server. Press the air baffle down until it is securely seated.
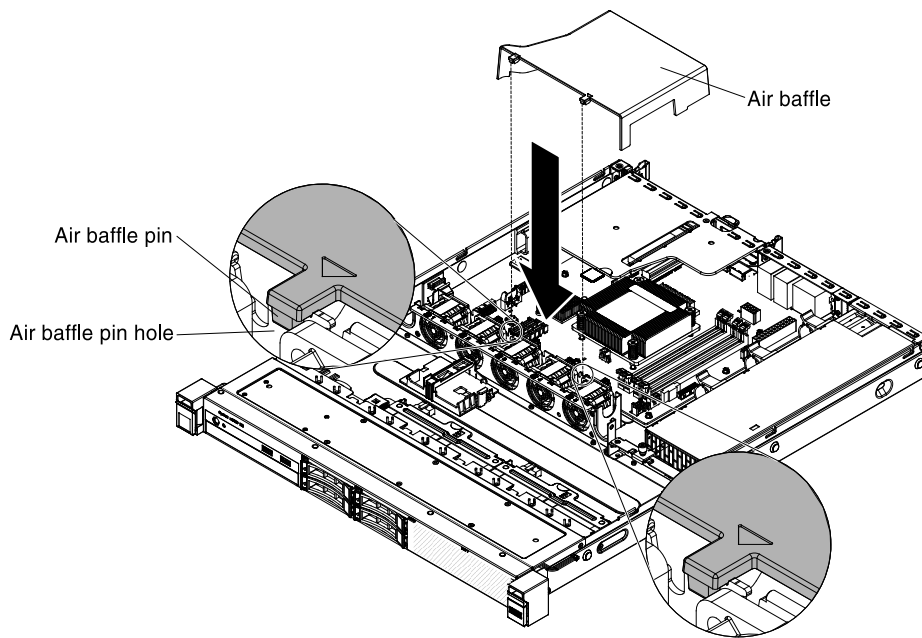
Figure 88. Air baffle installation

Step 2.   Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the bezel

Use this information to remove the bezel.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the bezel, complete the following steps.

Step 1.   If the server has been installed in a rack, press the two release latches on the front of the server and remove the server out of the rack enclosure.

Attention: Two or more people are required to remove the server from a rack cabinet.

Step 2.   Remove the drives and drive bay filler panels from the drive bays (see "Removing a hot-swap hard disk drive" on page 174, or "Removing a simple-swap hard disk drive" on page 177, or "Removing the optional DVD drive" on page 180).

Step 3.   Remove the screws from the bezel.
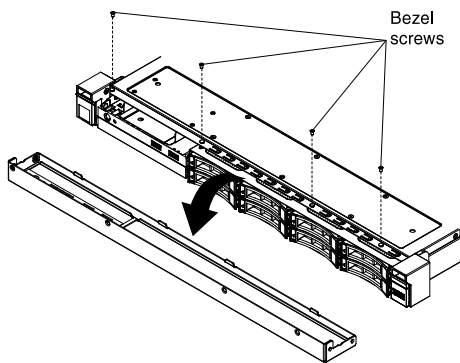
Figure 89. Bezel removal

Step 4.   Pull the top of the bezel out slightly; then, rotate it downward until the tabs on the bottom of the bezel disengages from the chassis and set it aside.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the bezel

Use this information to replace the bezel.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the bezel, complete the following steps.

Step 1.   Insert the tabs on the bottom of the bezel into the holes on the chassis.

Step 2.   Rotate the bezel upward to the server and reinstall the bezel screws.
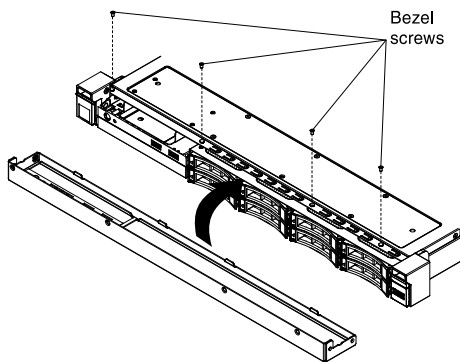
Figure 90. Bezel installation

Step 3.   Reinstall the drives and drive bay filler panels into the drive bays (see "Replacing a hot-swap hard disk drive" on page 176, or "Replacing a simple-swap hard disk drive" on page 179, or "Replacing the optional DVD drive" on page 181).

Step 4.   Install the server into the rack enclosure and push the server into the rack until it clicks into place.

Step 5.   Reconnect the power cords and any cables that you removed.

Step 6.   Turn on the peripheral devices and the server.

Removing the PCI riser-card assembly

Use this information to remove the PCI riser-card assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the PCI riser-card assembly, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).
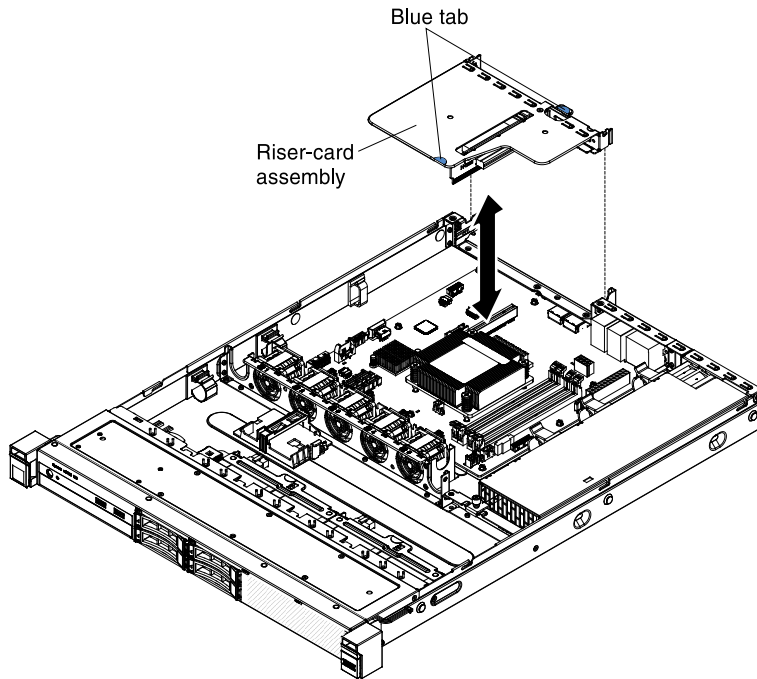
Figure 91. PCI riser-card assembly removal

Step 2.   Grasp the PCI riser-card assembly at the front and rear edges (blue tabs) and lift to remove it from the server.

Step 3.   Disconnect any cables from the adapters in the PCI riser-card assembly.

Step 4.   Remove the adapter from the PCI riser-card assembly (see "Removing an adapter" on page 185 or "Removing an Lenovo ServeRAID SAS/SATA controller" on page 188).

Step 5.   Place the PCI riser-card assembly on a flat, static-protective surface.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the PCI riser-card assembly

Use this information to replace the PCI riser-card assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the PCI riser-card assembly, complete the following steps.

Step 1. Install the adapter in the PCI riser-card assembly (see "Replacing an adapter" on page 186 or "Replacing an Lenovo ServeRAID SAS/SATA controller" on page 189).

Step 2. Reconnect any adapter cables that you disconnected when you removed the PCI riser-card assembly.

Step 3. Carefully align the PCI riser-card assembly with the guides on the rear of the server and with the PCI riser-card connector on the system board; then, place your thumbs on locations marked by the blue tabs and press down on the PCI riser-card assembly. Make sure that the riser-card assembly is fully seated in the connector on the system board.

Figure 92. PCI riser-card assembly installation

Step 4. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the RAID adapter battery or flash power module holder

Use this information to replace the RAID adapter battery or flash power module holder in the server.

Note: RAID adapter battery or flash power module holder is only supported in the 2.5-inch models.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the RAID adapter battery or flash power module holder, complete the following steps:

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the retainer.

Step 3.   Remove the remotely installed RAID adapter battery or flash power module (see "Removing a RAID adapter battery or flash power module" on page 196).

Step 4.   Loosen the two screws from the system tray.
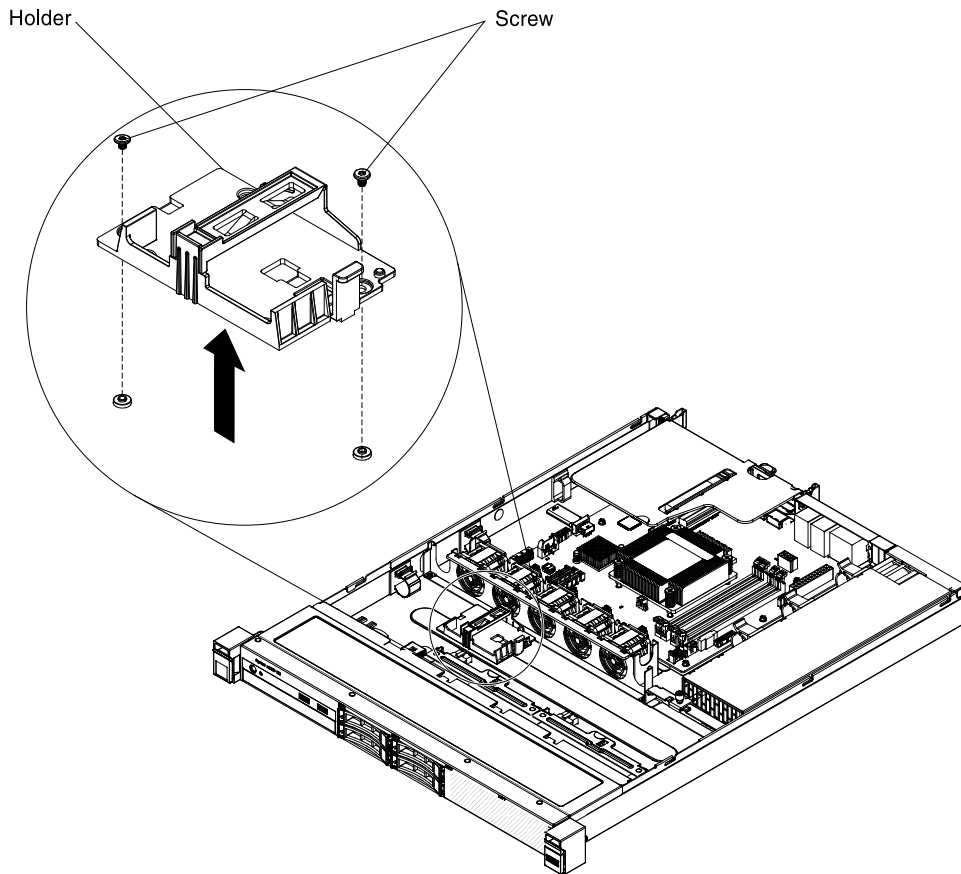
Figure 93. RAID adapter battery or flash power module holder removal

Step 5.   Lift the holder up to remove the holder from the system tray.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the RAID adapter battery or flash power module holder

Use this information to replace the RAID adapter battery or flash power module holder in the server.

Note: RAID adapter battery or flash power module holder is only supported in the 2.5-inch models.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the RAID adapter battery or flash power module holder, complete the following steps:

Step 1.   Align the holder and place the holder on the system tray.
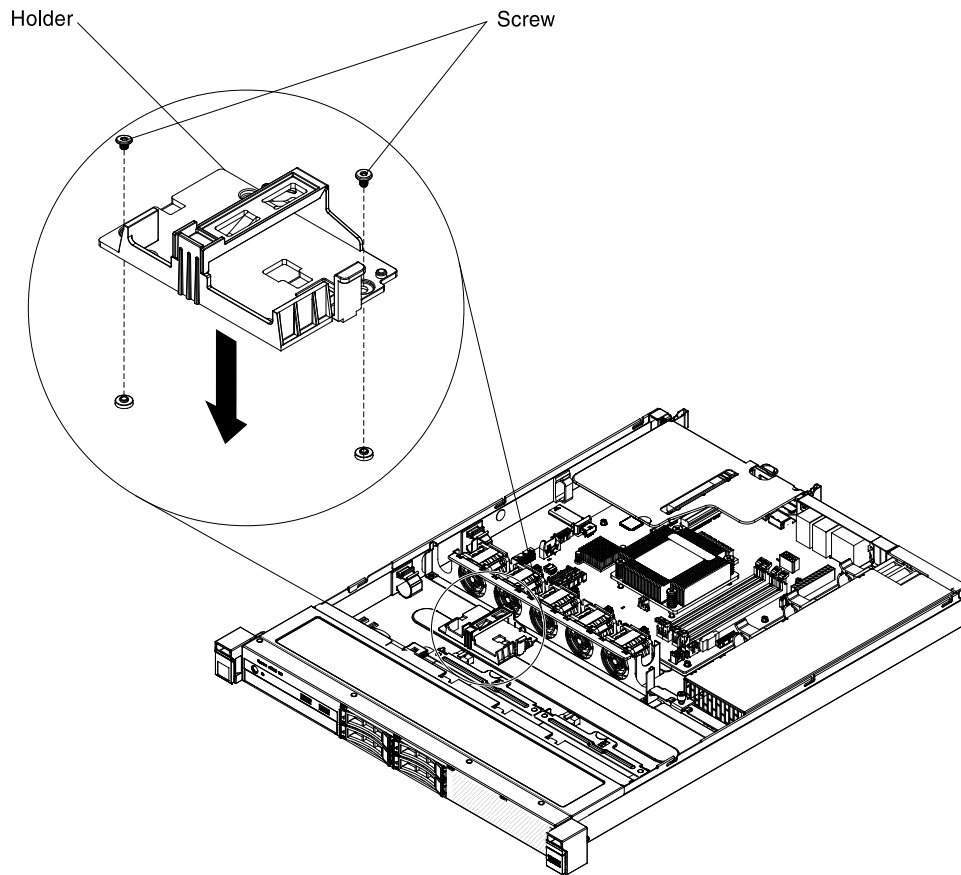
Figure 94. RAID adapter battery or flash power module holder installation

Step 2.   Fasten the two screws come with the holder and make sure that the holder is secured firmly on the system tray.

Step 3.   Reinstall the remotely installed RAID adapter battery or flash power module (see "Replacing a RAID adapter battery or flash power module" on page 197).

Step 4.   Install the retainer.

Step 5.   Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and 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 a DIMM

Use this information to remove a memory module.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove a dual inline memory module (DIMM), complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the air baffle if installed (see "Removing the air baffle" on page 161).

Step 3.   Carefully open the retaining clips on each end of the DIMM connector and remove the DIMM.

> **Attention:** To avoid breaking the retaining clips or damaging the DIMM connectors, handle the clips gently.

Figure 95. DIMM removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Memory module installation

The following notes describe the types of DIMMs that the server supports and other information that you must consider when you install DIMMs.

- Confirm that the server supports the DIMM that you are installing (see http://www.lenovo.com/serverproven/).
- 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. You can use the Setup utility to view the server configuration information, see "Using the Setup utility" on page 85 for more information.

- The server supports only industry-standard double-data-rate 3 (DDR3), 1333 or 1600 MHz, PC3L-12800 (single-rank or dual-rank), unbuffered or synchronous dynamic random-access memory (SDRAM) dual inline memory modules (DIMMs) with error correcting code (ECC).
- The server supports a maximum of four single-rank or dual-rank unbuffered DIMMs.
- 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.
- The specifications of a DDR3 DIMM are on a label on the DIMM, in the following format.
- *gGBeRxf* PC3*v-wwwwwm-aa-bb-cc*

  where:

  - *gGB* is the total capacity of the DIMM (for example, 1GB, 2GB, or 4GB)
  - *eR* is the number of ranks

    - 1R = single-rank
    - 2R = dual-rank
    - 4R = quad-rank

  - *xf* is the device organization or bit width (for example, x4, x8, or x16)

    - x4 = x4 organization (4 DQ lines per SDRAM)
    - x8 = x8 organization
    - x16 = x16 organization

  - *v* is the SDRAM and support component supply voltage (VDD)

    - Blank = 1.5 V specified
    - L = 1.35 V specified, 1.5 V operable

      Note: Values for these voltages are 'specified' which means the device characteristics such as timing are supported at this voltage. Values are 'operable' which means that the devices can be operated safely at this voltage. However, device characteristics such as timing may not be guaranteed. All devices must be 'tolerant' of the highest DDR3 nominal voltage of 1.5 V, meaning that they may not operate at 1.5 V but may be powered at that voltage without damage to the devices.

  - *wwwww* is the DIMM bandwidth, in MBps

    - 6400 = 6.40 GBps (DDR3-800 SDRAMs, 8-byte primary data bus)
    - 8500 = 8.53 GBps (DDR3-1066 SDRAMs, 8-byte primary data bus)
    - 10600 = 10.66 GBps (DDR3-1333 SDRAMs, 8-byte primary data bus)
    - 12800 = 12.80 GBps (DDR3-1600 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

Notes:

1. To determine the type of a DIMM, see the label on the DIMM. The information on the label is in the format xGB nRxx PC3v-xxxxxx-xx-xx-xx. The numeral in the sixth numerical position indicates whether the DIMM is single-rank (n=1) or dual-rank (n=2).

2. 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 "Configuring the server" on page 84.

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

Figure 96. The location of the DIMM connectors on the system board

The following sections provide additional information specific to unbuffered and registered DIMMs that you must consider.

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 32. 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	1600	Dual-rank
2	2	Unbuffered DDR3 ECC	1600	Dual-rank

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

Table 33. Maximum memory population using ranked UDIMMs (depending on your model)

Number of UDIMMs	DIMM type	Size	Total memory
4	Dual-rank UDIMMs	4 GB	16 GB
4	Dual-rank UDIMMs	8 GB	32 GB

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

Table 34. UDIMM population rule

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

Installing a DIMM

Use this information to install a DIMM.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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

Figure 97. The location of the DIMM connectors on the system board

To install a DIMM, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the air baffle if installed (see "Removing the air baffle" on page 161).

Step 3.   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 35.   DIMM installation sequence

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

Step 4.   Open the retaining clip on each end of the DIMM connector.

Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.
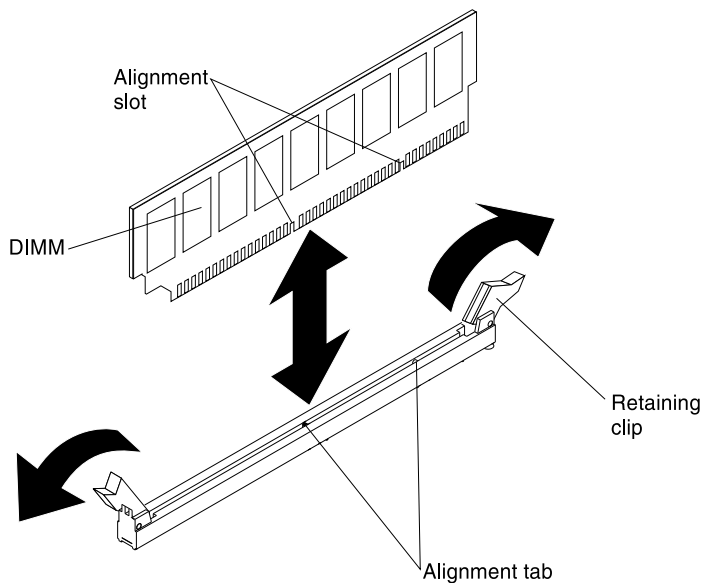
Figure 98. DIMM installation

Step 5.   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.

Step 6.   Turn the DIMM so that the alignment slot align correctly with the alignment tab.

Step 7.   Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector.

Step 8.   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.

Step 9.   Reconnect any cable that you removed.

Step 10. Reinstall the air baffle if it was removed before (see).

Step 11. Reinstall the cover (see).

If you have replaced a server component or installed an optional device in the server, you need reinstall the cover, slide the server into the rack, reconnect the power cords and all external cables, and turn on the server and peripheral devices.

Removing a hot-swap hard disk drive

Use this information to remove a hot-swap hard disk drive.

Attention:

- To avoid damage to the hard disk drive connectors, make sure that the server cover is in place and fully closed whenever you install or remove a hard disk drive.
- To make sure that there is adequate system cooling, do not operate the server for more than 2 minutes without either a hard disk drive or a filler panel installed in each bay.
- Before you make changes to disk drives, disk drive controllers (including controllers that are integrated on the system board), disk drive backplanes, or disk drive cables, back up all important data that is stored on hard disks.

• Before you remove any component of a RAID array, back up all RAID configuration information.

Read the safety information in and .

To remove a hot-swap hard disk drive, complete the following steps.

Step 1. Make sure you save the data on your drive, especially if it is part of a RAID array, before you remove it from the server.
Step 2. Slide the release latch (orange) gently to the left to unlock the drive handle.
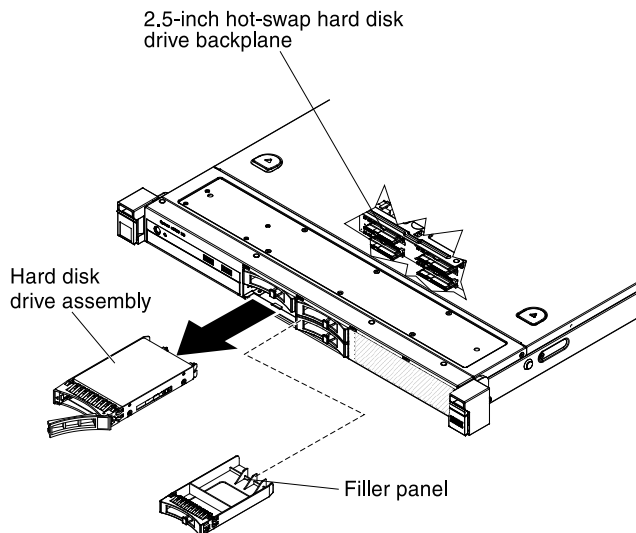
Figure 99. 2.5-inch hot-swap hard disk drive removal
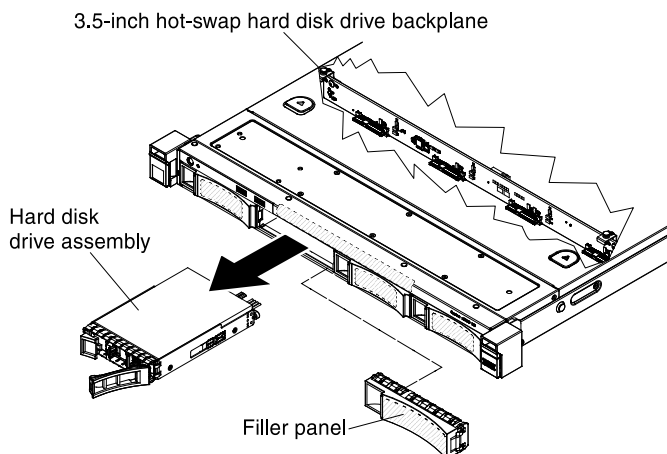
Figure 100. 3.5-inch hot-swap hard disk drive removal

Step 3. Grasp the handle and pull the hot-swap hard disk drive out of the drive bay.
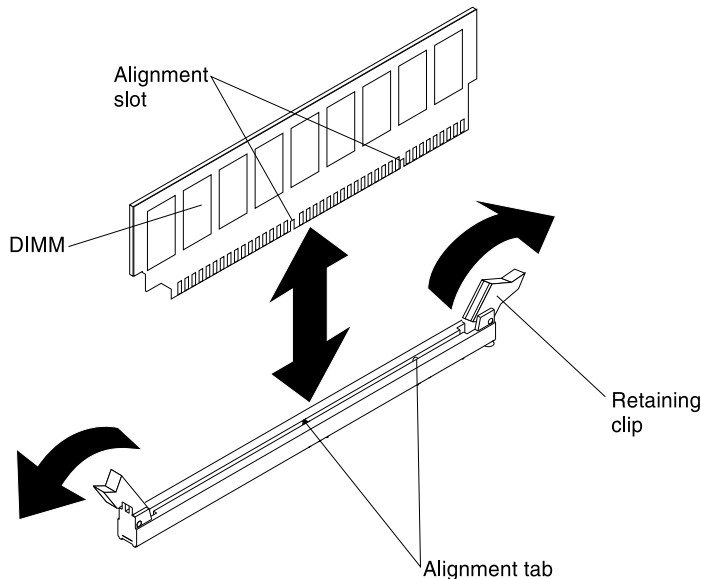Step 4. Reinstall the drive bay filler panel.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a hot-swap hard disk drive

Use this information to replace a hot-swap hard disk drive.

The following notes describe the type of hard disk drives that the server supports and other information that you must consider when you install a hard disk drive. For a list of supported hard disk drives, see http://www.lenovo.com/ serverproven/.

- Locate the documentation that comes with the hard disk 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. If you are installing a SAS or SATA hard disk drive, be sure to set the SAS or SATA ID for that device.
- You can install up to to eight 2.5-inch or four 3.5-inch hot-swap SAS or SATA hard disk drives in the server.
- 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 or PCI Express adapter slot cover in the event that you later remove the device.
- For a complete list of supported optional devices for the server, see http://www.lenovo.com/ serverproven/.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

To replace a hot-swap SAS or SATA hard disk drive, complete the following steps:

Note: If you have only one hard disk drive, you must install it in the left drive bay.

Attention: To avoid damage to the hard disk drive connectors, make sure that the server cover is in place and fully closed whenever you install or remove a hard disk drive.

Step 1. Remove the filler panel from the empty drive bay. Keep the filler panel in a safe place.

Step 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.

Step 3. Install the hard disk drive in the drive bay:

　　a. Make sure that the tray handle is in the open (unlocked) position.

　　b. Align the drive with the guide rails in the bay.

Figure 101. 2.5-inch hot-swap hard disk drive installation
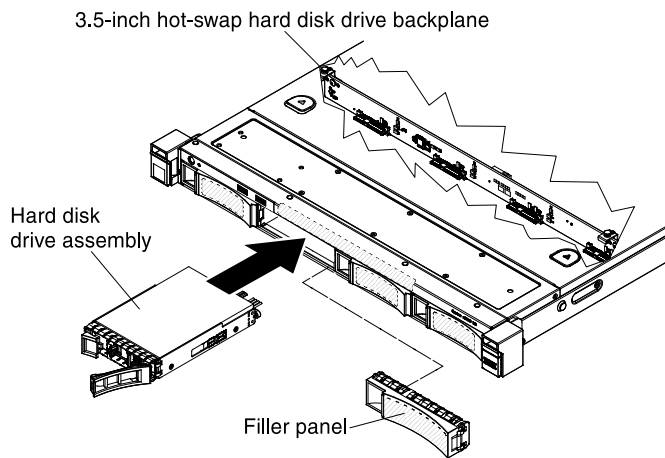
Figure 102. 3.5-inch hot-swap hard disk drive installation

 c. Gently push the drive into the bay until the drive stops.

 d. Rotate the tray handle to the closed (locked) position.

 e. Check the hard disk drive status LED to verify that the hard disk drive is operating correctly. If the yellow hard disk drive status LED of a drive is lit continuously, that drive is faulty and must be replaced. If the green hard disk drive activity LED is flashing, the drive is being accessed.

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

Step 4. If you are installing additional hot-swap hard disk drives, do so now.

Removing a simple-swap hard disk drive

Use this information to remove a simple-swap hard disk drive.

You must turn off the server before removing simple-swap drives from the server. To remove a simple-swap SATA hard disk drive, complete the following steps.

Attention:

- To avoid damage to the hard disk drive connectors, make sure that the server cover is in place and fully closed whenever you install or remove a hard disk drive.
- To make sure that there is adequate system cooling, do not operate the server for more than 2 minutes without either a hard disk drive or a filler panel installed in each bay.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Step 1. Remove the drive bay filler panel from the server.

Step 2. 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.
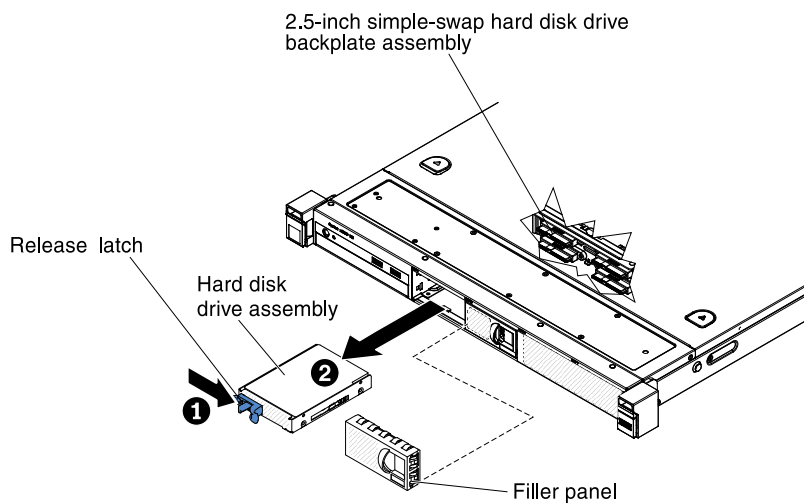
Figure 103. 2.5-inch simple-swap hard disk drive removal
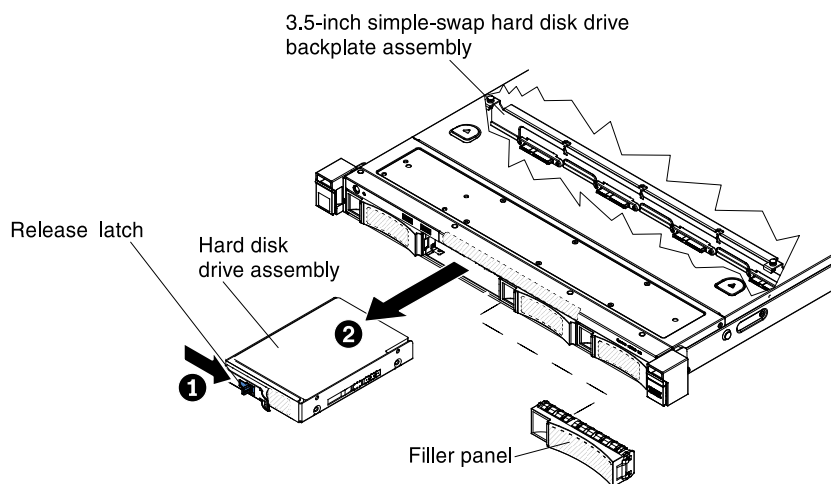
Figure 104. 3.5-inch simple-swap hard disk drive removal

Step 3. Reinstall the drive bay filler panel that you removed earlier.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a simple-swap hard disk drive

Use this information to replace a simple-swap hard disk drive.

You must turn off the server before installing simple-swap drives in the server. Before you install a simple-swap SAS or SATA hard disk drive, read the following information. For a list of supported hard disk drives, see http://www.lenovo.com/ serverproven/.

- Locate the documentation that comes with the hard disk 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. If you are installing a SAS or SATA device, be sure to set the SAS or SATA ID for that device.
- You can install up to eight 2.5-inch or four 3.5-inch simple-swap SAS or SATA hard disk drives in the server.
- 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 or PCI Express adapter slot cover in the event that you later remove the device.
- For a complete list of supported optional devices for the server, see http://www.lenovo.com/ serverproven/.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install a simple-swap hard disk drive, complete the following steps:

Step 1.   Remove the filler panel from the empty drive bay.

Step 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.

Step 3.   Install the hard disk drive in the drive bay:

a.   Grasp the black drive handle and slide the blue release latch to the right and align the drive assembly with the guide rails in the bay.

2.5-inch simple-swap hard disk
drive backplate assembly

Hard disk
drive assembly

Filler panel

Figure 105. 2.5-inch simple-swap hard disk drive installation

3.5-inch simple-swap hard disk drive
backplate assembly

Hard disk
drive assembly
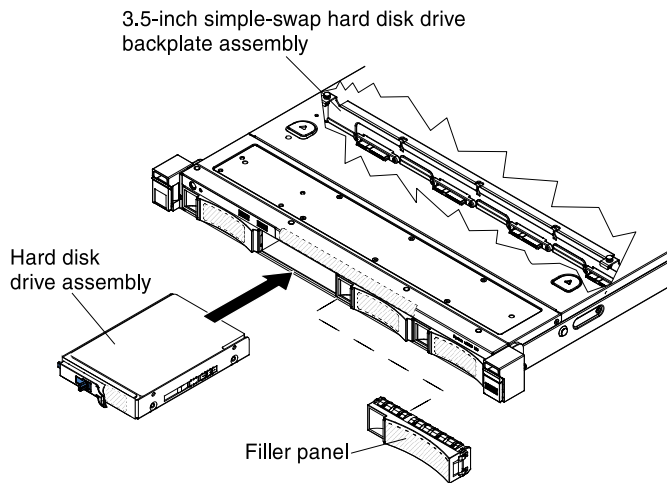
Filler panel

Figure 106. 3.5-inch simple-swap hard disk drive installation

      b.   Gently push the drive into the bay until the drive stops.

Step 4.   Reinstall the drive bay filler panel that you removed earlier.

Step 5.   If you are installing additional simple-swap hard disk drives, do so now.

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the optional DVD drive

Use this information to remove the DVD drive.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the DVD drive, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Press and hold the release tab down as you push the drive from the rear to slide it out of the bay.
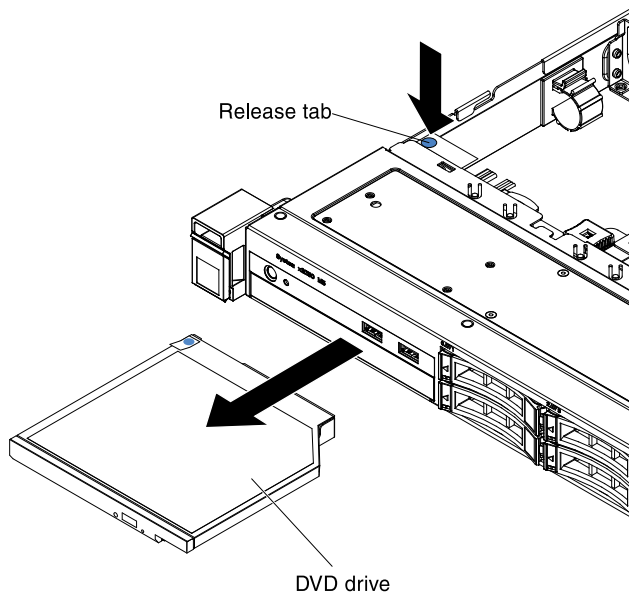
Figure 107. DVD drive removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the optional DVD drive

Use this information to replace the DVD drive.

The following notes describe the type of drives that the server supports and other information that you must consider when you install a drive. For a list of supported drives, see http://www.lenovo.com/ serverproven/.

- 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.
- The server supports one ultra-slim SATA optical drive.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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, on the light path diagnostics panel, and LEDs inside the server on the system board.

To replace the DVD drive, complete the following steps.

Step 1. Touch the static-protective package that contains the new optical drive to any unpainted metal surface on the server; then, remove the optical drive from the package and place it on a static-protective surface.

Step 2. Follow the instructions that come with the drive to set any jumpers or switches.

Step 3. Attach the drive retention clip that you removed from the DVD drive filler panel to the side of the new DVD drive.
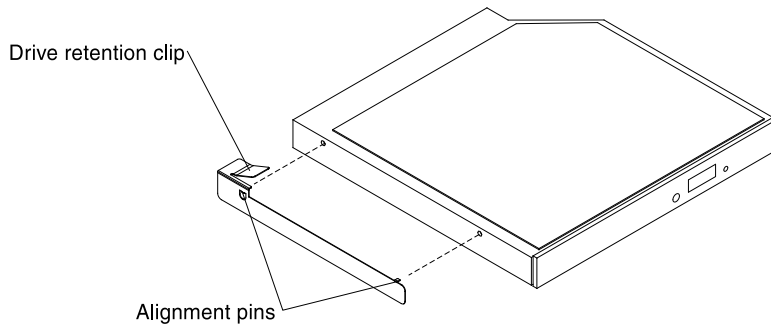
Figure 108. DVD drive retention clip installation

Step 4. Align the DVD drive in the drive bay and slide the DVD drive into the optical drive bay until the DVD drive clicks into place.
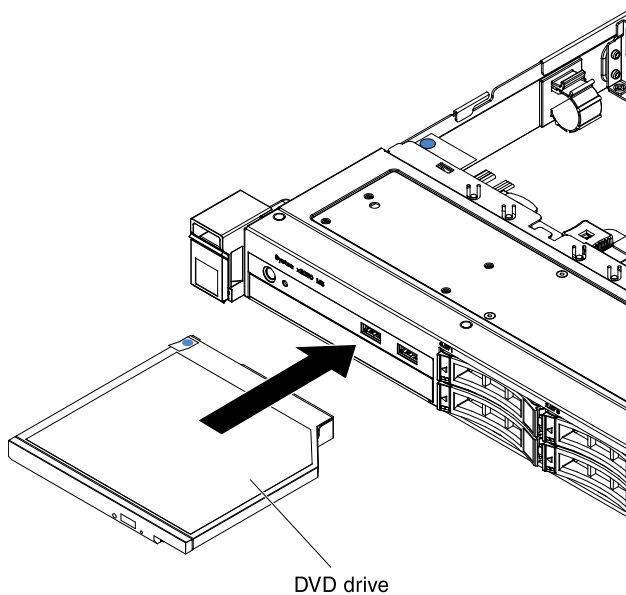
Figure 109. DVD drive installation

If you have replaced a server component or installed an optional device in the server, you need reinstall the cover, slide the server into the rack, reconnect the power cords and all external cables, and turn on the server and peripheral devices.

Removing the DVD drive cable

Use this information to remove the DVD drive cable.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the DVD drive cable, complete the following steps:

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the DVD drive bay filler panel from the server.

Step 3.   Disconnect the DVD drive cable from the system board.

Attention: Do not disconnect the DVD drive cable by using excessive force.
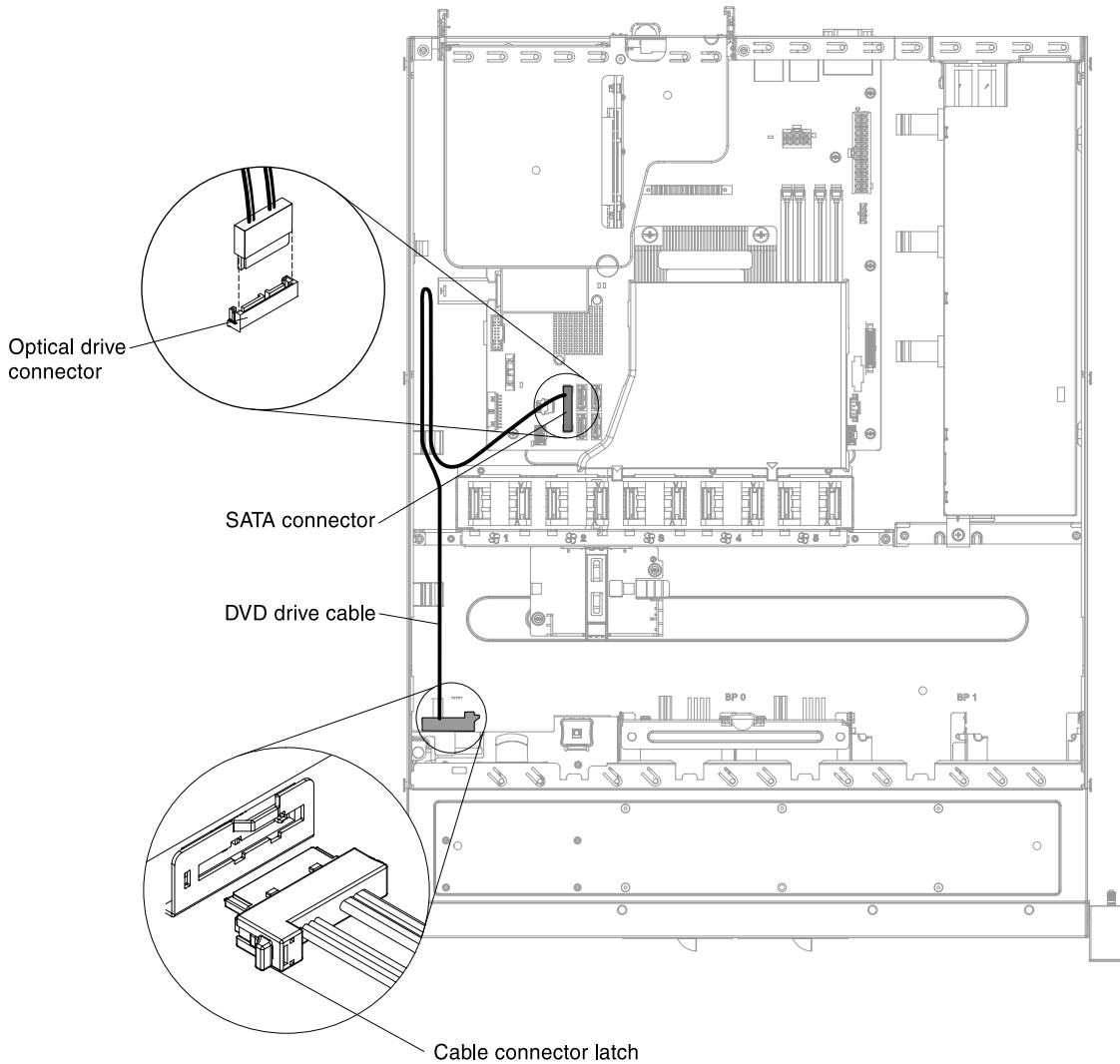
Figure 110. DVD drive cable connection

Step 4.   From the rear of the DVD drive cage, press and hold the connector latch (on the left of the cable connector) and grasp the cable connector and slide the cable connector to the right (unlocked position). Remove the DVD drive cable from the connector on the back of the DVD drive and set the cable aside.
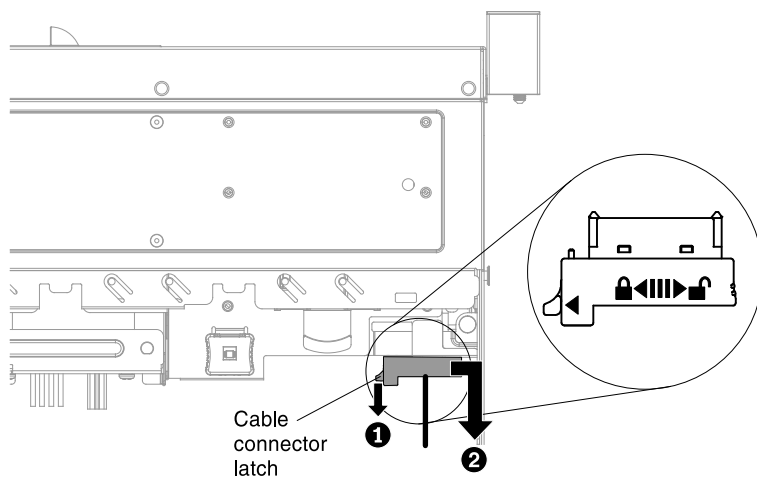
Figure 111. DVD drive cable latch

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the DVD drive cable

Use this information to replace the DVD drive cable.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the DVD drive cable, complete the following steps:

Step 1.   Align the cable connector with the connector on the rear of the DVD drive cage. Press the cable connector into the DVD drive cage connector and slide the cable connector to the left (locked position) to lock the cable in place.
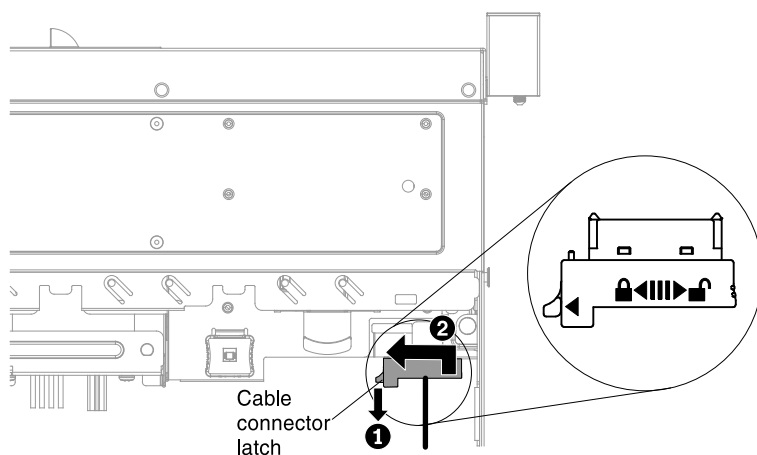
Figure 112. DVD drive cable latch

Step 2.   Follow the DVD drive cable routing as the illustration shows. Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Optical drive connector

SATA connector

DVD drive cable

Cable connector latch
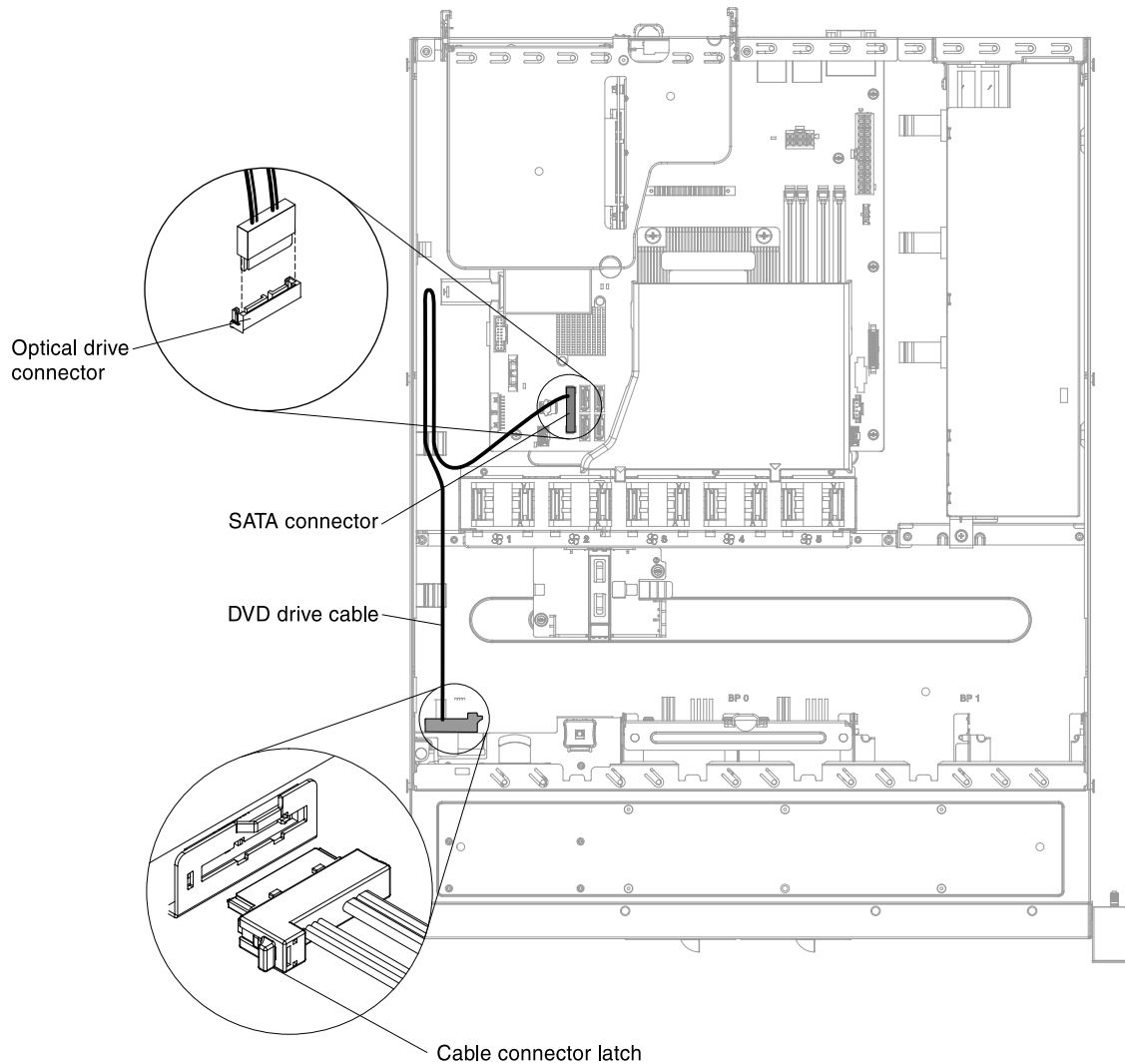
Figure 113. DVD drive cable connection

Step 3. Secure the cable in the server using the cable tie and cable clip.

Step 4. Reinstall the DVD drive bay filler panel that you removed earlier.

Step 5. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing an adapter

Use this information to remove an adapter.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove an adapter, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Disconnect the cables from the adapter.

Step 4. Place the PCI riser-card assembly on a flat, static-protective surface.

Step 5. Carefully grasp the adapter by its top edge or upper corners, and pull the adapter from the PCI riser-card assembly.

Figure 114. Adapter removal

If you are instructed to return the server component or optional device, 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.

The following notes describe the types of adapters that the server supports and other information that you must consider when you install an adapter:

- To confirm that the server supports the adapter that you are installing, see http://www.lenovo.com/serverproven/.
- Locate the documentation that comes with the adapter and follow those instructions in addition to the instructions in this section.
- The adapter slots are on the PCI riser-card assembly. You must first remove the PCI riser-card assembly to access the adapter slots.
- The expansion slots on the PCI riser-card assembly accommodate the various form factors of the non-hot-plug adapters as follows:
  - Expansion slot 1: Dedicated to ServeRAID H1110 SAS/SATA Controller
  - Expansion slot 2: Support one PCI Express Gen3 x8 half-length, full-height adapter

Slot 2 PCIe Gen3 x8 (8, 4, 1)

Slot 1 PCIe Gen3 x8 (4, 1)
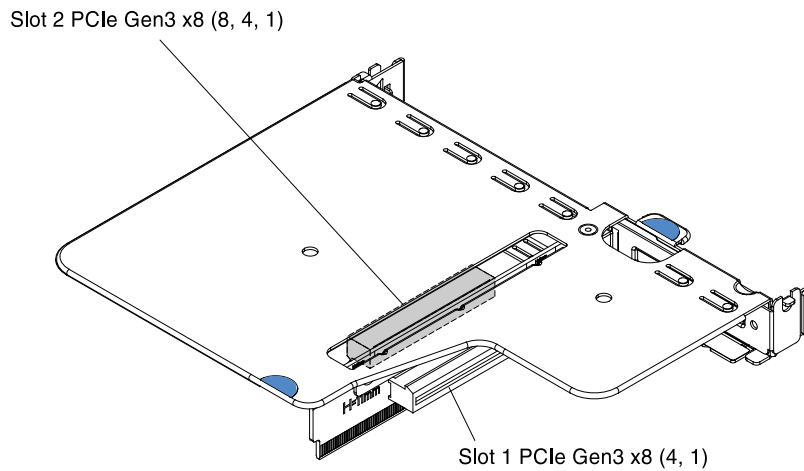
Figure 115. PCI riser-card assembly

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace an adapter, complete the following steps.

Note: If your adapter was previously configured, back up or record its configuration information, if possible, before replacing the adapter. See the documentation for your adapter for information and instructions.

Step 1.   Touch the static-protective package that contains the adapter to any unpainted metal surface on the server; then, remove the adapter from the package.

Step 2.   Place the adapter, component side up, on a flat, static-protective surface and set any jumpers or switches as described by the adapter manufacturer, if necessary.

Step 3.   Follow the cabling instructions, if any come with the adapter. Route the adapter cables before you install the adapter.

Step 4.   Align the gold finger on the adapter with the connector on the PCI riser-card assembly, then, insert the adapter into the PCI riser-card assembly. Press the edge of the connector *firmly* into the PCI riser-card assembly. Make sure that the adapter is securely installed in the PCI riser-card assembly.

Important: Make sure that the U-shaped opening in the metal adapter bracket engages the tab on the expansion-slot filler.
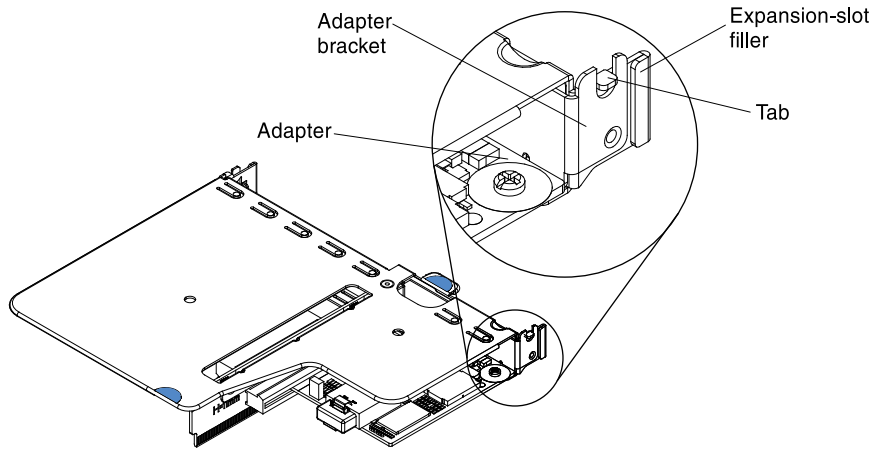
Figure 116. Adapter installation

Step 5. Reconnect the cables to the adapter that you removed earlier.

Step 6. Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

> **Attention:** When you install an adapter, make sure that the adapter is correctly seated in the PCI riser-card assembly and that the PCI riser-card assembly is securely seated in the riser-card connector on the system board before you turn on the server. An incorrectly seated adapter might cause damage to the system board, the PCI riser-card assembly, or the adapter.

Step 7. Reinstall the cover (see "Replacing the cover" on page 160).

Step 8. If you are replacing a ServeRAID adapter, import your RAID configuration to the replacement adapter as a foreign configuration. See the *ServeRAID-M Software User Guide* at https://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086126 for instructions.

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Note: If the server is configured for RAID operation through an optional ServeRAID adapter, you might have to reconfigure your disk arrays after you install an adapter. See the ServeRAID documentation on the *Lenovo ServeRAID Support* CD for additional information about RAID operation and complete instructions for using ServeRAID Manager.

Removing an Lenovo ServeRAID SAS/SATA controller

Use this information to remove an Lenovo ServeRAID SAS/SATA controller.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To remove an Lenovo ServeRAID SAS/SATA controller, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Disconnect the signal cable from the ServeRAID SAS/SATA controller.

Step 4.   Place the PCI riser-card assembly on a flat, static-protective surface.

Step 5.   Carefully grasp the end of the ServeRAID SAS/SATA controller and pull the ServeRAID SAS/SATA controller out of the connector on the PCI riser-card assembly.

Figure 117. ServeRAID SAS/SATA controller removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing an Lenovo ServeRAID SAS/SATA controller

Use this information to replace an Lenovo ServeRAID SAS/SATA controller.

For configuration information, see the ServeRAID SAS/SATA controller documentation at http://www.lenovo.com/support.

Important: To ensure that any of your ServeRAID SAS/SATA controllers function properly on UEFI-based servers, make sure that the ServeRAID SAS/SATA controller firmware and supporting device drivers are updated to the latest version.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To replace an Lenovo ServeRAID SAS/SATA controller, complete the following steps.

Note: If possible, back up or record your RAID configuration information before replacing the adapter. See the documentation for your RAID adapter for information and instructions. Documentation for ServeRAID adapters can be downloaded from http://www.lenovo.com/support.

Step 1.   Touch the static-protective package that contains the new ServeRAID SAS/SATA controller to any unpainted surface on the outside of the server; then, grasp the ServeRAID SAS/SATA controller by the top edge or upper corners of the ServeRAID SAS/SATA controller and remove it from the package.

Step 2. Take the signal cable that is attached to the drive backplate assembly/backplane and connect it to the ServeRAID SAS/SATA controller.
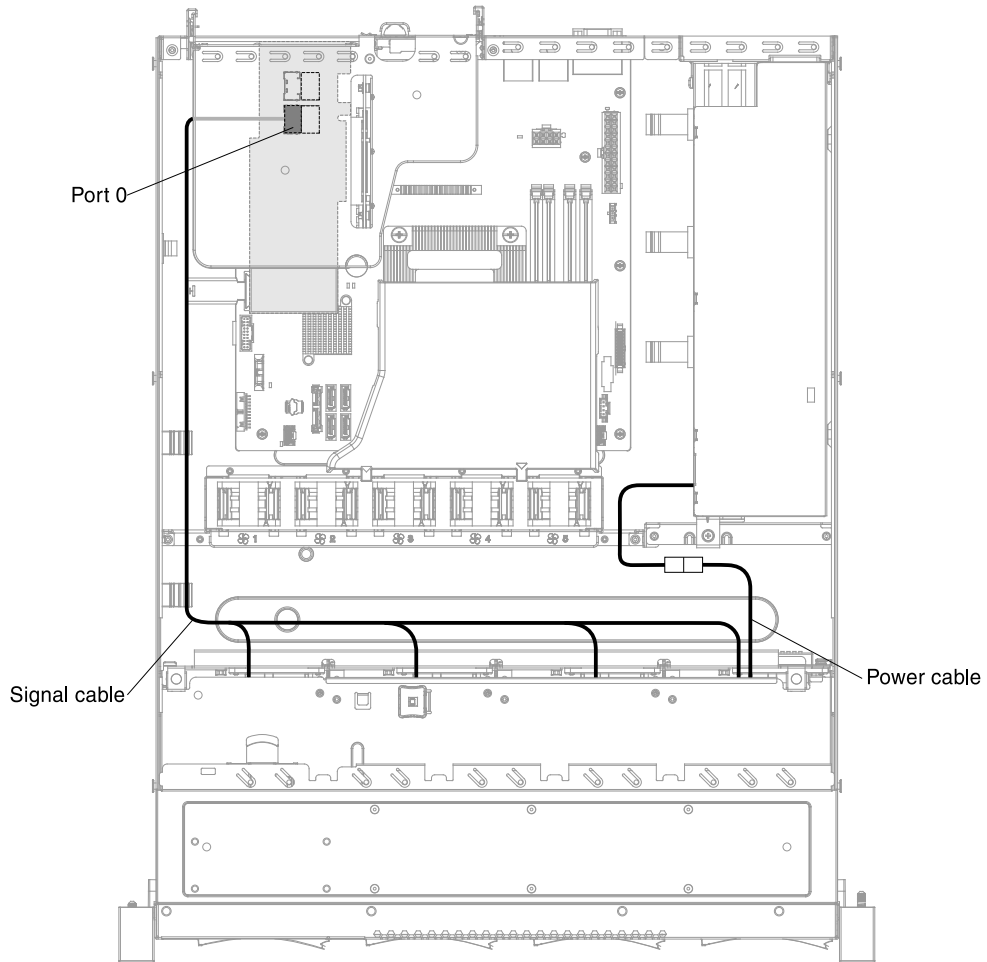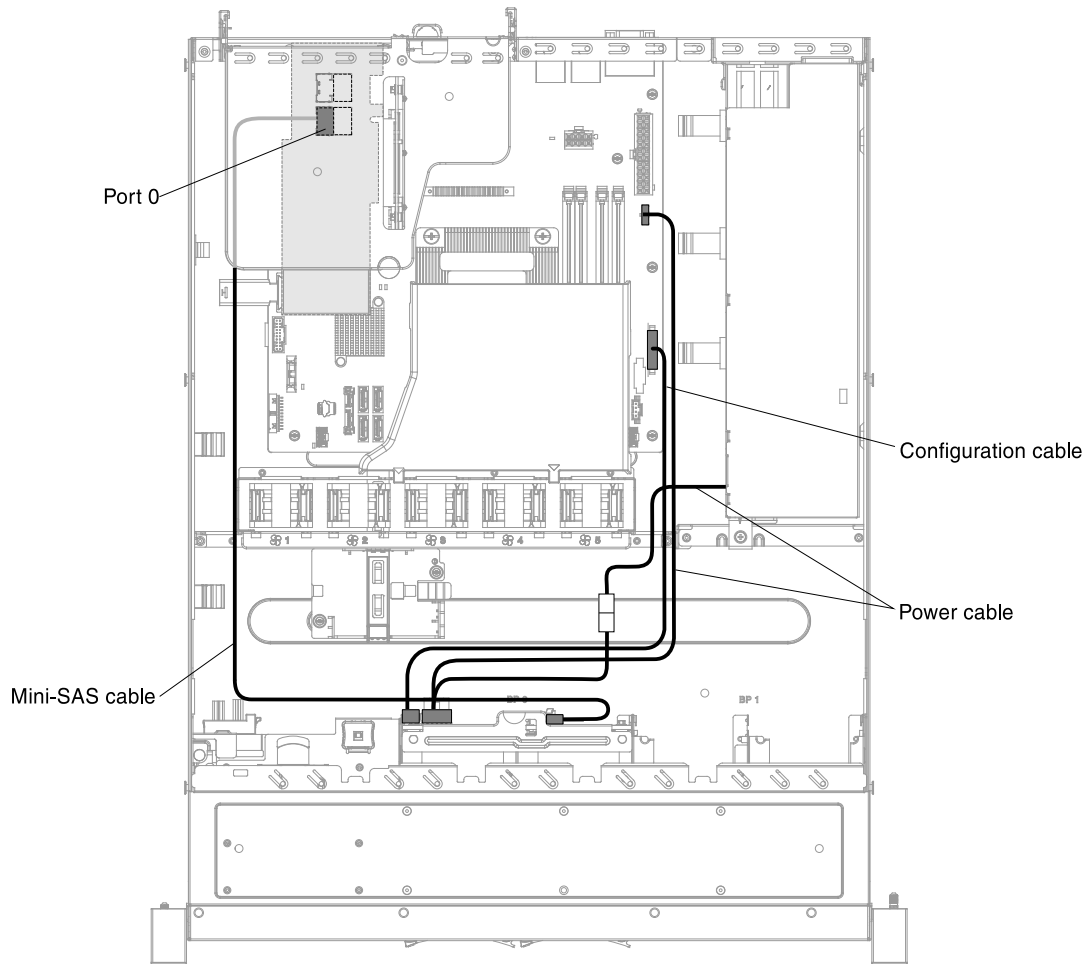
Figure 118. ServeRAID SAS/SATA controller signal cable connection for simple-swap hard disk drive models (left PCI module connection)

Figure 119. ServeRAID SAS/SATA controller signal cable connection for simple-swap hard disk drive models (right PCI module connection)

Figure 120. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (left PCI module connection)

Mini-SAS cable

Configuration cable

Power cable

Figure 121. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (right PCI module connection)
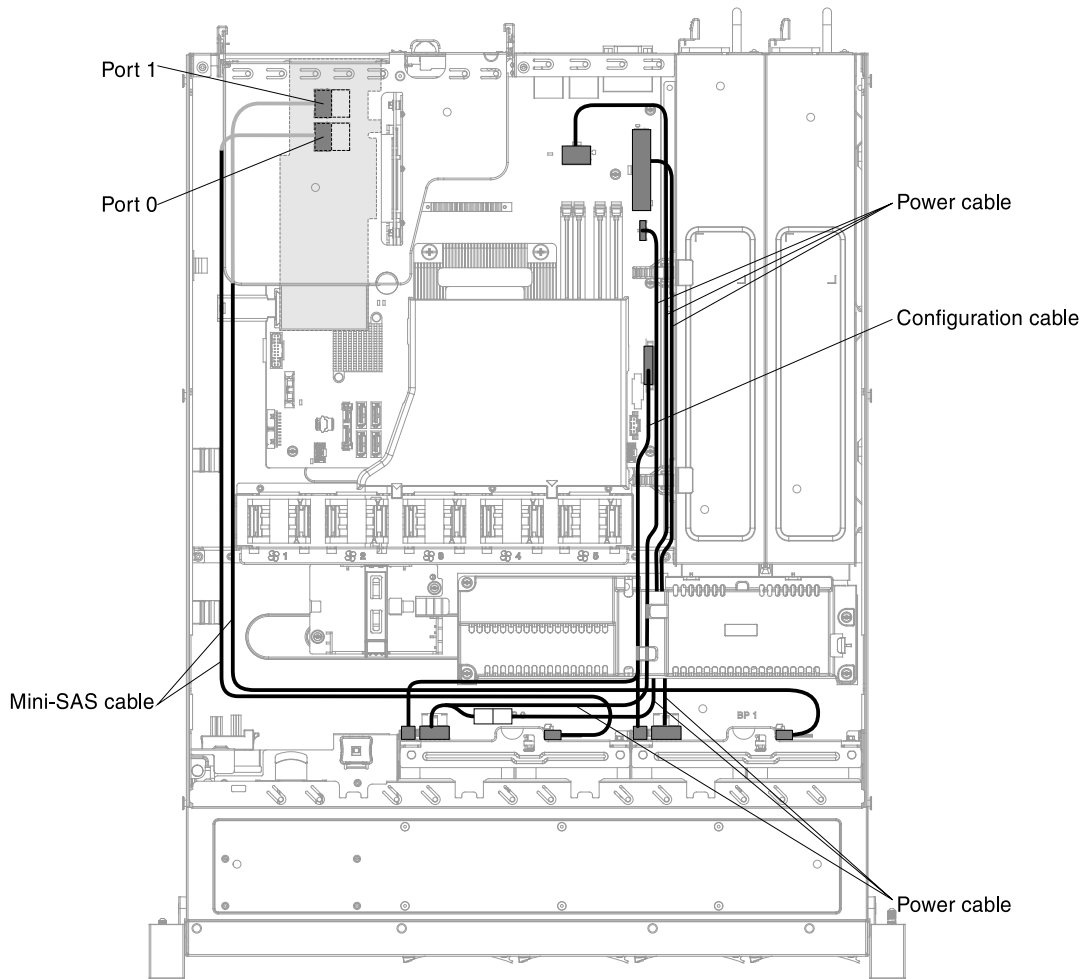
Figure 122. ServeRAID SAS/SATA controller signal cable connection for hot-swap hard disk drive models (left PCI module connection with two backplanes)

Step 3.   Make sure the relevant cables pass through the cable clips.

Step 4.   Align the ServeRAID SAS/SATA controller so that the keys align correctly with the connector on the PCI riser-card assembly.

Step 5.   Insert the ServeRAID SAS/SATA controller into the connector on the PCI riser-card assembly until it is firmly seated.

Attention: Incomplete insertion might cause damage to the server or the ServeRAID SAS/SATA controller.

Step 6.   Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 7.   Reinstall the cover (see "Replacing the cover" on page 160).

Step 8.   Import your RAID configuration to the replacement ServeRAID adapter as a foreign configuration. See the *ServeRAID-M Software User Guide* at https://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=migr-5086126 for instructions.

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Note: When you restart the server, you are prompted to import the existing RAID configuration to the new ServeRAID SAS/SATA controller.

Removing an optional ServeRAID SAS/SATA controller memory module

Use this information to remove an optional ServeRAID SAS/SATA controller memory module.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To remove an optional ServeRAID SAS/SATA controller memory module, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Remove the ServeRAID SAS/SATA controller (see "Removing an Lenovo ServeRAID SAS/SATA controller" on page 188).

Step 4. Grasp the memory module and lift to remove it from the connector on the ServeRAID SAS/SATA controller.

Figure 123. ServeRAID SAS/SATA controller memory module removal
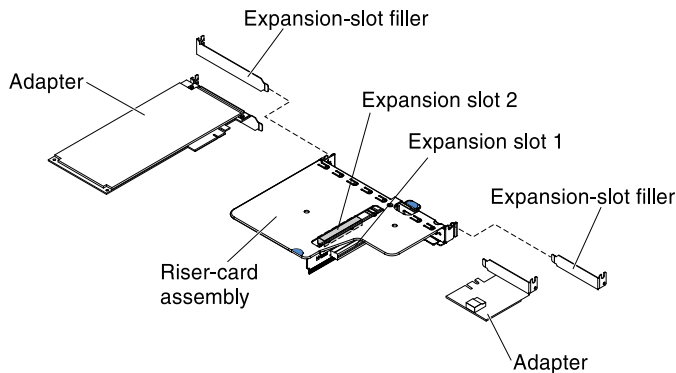
If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing an optional ServeRAID SAS/SATA controller memory module

Use this information to replace an optional ServeRAID SAS/SATA controller memory module.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

Note: For brevity, in this documentation the Lenovo ServeRAID SAS/SATA controller is often referred to as the SAS/SATA adapter or the ServeRAID adapter.

To replace an optional ServeRAID SAS/SATA controller memory module, complete the following steps.

Step 1. Touch the static-protective package that contains the memory card to any unpainted metal surface on the server; then, remove the memory card from the package.

Step 2. Align the memory module with the connector on the ServeRAID SAS/SATA controller and push it into the connector until it is firmly seated.
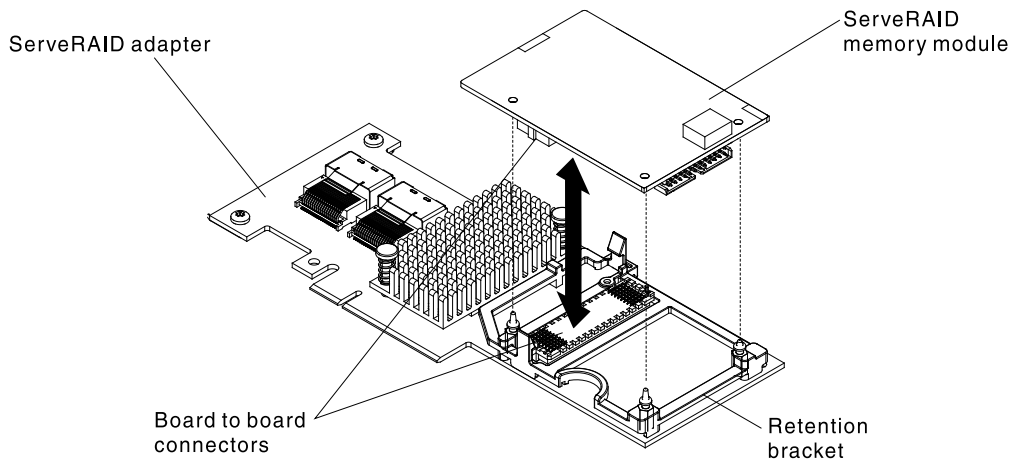
Figure 124. ServeRAID SAS/SATA controller memory module installation

Step 3. Reinstall the ServeRAID SAS/SATA controller ("Replacing an Lenovo ServeRAID SAS/SATA controller" on page 189).

Step 4. Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 5. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Removing a RAID adapter battery or flash power module

Use this information to remove a RAID adapter battery or flash power module in the server.

Note: RAID adapter battery or flash power module is only supported in the 2.5-inch models.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

If a RAID adapter battery or flash power module is installed near the fan cage and you need to remove it, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove any cable covering or obstructing the holder before opening the holder.

Step 3. Remove the retainer then pull the release tab outward and unlock the retention clip.
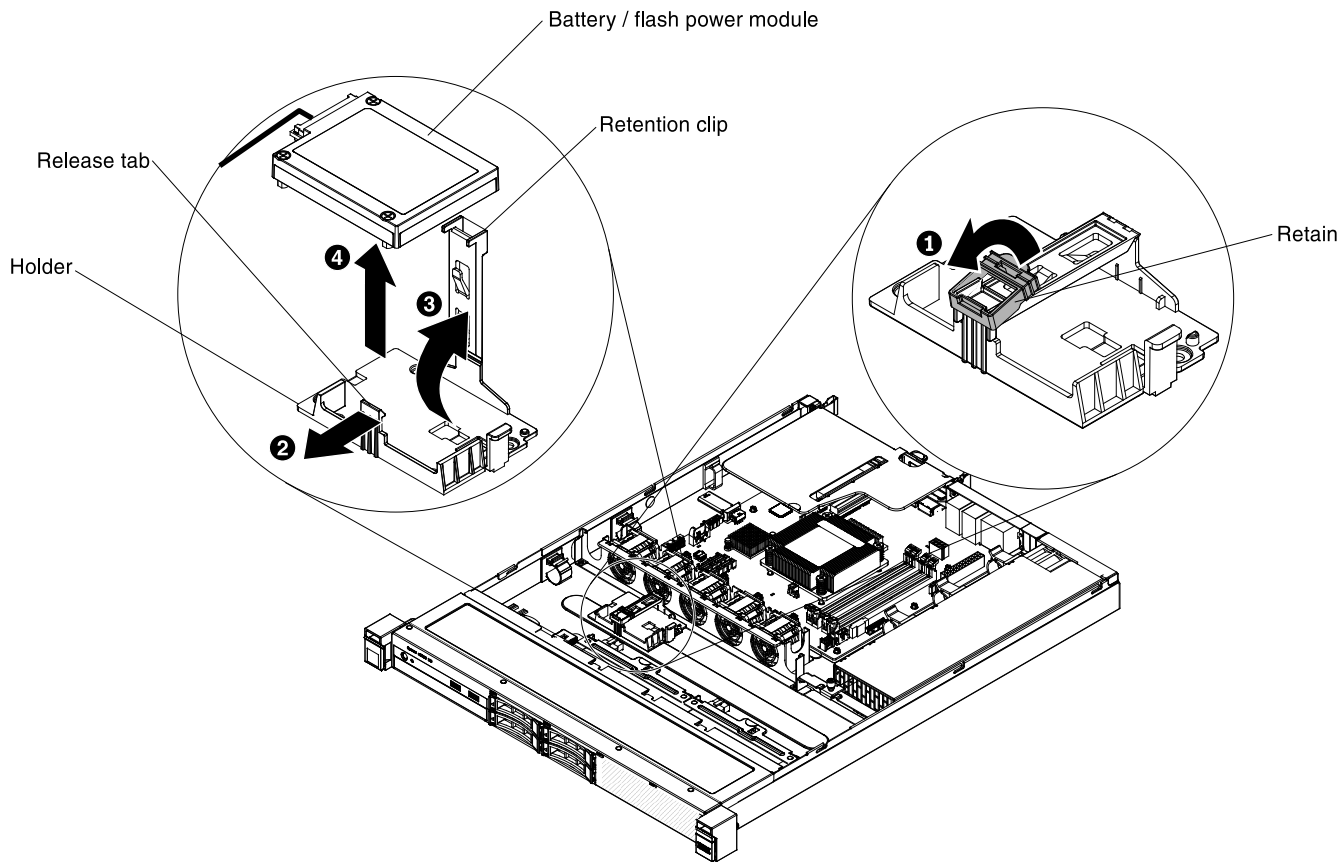
Figure 125. RAID adapter battery or flash power module removal

> **Attention:** Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Step 4. Lift the battery or flash power module up to remove the battery or flash power module from the holder.

Step 5. Disconnect the cable from the cable connector on the battery or flash power module.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a RAID adapter battery or flash power module

Use this information to replace a RAID adapter battery or flash power module in the server.

When you install any RAID adapter that comes with batteries or flash power modules, it is sometimes necessary to install the batteries or flash power modules in another location in the server to prevent the batteries or flash power modules from overheating. Depending on your server model, a battery must be installed remotely near the optical drive cage or the backplane.

Note: RAID adapter battery or flash power module is only supported in the 2.5-inch models.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace a RAID adapter battery or flash power module in the server, complete the following steps:

Step 1.   Install the battery or flash power module:

   a.   Remove the retainer.

   b.   Release the retention clip in the open position.

   c.   Align the cable connector with the slot on the holder. Place the battery or flash power module into the holder and make sure that the holder engages the battery or flash power module securely.
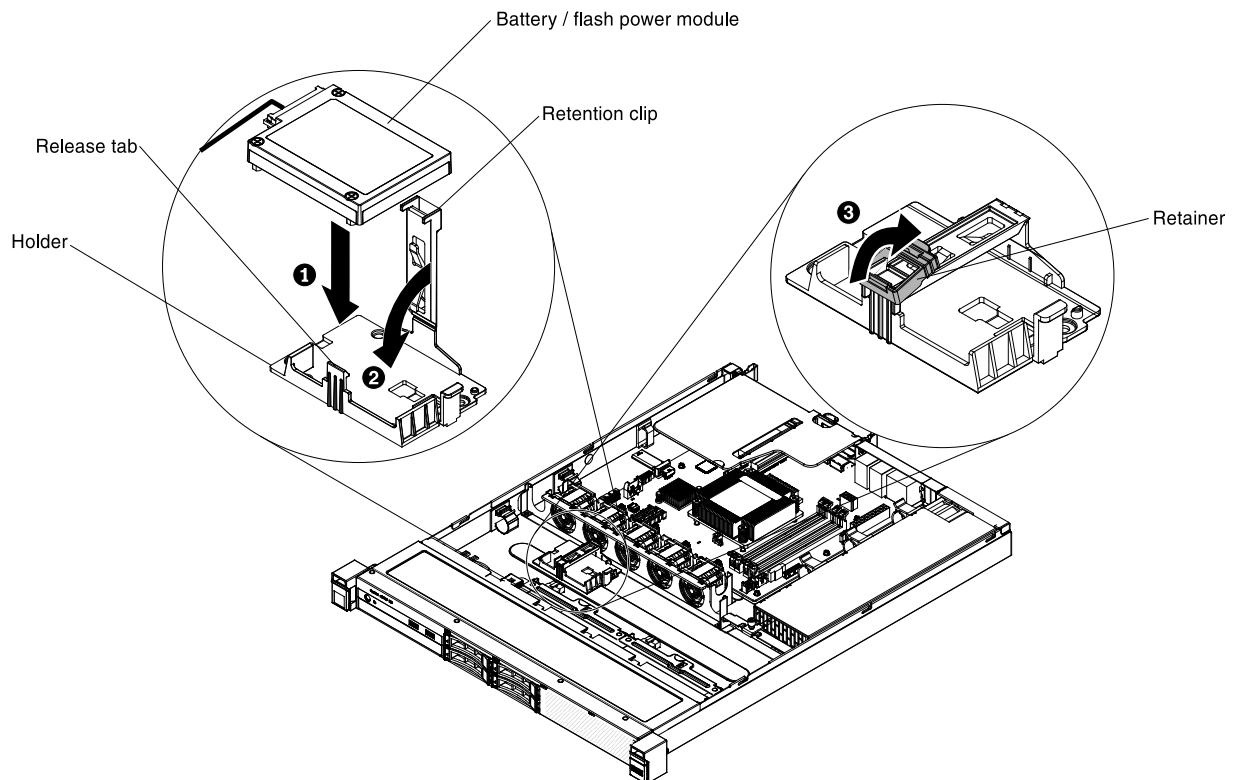
Figure 126. RAID adapter battery or flash power module installation

   Note: The positioning of the remote battery or flash power module depends on the type of the remote batteries or flash power modules that you install.

   d.   Connect the other end of the cable to the cable connector on the battery or flash power module.

   e.   Lower and press down on the retention clip until it snaps in place to hold the battery or flash power module firmly in place.

   f.   Install the retainer that you removed.

   g.   Install the retainer.

Step 2.   Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Removing a USB embedded hypervisor flash device

Use this information to remove a USB embedded hypervisor flash device.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove a hypervisor flash device, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Locate the USB embedded hypervisor flash device connector on the system board.

USB hypervisor key connector
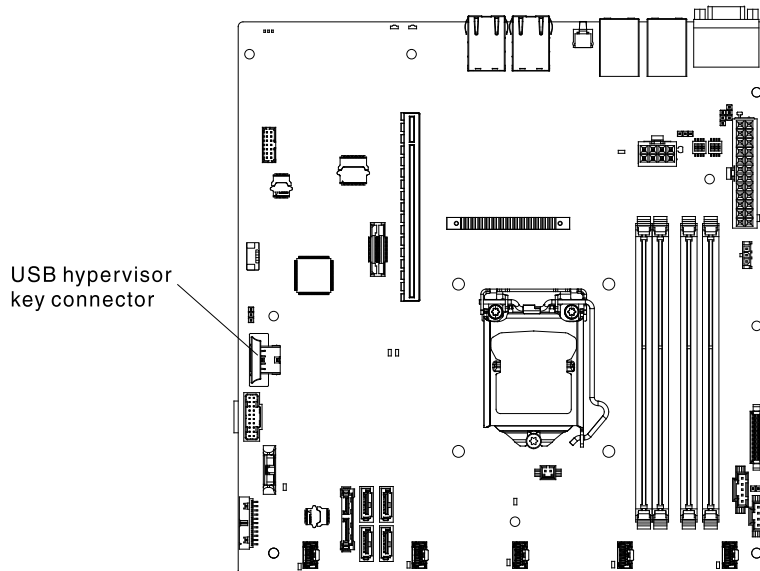
Figure 127. Location of the USB embedded hypervisor flash device connector

Step 4.   Slide the lockbar on the flash device connector to the unlocked position and pull the USB flash device out of the connector.
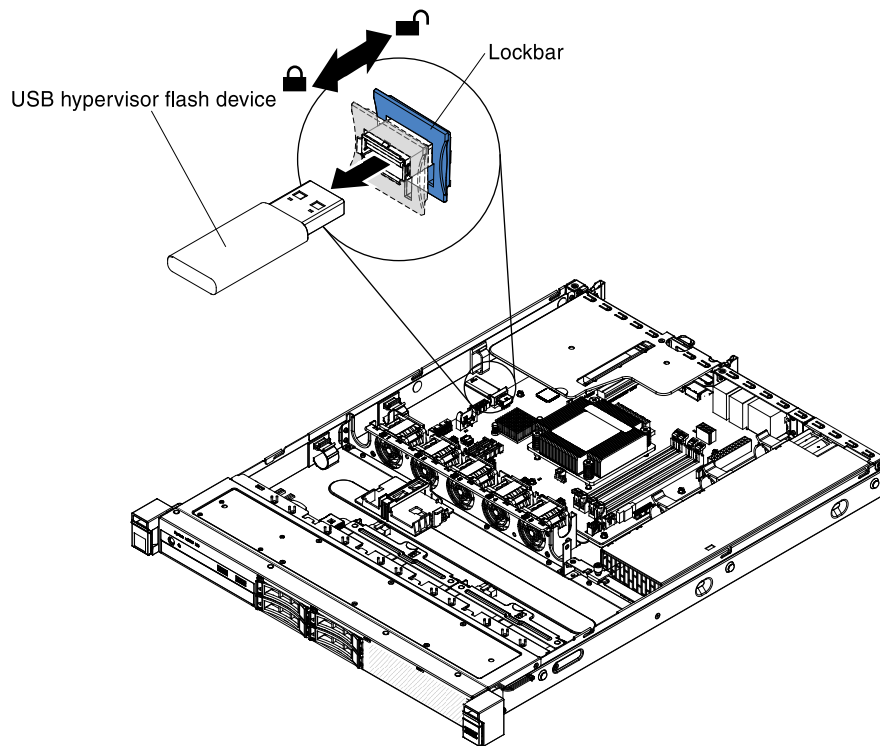
Figure 128. USB embedded hypervisor flash device removal
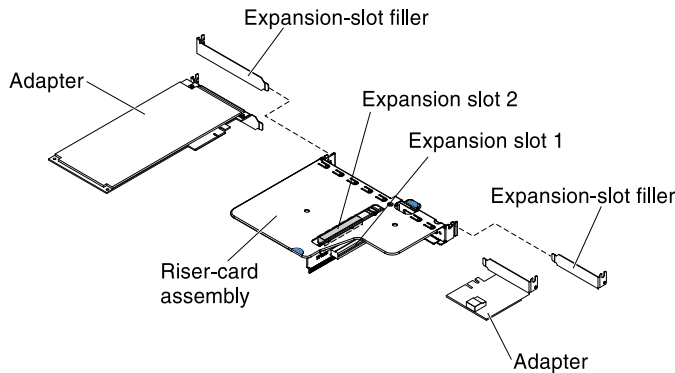
If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a USB embedded hypervisor flash device

Use this information to replace a USB embedded hypervisor flash device.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace a hypervisor flash device, complete the following steps.

Step 1.   Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.

Step 2.   Slide the lockbar on the flash device connector to the locked position until it is firmly seated.
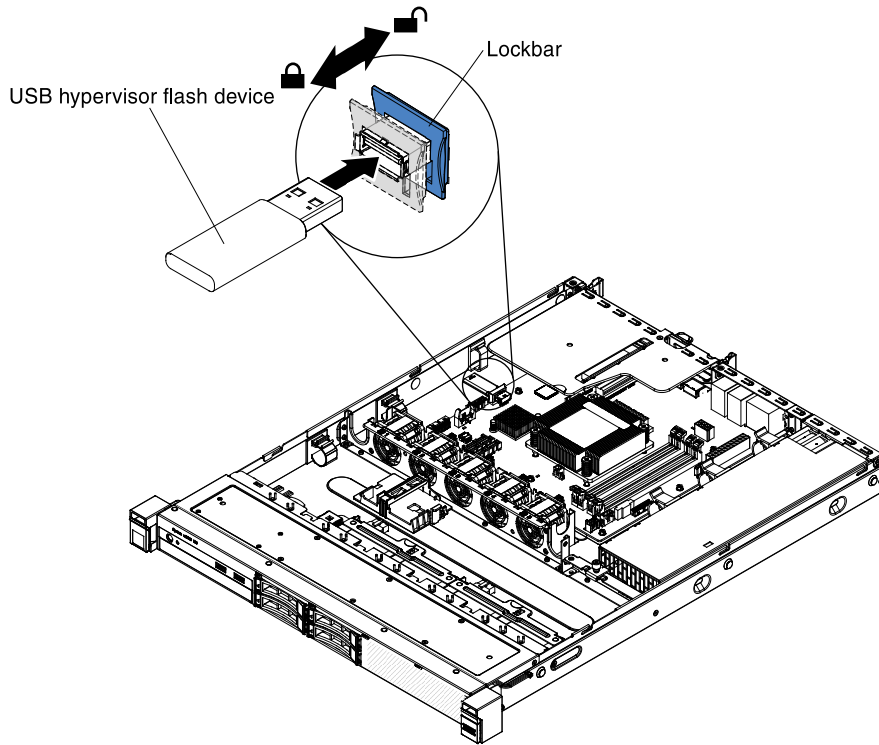
Figure 129. USB embedded hypervisor flash device installation

Step 3. Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 4. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the front I/O assembly (USB cable and operator information panel)

Use this information to remove the front I/O assembly (USB cable and operator information panel) in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the front I/O assembly (USB cable and operator information panel), complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Disconnect the USB cable connector and the operator information panel cable connector from the system board.

   • To release the USB cable connector, you have to press on the release latch on the top of the USB cable connector before you can pull out and disengage the USB cable connector from the USB connector on the system board.

- To release the operator information panel cable connector, you have to press on the release latch on the sides of the operator information panel cable connector before you can pull out and disengage the operator information panel cable connector from the operator information panel connector on the system board.
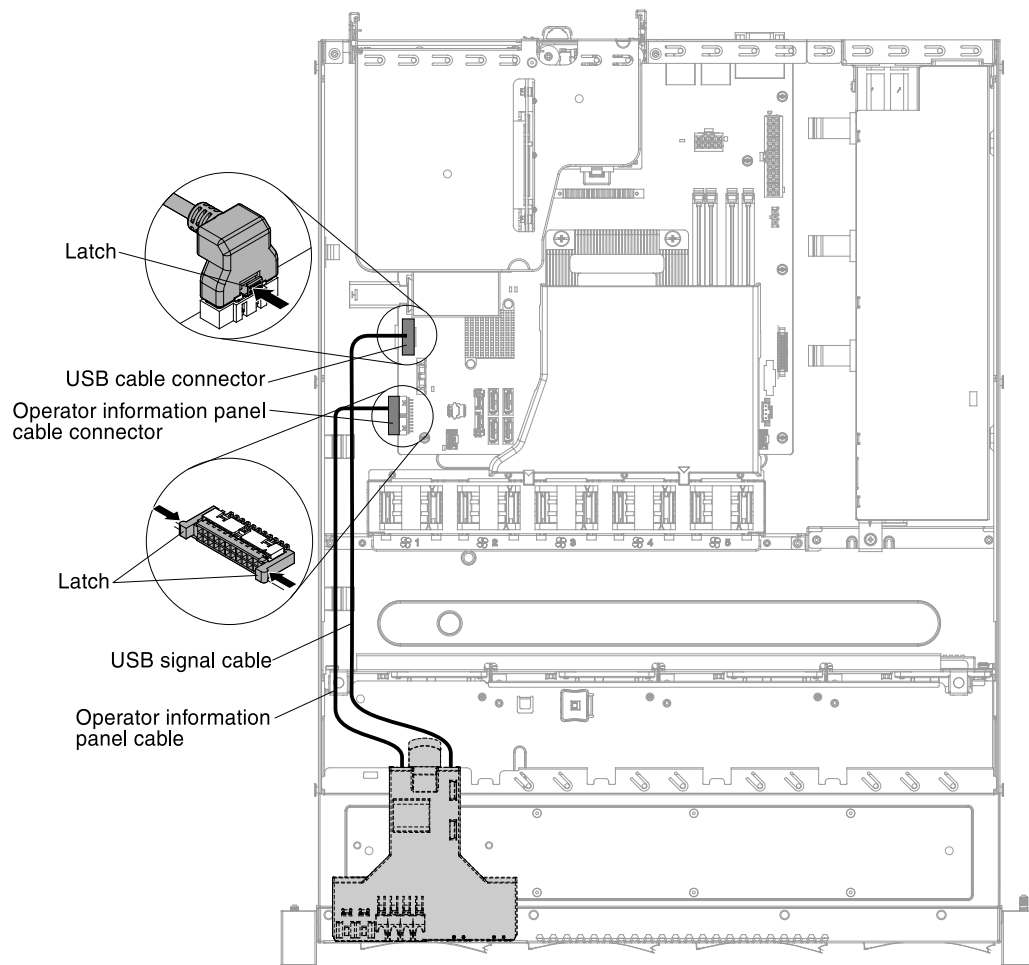
Figure 130. USB cable and operator information panel cable connection

Step 3. Locate the blue release tab on the rear of the front I/O assembly. Lift up the tab and carefully pull out the front I/O assembly.

Release tab
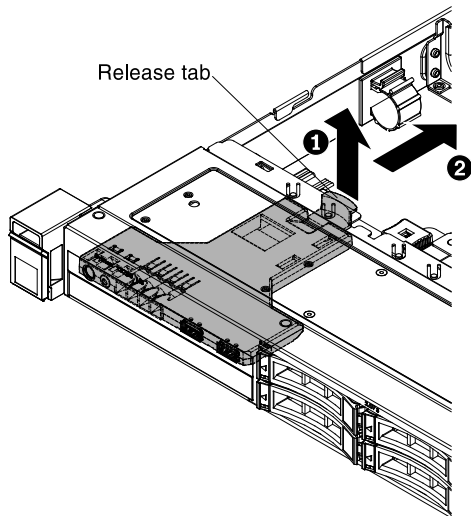
Figure 131. Front I/O assembly removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the front I/O assembly (USB cable and operator information panel)

Use this information to replace the front I/O assembly (USB cable and operator information panel) in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the front I/O assembly (USB cable and operator information panel), complete the following steps.

Step 1.   Carefully push the front I/O assembly into the server until the front I/O assembly clicks into place.
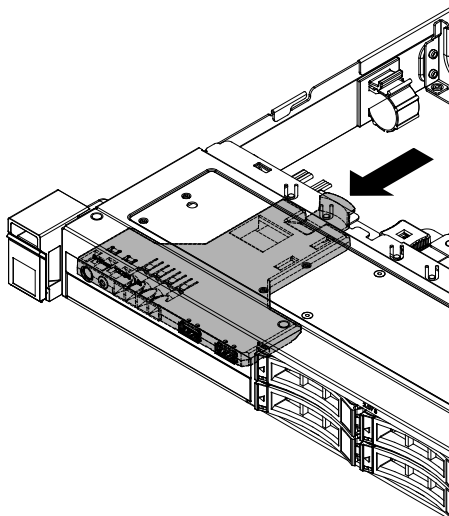
Figure 132. Front I/O assembly installation

Step 2. Reconnect the USB cable and the operator information panel cable to the connectors on the system board. Make sure the relevant cables pass through the cable clips.
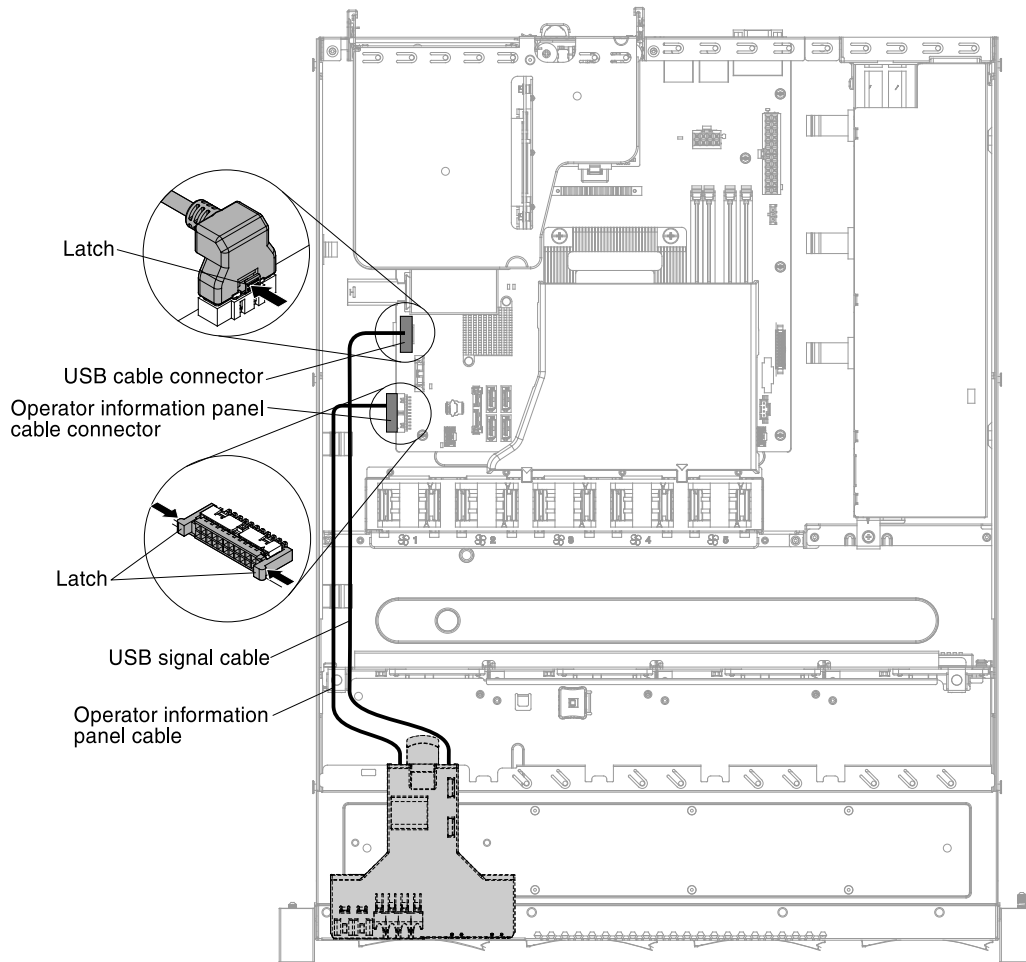
Figure 133. USB cable and operator information panel cable connection

Step 3. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the *Operating temperature enhancement kit*

Use this information to remove the *Operating temperature enhancement kit* in the server.
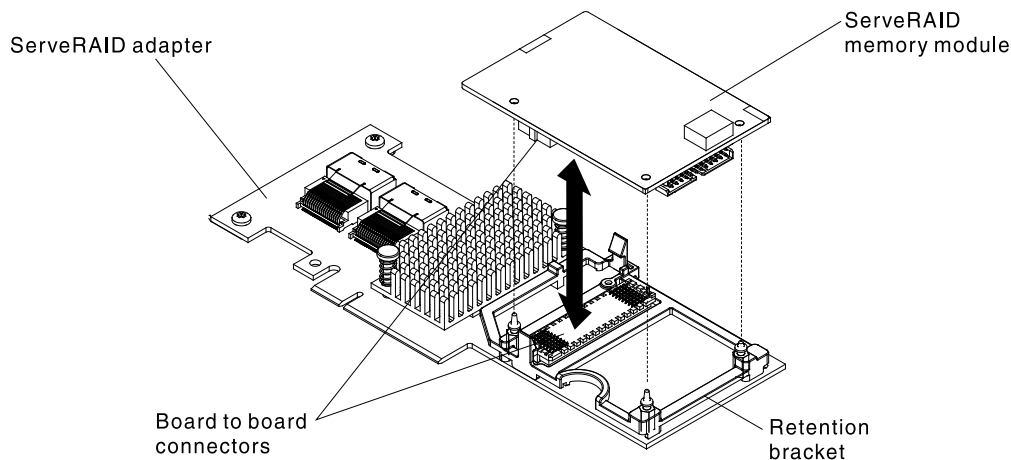
Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the *Operating temperature enhancement kit*, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Remove the *Operating temperature enhancement kit* from the system board (see "System-board internal connectors" on page 26 for the location of the *Operating temperature enhancement kit* connector on the system board).

Thermal sensor cable
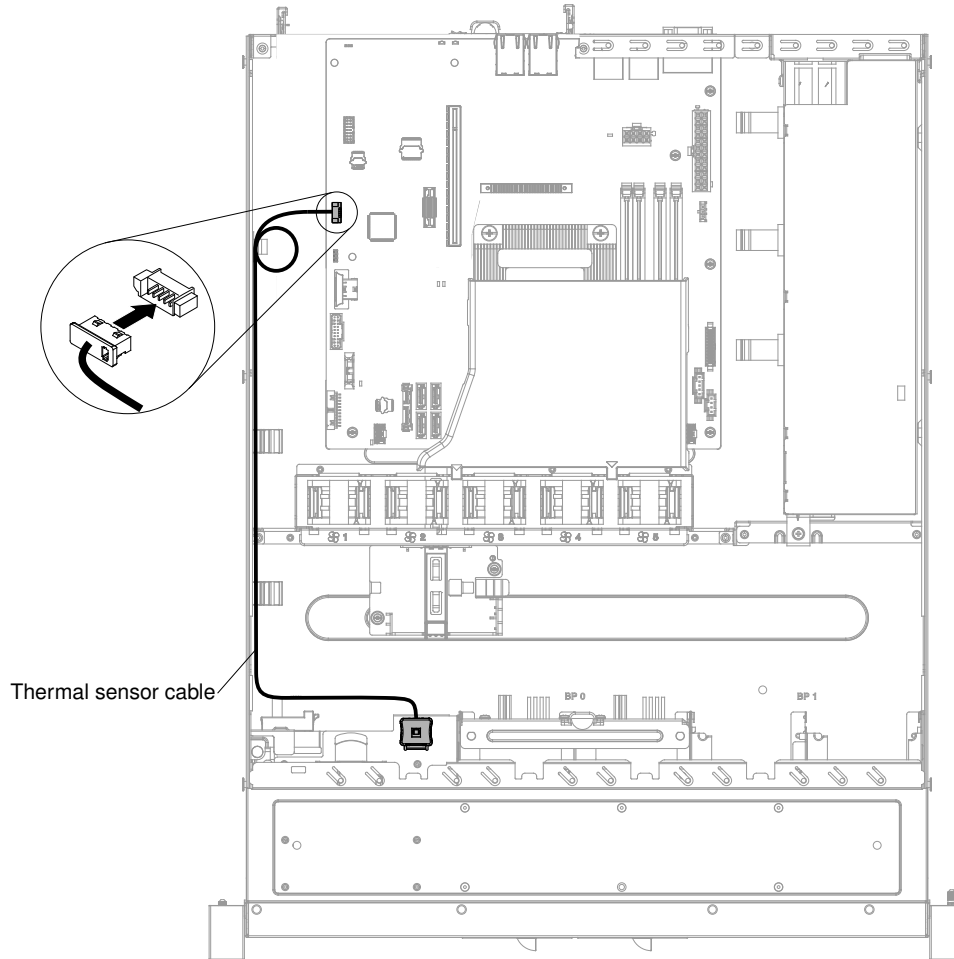
Figure 134. Operating temperature enhancement kit connection for 2.5-inch hard disk drive model
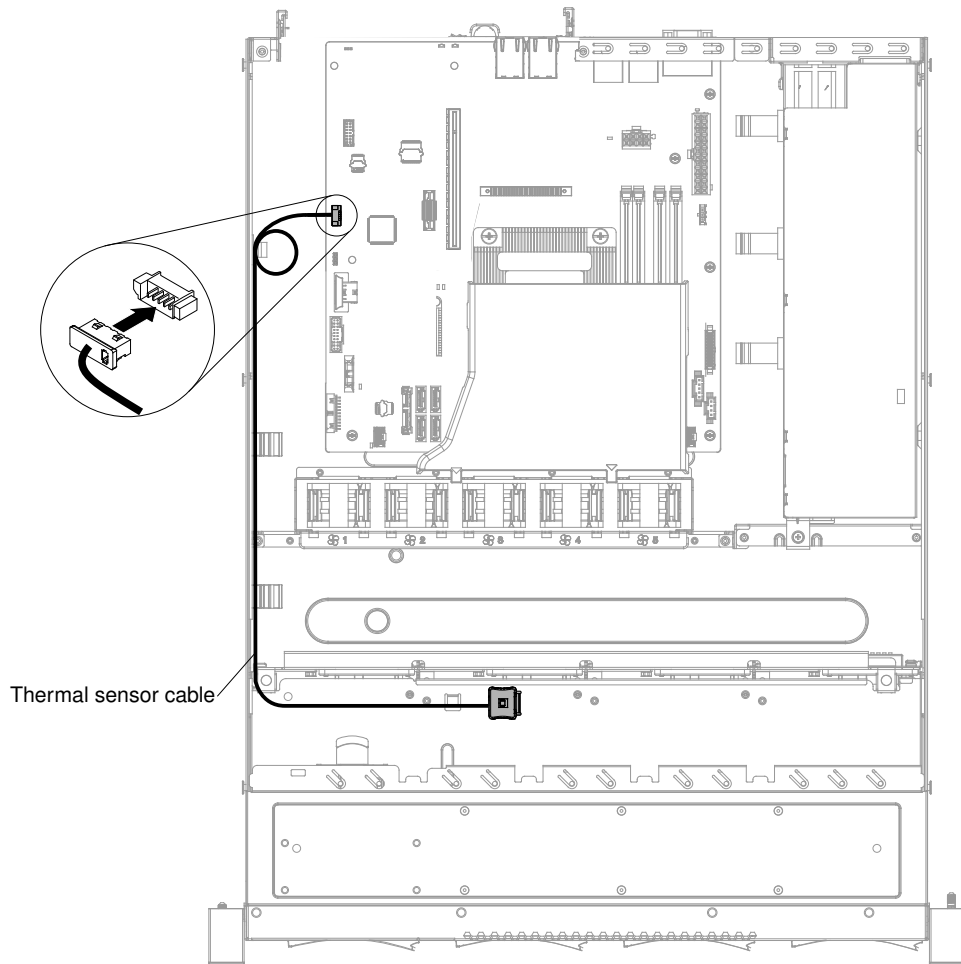
Figure 135. Operating temperature enhancement kit connection for 3.5-inch hard disk drive model

Attention: Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Step 4. Detach the *Operating temperature enhancement kit* from the connecting slot on the hard disk drive cage.
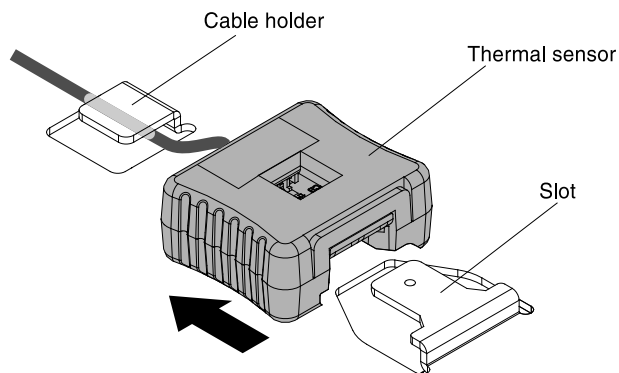
Figure 136. Operating temperature enhancement kit removal

If you are instructed to return the server component or optional device, 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* in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the *Operating temperature enhancement kit*, complete the following steps.

Step 1. Connect the *Operating temperature enhancement kit* to the system board (see "System-board internal connectors" on page 26 for the location of the *Operating temperature enhancement kit* connector on the system board).

Step 2. Route the cable along the chassis. Make sure the relevant cables pass through the cable clips.
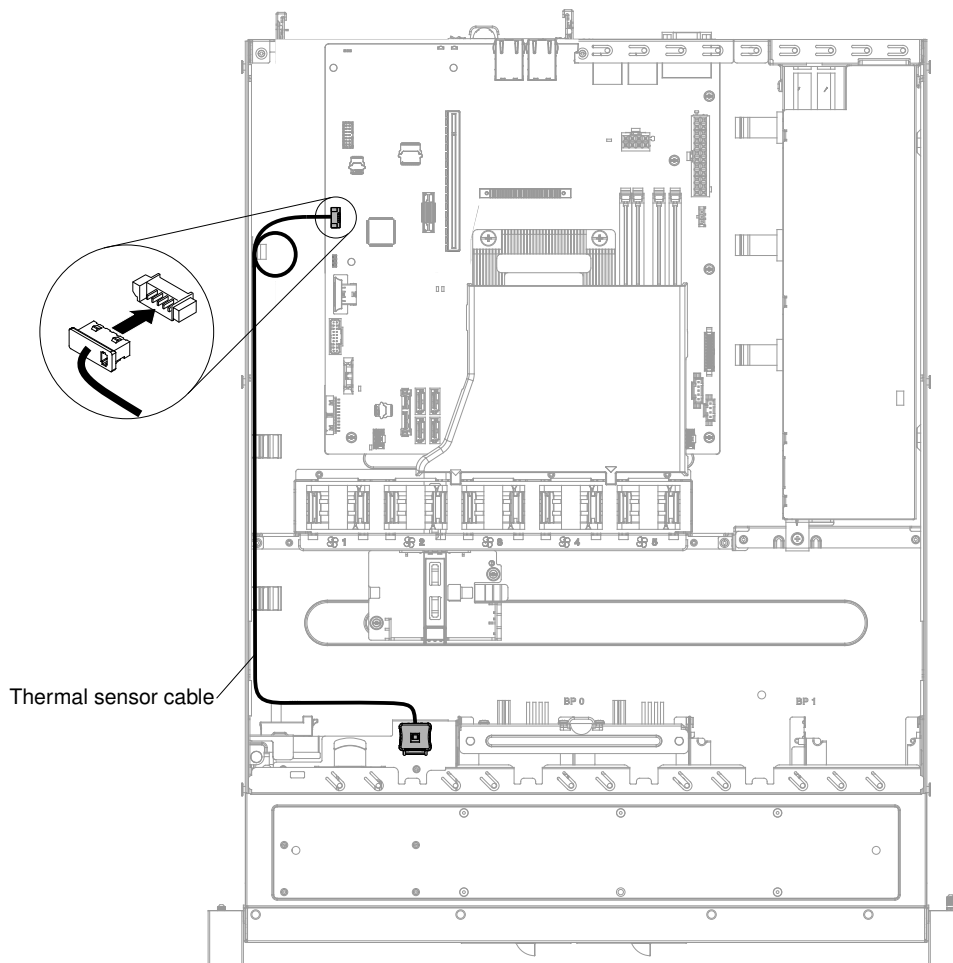
Figure 137. Operating temperature enhancement kit connection for 2.5-inch hard disk drive model
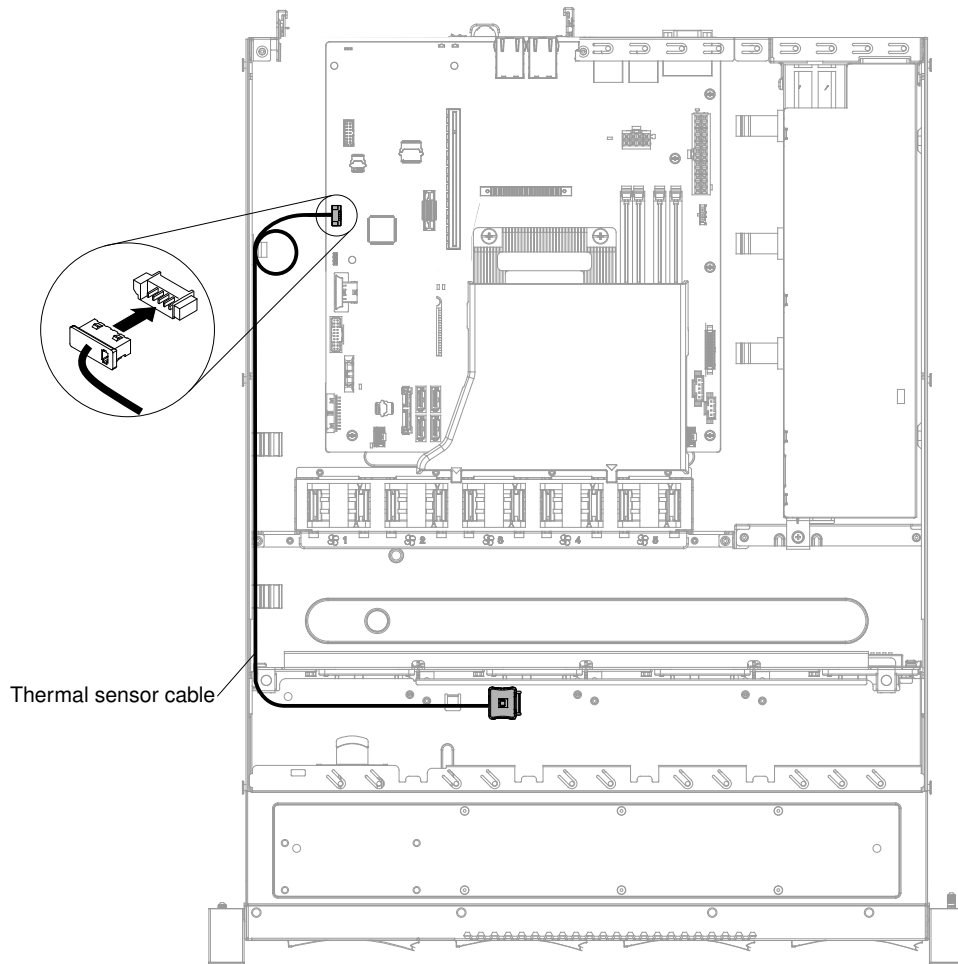
Figure 138. Operating temperature enhancement kit connection for 3.5-inch hard disk drive model

Attention: Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

Step 3.   Route the cable through the cable holder and slide the *Operating temperature enhancement kit* into the connecting slot on the hard disk drive cage until the *Operating temperature enhancement kit* locks into place with an audible click.
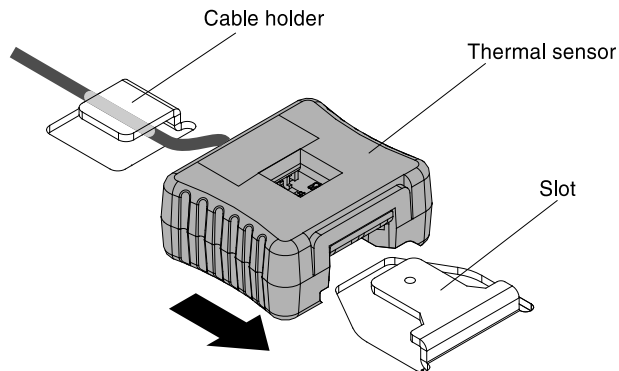
Figure 139. Operating temperature enhancement kit installation

Step 4.   Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 5.   Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing a system fan

Use this information to remove a system fan in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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 remove a system fan, complete the following steps.

Step 1.   Check the IMM2 event log to find out which fan needs to be replaced. Refer to Appendix A "Integrated Management Module II (IMM2) error messages" on page 283 for the error messages.

Step 2.   Remove the cover (see "Removing the cover" on page 159).

Step 3.   Remove the air baffle if installed (see "Removing the air baffle" on page 161).

Step 4.   Remove the failed fan from the server:

a.   Disconnect the fan cable from the system board. Note the routing of the fan cable to the connector; you will have to route the fan cable the same way when you install the fan.

b.   Grasp the top of the fan with your index finger and thumb and lift the fan out of the server.
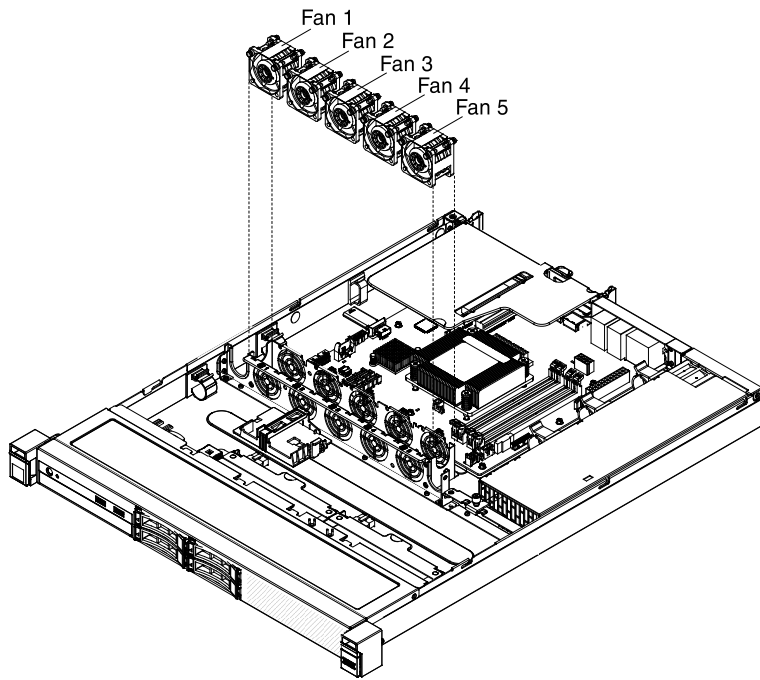
Figure 140. System fans

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a system fan

Use this information to replace a system fan in the server.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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 replace a system fan, complete the following steps.

Step 1. Position the replacement fan so that the airflow arrow on the fan points toward the rear of the server.

Note: The correct airflow is from the front to the rear of the server.
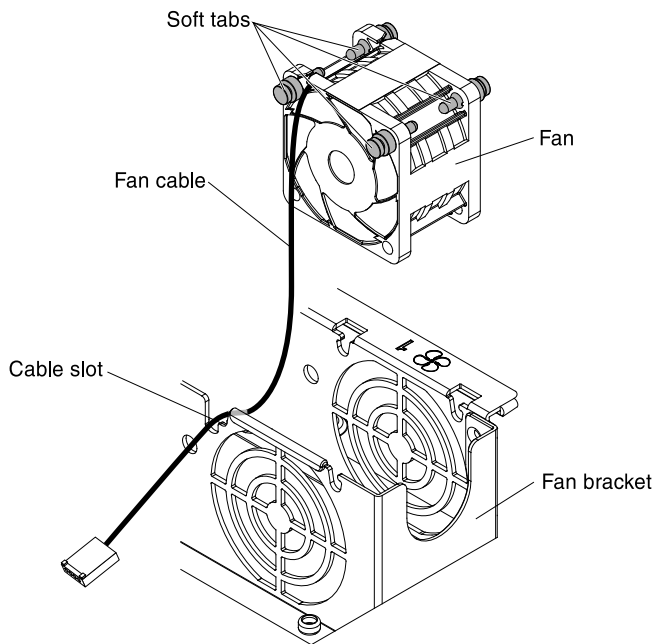
Figure 141. System fan installation

Step 2. Install the replacement fan in the bracket:

    a. Make sure that the fan cable sits in the channel on the side of the fan.

    b. In the location from which you removed the failed fan, route the fan cable into the fan cable slot in the fan bracket top.

    c. Insert the fan into the bracket.

    d. Make sure that each of the grey soft tabs on the fan is fully seated in its slot in the fan bracket.

Step 3. Connect the replacement fan cable to the system board (see "System-board internal connectors" on page 26 for the locations of the fan cable connectors on the system board).

Step 4. Reinstall the air baffle if it was removed before (see "Replacing the air baffle" on page 162).

Step 5. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Removing the system battery

Use this information to remove the 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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the battery, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   If necessary, lift the air baffle out of the way (see "Removing the air baffle" on page 161).

Step 3.   Remove the system battery:The following illustration shows the location of the system battery.
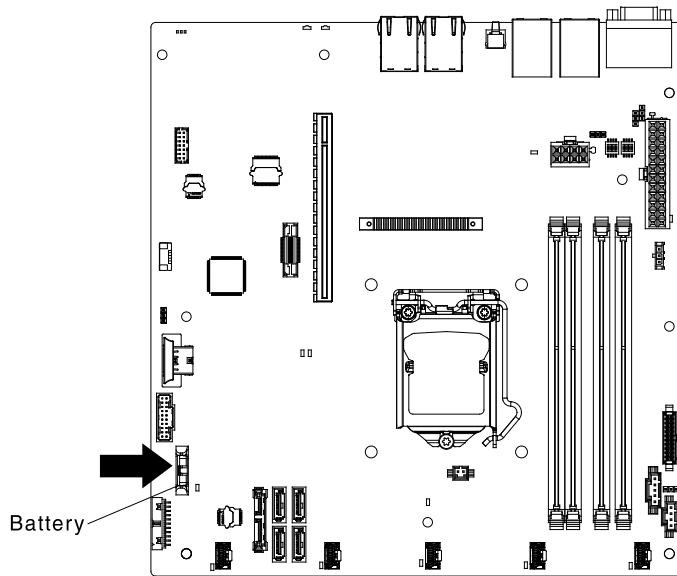
Figure 142. System battery location

a. If there is a rubber cover on the battery holder, use your fingers to lift the battery cover from the battery connector.

b. Use one finger to tilt the battery horizontally out of its socket, pushing it away from the socket.

   Attention: Neither tilt nor push the battery by using excessive force.

c. Use your thumb and index finger to lift the battery from the socket.
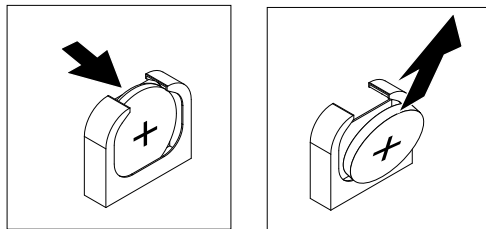
Figure 143. System battery removal

   Attention: Do not lift the battery by using excessive force. Failing to remove the battery properly may damage the socket on the system board. Any damage to the socket may require replacing the system board.

Step 4. Dispose of the battery as required by local ordinances or regulations (see the *Environmental Notices and User's Guide* for more information).

Replacing the system battery

Use this information to replace the 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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the battery, complete the following steps.

Step 1. Follow any special handling and installation instructions that come with the replacement battery.
Step 2. Remove the cover (see "Removing the cover" on page 159).
Step 3. If necessary, lift the air baffle out of the way (see "Removing the air baffle" on page 161).
Step 4. Locate the battery connector on the system board.The following illustration shows the location of the system battery.
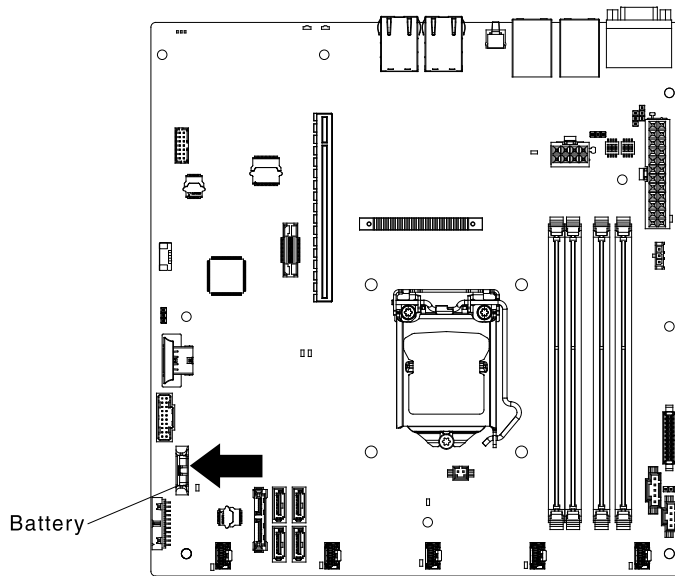
Figure 144. System battery location

Battery

Step 5. Insert the new battery:

    a. Tilt the battery so that you can insert it into the socket on the side opposite the battery clip.

Figure 145. System battery installation

    b. Press the battery down into the socket until it clicks into place. Make sure that the battery clip holds the battery securely.

    c. If you removed a rubber cover from the battery holder, use your fingers to install the battery cover on top of the battery connector.

Step 6. Reinstall the air baffle if removed (see "Replacing the air baffle" on page 162).

Step 7. Reinstall the cover (see "Replacing the cover" on page 160).

Step 8. Slide the server into the rack.

Step 9. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Step 10. Start the Setup utility and reset the configuration:

    a. Set the system date and time.

    b. Set the power-on password.

    c. Reconfigure the server.

See "Starting the Setup utility" on page 86 for details.

Removing the fixed power supply

Use this information to remove the fixed power supply.

When you remove or install the 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 with one of these parts, contact a service technician.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the fixed power supply, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

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

Step 2.   Disconnect the power-supply cables from the connectors on the system board and internal devices; then, disengage the cables from any retention-clips.

　　　　　　 Note: Note the routing of all power-supply cables; you will route the power-supply cables the same way when you install the power supply.
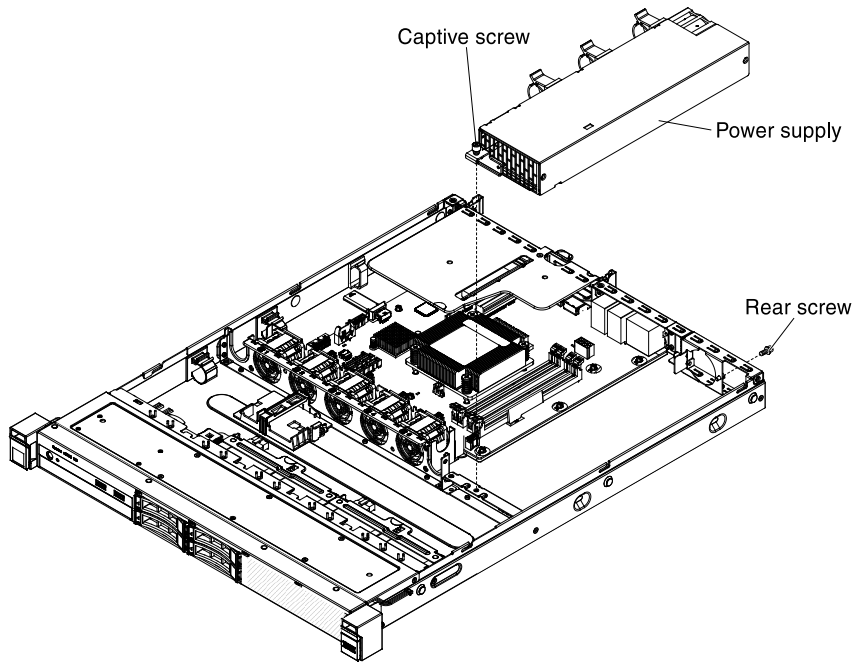
Figure 146. Fixed power supply removal

Step 3. Remove the screw that holds the power supply to the rear of the chassis.

Step 4. Loosen the captive thumbscrew that secures the power supply to the chassis bottom.

Step 5. Lift the power supply out of the bay.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the fixed power supply

Use this information to replace the fixed power supply.

When you remove or install the 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 with one of these parts, contact a service technician.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the fixed power supply, complete the following steps.

Step 1.   Place the new power supply into the bay.
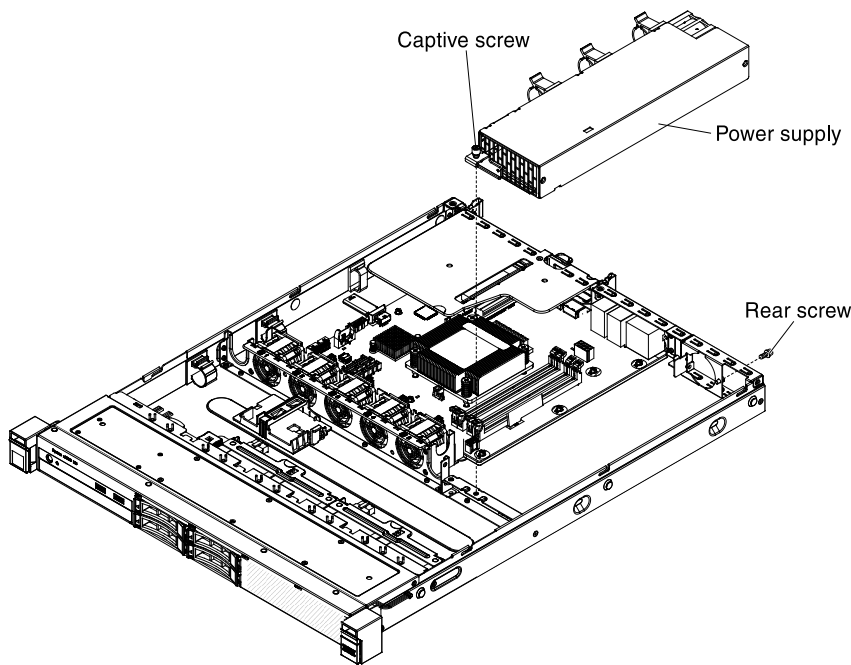
Figure 147. Fixed power supply installation

Step 2.   Tighten the captive thumbscrew that secures the power supply to the chassis bottom.

Step 3.   Fasten the screw that holds the power supply to the rear of the chassis.

Step 4.   Connect the internal power-supply cable from the power supply to the power connectors on the system board (see "System-board internal connectors" on page 26 for the locations of the power connectors on the system board).

Step 5.   Route the internal power-supply cables, securing them with the retention-clips.

Step 6.   Test the power supply:

    a.   Connect one end of the ac power cord for the new power supply 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.

    b.   Make sure that the standby power LED on the system board is lit (see "System-board LEDs" on page 29); if the standby power LED is not lit, discontinue this procedure and obtain a new power supply.

    c.   Press the power-control button. Make sure that the power-on LED on the front of the server is lit.

If the server starts, proceed to the next step. If the server does not start, disconnect the ac power cord and call for service.

Step 7. Turn off the server and disconnect the ac power cord.

Step 8. Connect the cables from the power supply to the internal devices. Make sure the relevant cables pass through the cable clips.

Step 9. Reinstall the cover (see "Replacing the cover" on page 160).

Step 10. Slide and install the server into the rack.

Step 11. Reconnect the ac power cord into the connector on the back of the power supply.

Step 12. Connect all external cables that you disconnected in "Removing the fixed power supply" on page 216.

Step 13. Connect the other end of the ac power cord into a properly grounded electrical outlet.

Step 14. Press the power-control button.

Step 15. Make sure that the power-on LED on the front of the server is lit.

Removing a hot-swap power supply
Use this information to remove a hot-swap power supply.

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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

To remove a hot-swap power supply, complete the following steps.

Attention: If only one hot-swap power supply is installed in the server, you must turn off the server before removing the power supply.

Step 1.   If the server is in a rack, at the back of the server, pull back the cable management arm to gain access to the rear of the server and the power supply.

Step 2.   Disconnect the power cord from the connector on the back of the power supply.

Step 3.   Press and hold the orange release tab to the left.
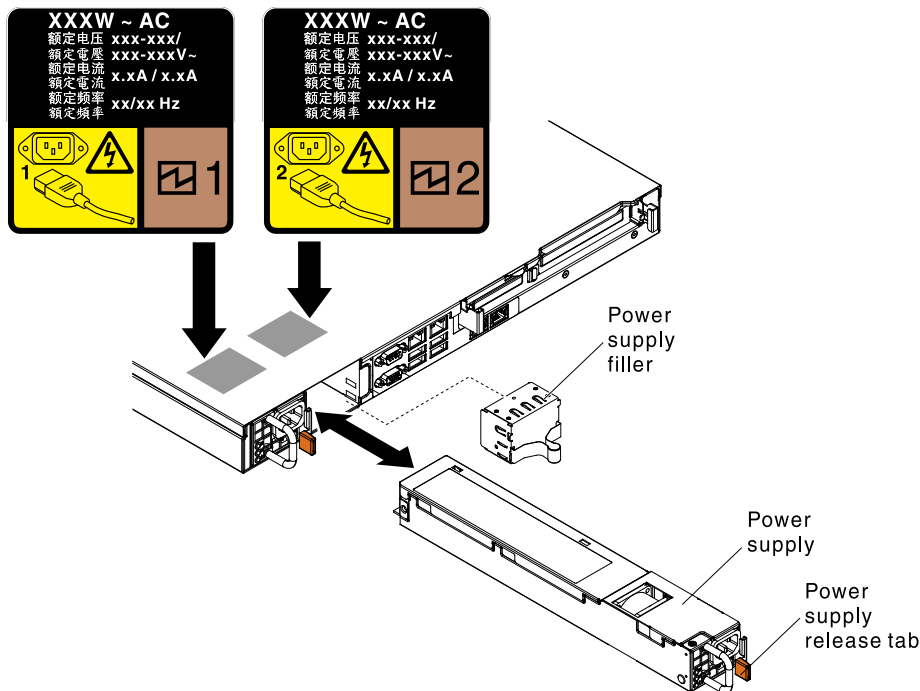
Figure 148. Hot-swap power supply removal

Step 4.   Grasp the handle and pull the power supply out of the bay.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a hot-swap power supply

Use this information to replace a hot-swap power supply.

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

- Depending on your server model, the server comes standard with one 460-watt hot-swap power supply. For redundancy support, you must install an additional hot-swap power supply, if one is not installed in your model.
- Make sure that the devices that you are installing are supported. For a list of supported optional devices for the server, see http://www.lenovo.com/ serverproven/.

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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

To replace or install a hot-swap power supply, complete the following steps.

Step 1. Slide the hot-swap power supply into the bay until the release latch clicks into place.

Important: During normal operation, each power-supply bay must contain either a power supply or power-supply filler panel for proper cooling.
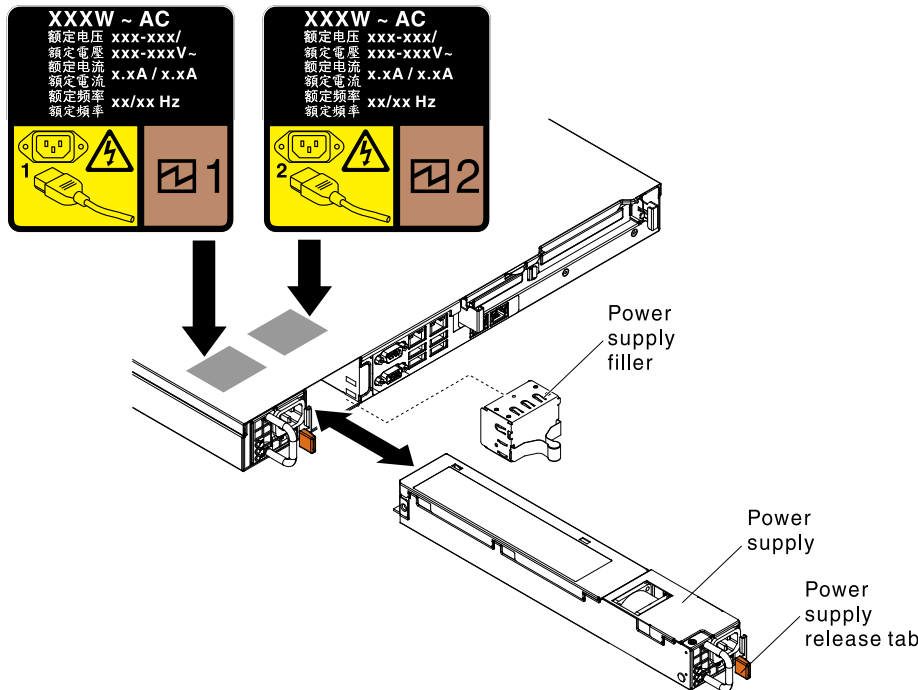
Figure 149. Hot-swap power supply installation

Step 2. Connect one end of the power cord for the new power supply into the ac connector on the back of the power supply; then, connect the other end of the power cord into a properly grounded electrical outlet.

Step 3. If the server is turned off, turn on the server.

Step 4. Make sure that the ac power LED on the power supply is lit, indicating that the power supply is operating correctly. If the server is turned on, make sure that the dc power LED on the power supply is lit also.

Removing the PCI riser-card bracket from the PCI riser-card assembly

Use this information to remove the PCI riser-card bracket from the PCI riser-card assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the PCI riser-card bracket from the PCI riser-card assembly, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Remove the screws that attach the PCI riser card to the riser-card bracket.

Figure 150. PCI riser-card bracket removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the PCI riser-card bracket to the PCI riser-card assembly

Use this information to replace the PCI riser-card bracket to the PCI riser-card assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the PCI riser-card bracket to the PCI riser-card assembly, complete the following steps.

Step 1.   Align the holes on the PCI riser card and the riser-card bracket and install the screws that attach the PCI riser card to the riser-card bracket.

PCI riser-card bracket

Screw

Screw   PCI riser-card
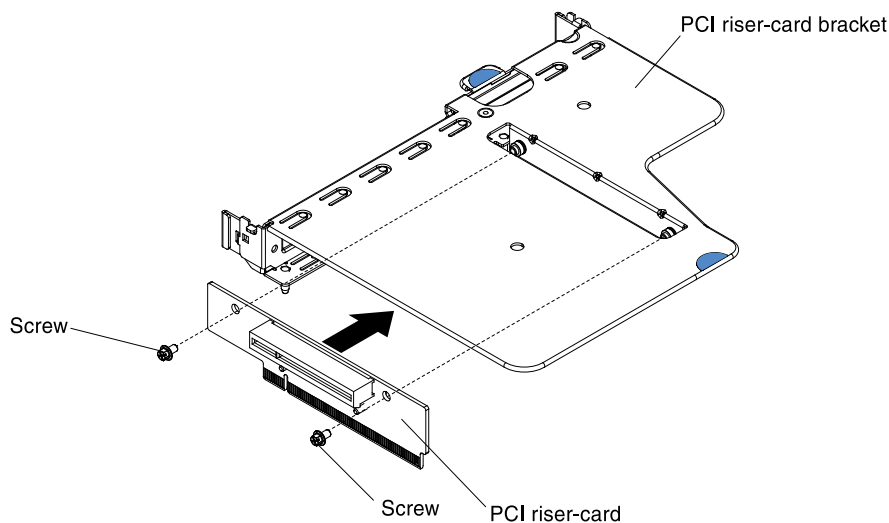
Figure 151. PCI riser-card bracket installation

Step 2.   If you need to install an adapter (see "Replacing an adapter" on page 186).

Step 3.   Reconnect the cables for the adapter.

Step 4.   Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 5.   Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the 2.5-inch hot-swap hard disk drive backplane

Use this information to remove the 2.5-inch hot-swap hard disk drive backplane.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the 2.5-inch hot-swap hard disk drive backplane, complete the following steps:

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Pull the hard disk drives or fillers out of the server slightly to disengage them from the hard disk drive backplane (see "Removing a hot-swap hard disk drive" on page 174).

Step 3.   Lift the blue tab on the backplane to disengage and remove the backplane from the chassis.
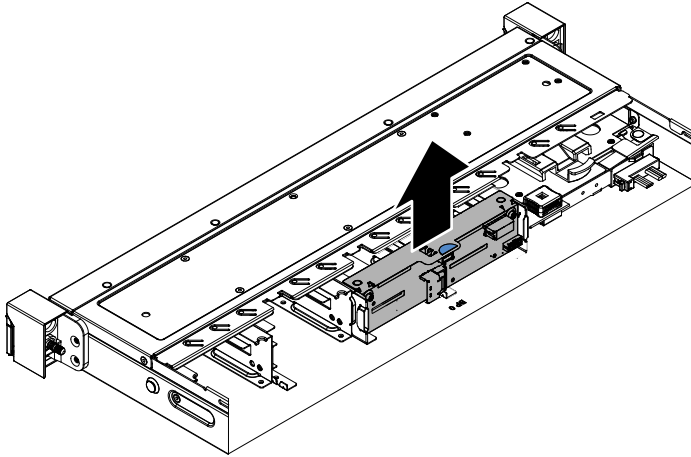
Figure 152. 2.5-inch hot-swap hard disk drive backplane removal

Step 4.   Disconnect all cables from the hard disk drive backplane.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 2.5-inch hot-swap hard disk drive backplane

Use this information to replace the 2.5-inch hot-swap hard disk drive backplane.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the 2.5-inch hot-swap hard disk drive backplane, complete the following steps:

Step 1.   Reconnect all cables that you removed from the hard disk drive backplane.

Step 2.   Align the backplane with the backplane alignment slots in the chassis.

Step 3.   Lower the backplane into the slot in the chassis until the front tab clicks into the latches on the chassis.
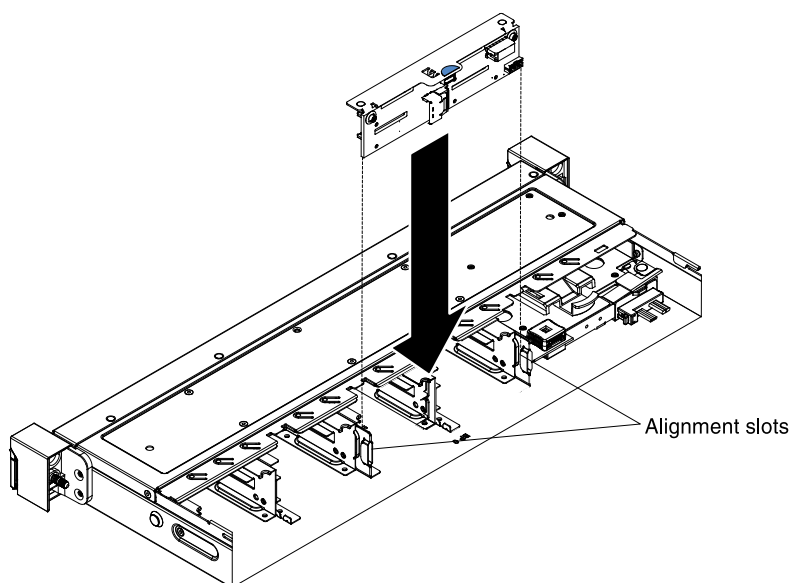
Figure 153. 2.5-inch hot-swap hard disk drive backplane installation

Step 4. Reinstall the hard disk drives and filler panels (see "Replacing a hot-swap hard disk drive" on page 176).

Step 5. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the 2.5-inch simple-swap hard disk drive backplate assembly

Use this information to remove the 2.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the 2.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the PCI riser-card assembly if applicable (see "Removing the PCI riser-card assembly" on page 165).

Step 3. Disconnect the cables from the RAID adapter or system board (see "Internal cable routing and connectors" on page 259).

Step 4. Disconnect the power cable.

Step 5. Remove the relevant cables that pass through the cable clips.

Step 6. Pull the hard disk drives or fillers out of the server slightly to disengage them from the hard disk drive backplane assembly (see "Removing a simple-swap hard disk drive" on page 177).

Step 7.   Lift the blue tab on the backplate assembly to disengage and remove the backplate assembly from the chassis.
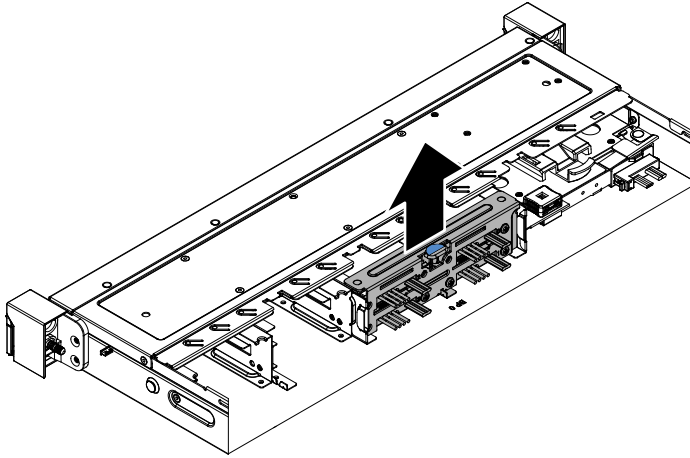
Figure 154. 2.5-inch simple-swap hard disk drive backplate assembly removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 2.5-inch simple-swap hard disk drive backplate assembly

Use this information to replace the 2.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the 2.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1.   Align the backplate assembly with the backplate assembly alignment slots in the chassis.

Step 2.   Lower the backplate assembly into the slot in the chassis until the front tab clicks into the latches on the chassis.
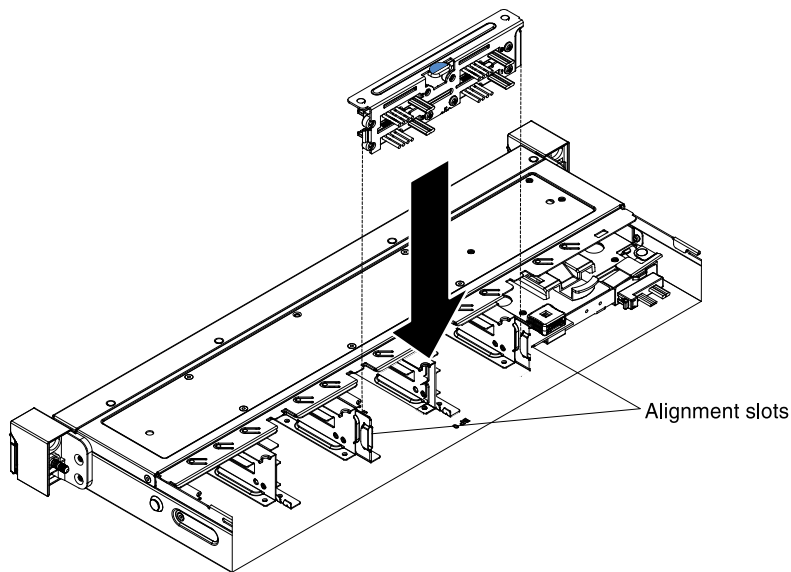
Figure 155. 2.5-inch simple-swap hard disk drive backplate assembly installation

Step 3. Connect the cables to the RAID adapter or system board (see "Internal cable routing and connectors" on page 259).

Step 4. Reconnect the power cable.

Step 5. Make sure the relevant cables pass through the cable clips.

Step 6. Reinstall the hard disk drives and filler panels (see "Replacing a simple-swap hard disk drive" on page 179).

Step 7. Reinstall the PCI riser-card assembly if applicable (see "Replacing the PCI riser-card assembly" on page 165).

Step 8. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the 3.5-inch hot-swap hard disk drive backplane

Use this information to remove the 3.5-inch hot-swap hard disk drive backplane.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the 3.5-inch hot-swap hard disk drive backplane, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Pull the hard disk drives or fillers out of the server slightly to disengage them from the hard disk drive backplane (see "Removing a hot-swap hard disk drive" on page 174).

Step 3.   Pull and loosen the retention latch on top of the drive backplane cage and lift the backplane up. Rotate the drive backplane backward and out of the tabs at the bottom of the drive cage and remove the backplane from the server.
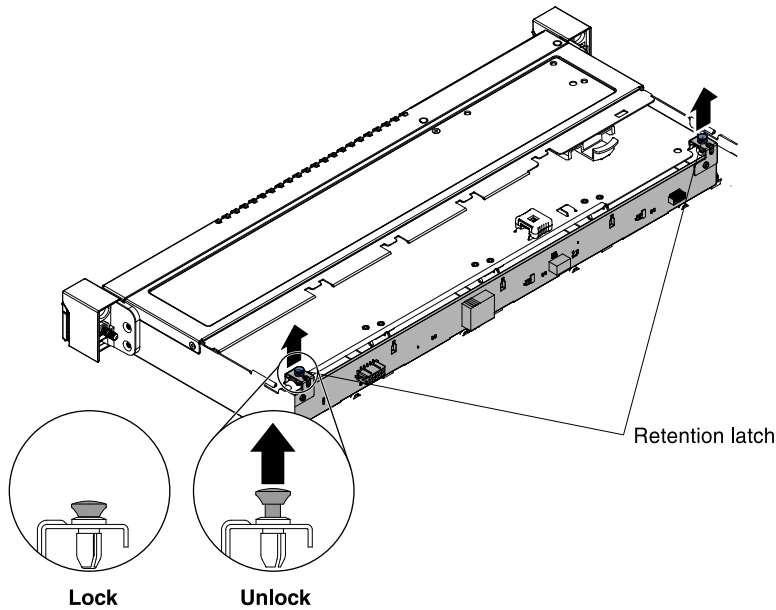
Figure 156. 3.5-inch hot-swap hard disk drive backplane removal

Step 4.   Disconnect all cables from the hard disk drive backplane.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 3.5-inch hot-swap hard disk drive backplane

Use this information to replace the 3.5-inch hot-swap hard disk drive backplane.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the 3.5-inch hot-swap hard disk drive backplane, complete the following steps:

Step 1.   Reconnect all cables that you removed from the hard disk drive backplane.

Step 2.   Lower the backplane into the alignment slots in the chassis.

Step 3.   Align the tabs of the drive backplane with the backplane slots at the back of the backplane cage.
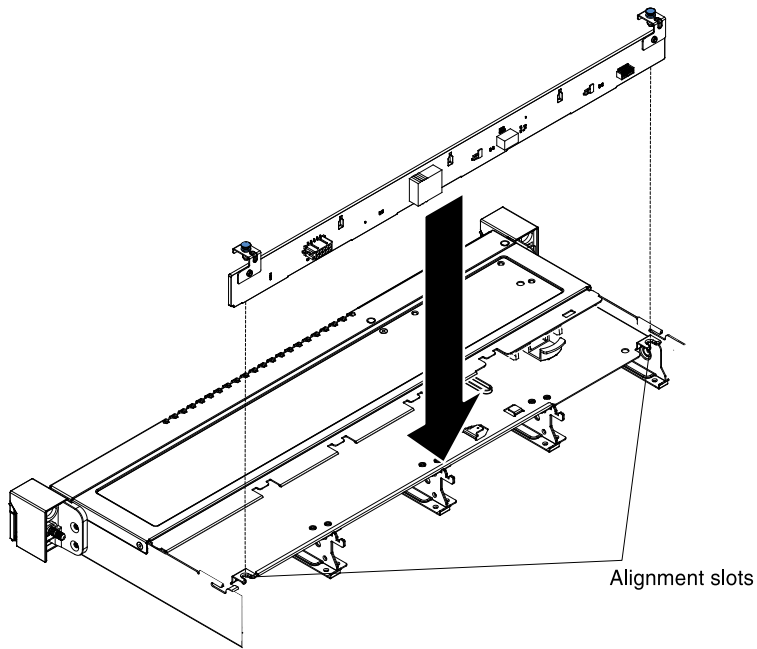
Figure 157. 3.5-inch hot-swap hard disk drive backplane alignment

Step 4. Insert the drive backplane tabs into the slots of the backplane cage. Rotate the drive backplane forward and push down the retention latch on top of the drive cage until the backplane is latched.
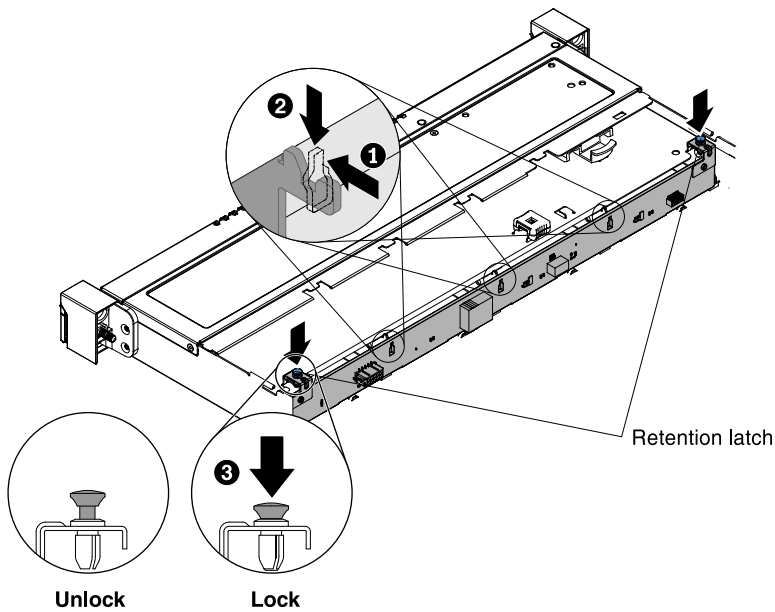
Figure 158. 3.5-inch hot-swap hard disk drive backplane installation

Step 5. Reinstall the hard disk drives and filler panels (see "Replacing a hot-swap hard disk drive" on page 176).

Step 6. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the 3.5-inch simple-swap hard disk drive backplate assembly

Use this information to remove the 3.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the 3.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the PCI riser-card assembly if applicable (see "Removing the PCI riser-card assembly" on page 165).

Step 3.   Disconnect the cables from the RAID adapter or system board (see "Internal cable routing and connectors" on page 259).

Step 4.   Disconnect the power cable.

Step 5.   Remove the relevant cables that pass through the cable clips.

Step 6.   Pull the hard disk drives or fillers out of the server slightly to disengage them from the hard disk drive backplate assembly (see "Removing a simple-swap hard disk drive" on page 177).

Step 7.   Pull and loosen the retention latch on top of the drive backplate assembly cage and lift the backplate assembly up. Rotate the drive backplate assembly backward and out of the tabs at the bottom of the drive cage and remove the backplate assembly from the server.
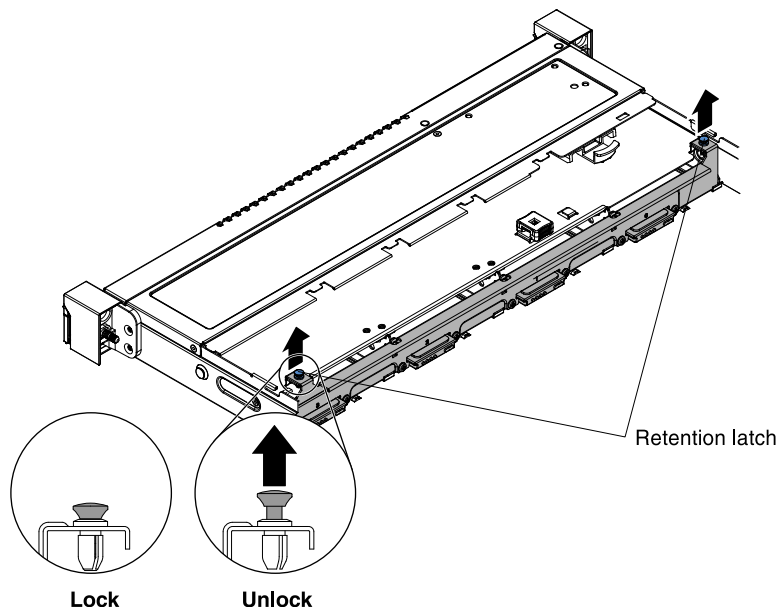
Figure 159. 3.5-inch simple-swap hard disk drive backplate assembly removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 3.5-inch simple-swap hard disk drive backplate assembly

Use this information to replace the 3.5-inch simple-swap hard disk drive backplate assembly.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the 3.5-inch simple-swap hard disk drive backplate assembly, complete the following steps:

Step 1. Lower the backplate assembly into the alignment slots in the chassis.

Step 2. Align the tabs of the drive backplate assembly with the backplate assembly slots at the back of the backplate assembly cage.
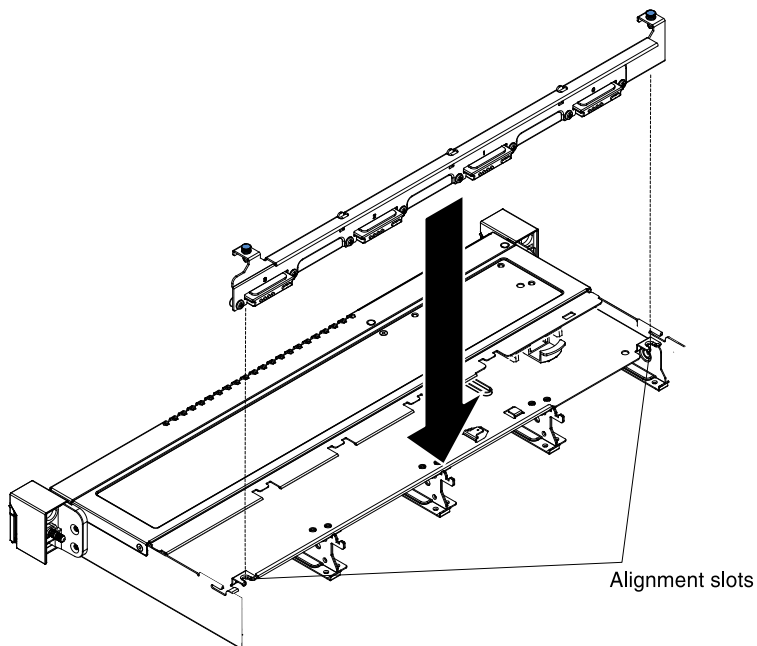
Alignment slots

Figure 160. 3.5-inch simple-swap hard disk drive backplate assembly alignment

Step 3. Insert the drive backplate assembly slots into the tabs of the backplate assembly cage. Rotate the drive backplate assembly forward and push down the retention latch on top of the drive cage until the backplate assembly is latched.
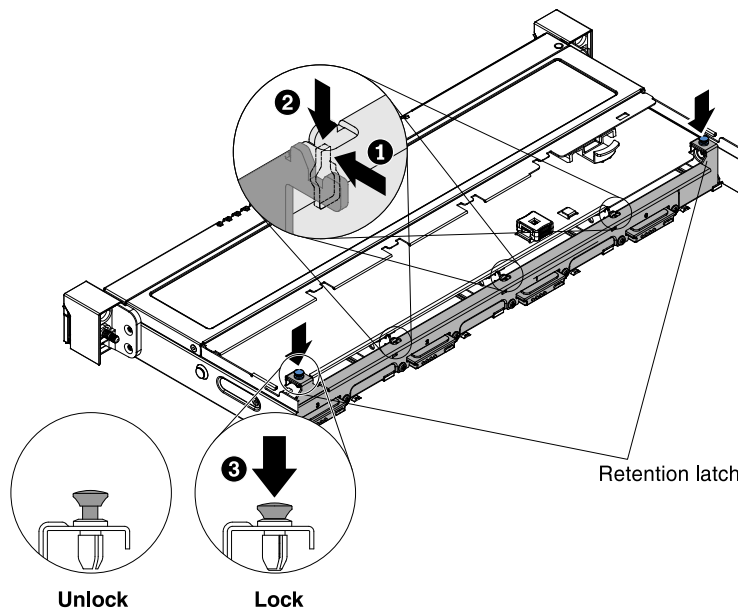
Figure 161. 3.5-inch simple-swap hard disk drive backplate assembly installation

Step 4. Connect the cables to the RAID adapter or system board (see "Internal cable routing and connectors" on page 259).

Step 5. Reconnect the power cable.

Step 6. Make sure the relevant cables pass through the cable clips.

Step 7. Reinstall the hard disk drives and filler panels (see "Replacing a simple-swap hard disk drive" on page 179).

Step 8. Reinstall the PCI riser-card assembly if applicable (see "Replacing the PCI riser-card assembly" on page 165).

Step 9. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Replacing software RAID simple-swap hard disk drive backplate with hardware RAID simple-swap hard disk drive backplate

Use this information to replace software RAID simple-swap hard disk drive backplate with hardware RAID simple-swap hard disk drive backplate.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the software RAID simple-swap hard disk drive backplate with hardware RAID simple-swap hard disk drive backplate, complete the following steps:

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the hard disk drives out of the server (see "Removing a hot-swap hard disk drive" on page 174 or "Removing a simple-swap hard disk drive" on page 177).

Step 3. Disconnect the cable connections between the backplate and both the system board and power supply (fixed or redundant).
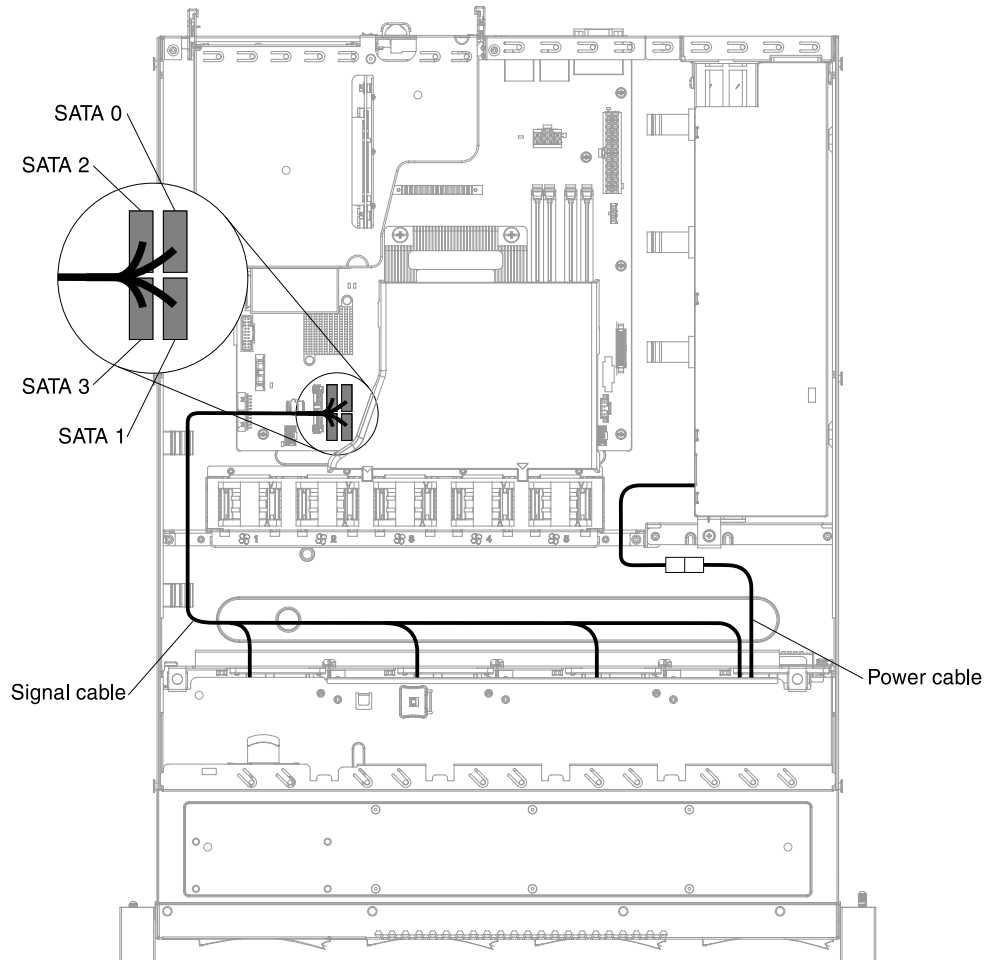
Figure 162. Software RAID signal cable routing for fixed power supply
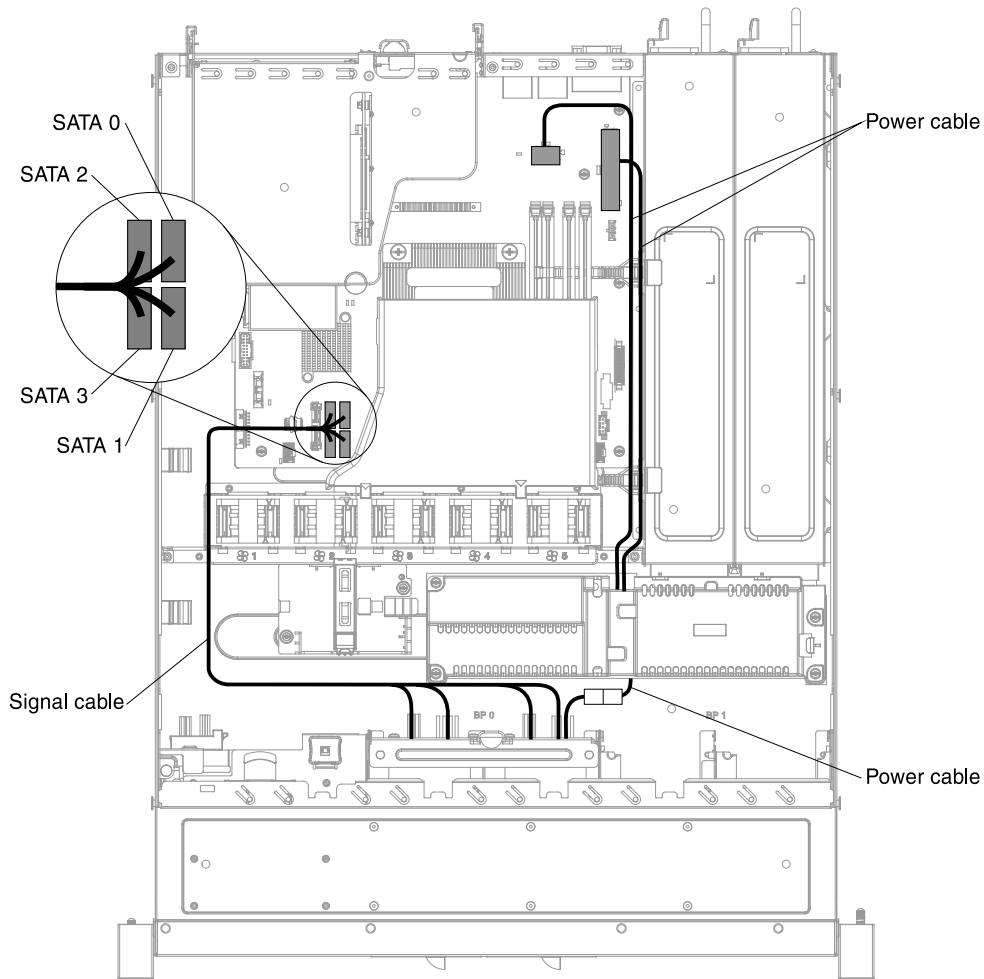
Figure 163. Software RAID signal cable routing for redundant power supply

Step 4. Lift the backplate out of the server.

Step 5. Slide the replacement backplate into the guide channels, making sure that any nearby wires or cables are not trapped or pinched.

Step 6. Replace the backplate assembly (see "Replacing the 2.5-inch simple-swap hard disk drive backplate assembly" on page 227 or "Replacing the 3.5-inch simple-swap hard disk drive backplate assembly" on page 232).

Step 7. Connect the respective signal and power cables of the replacement backplate to the hardware RAID card and power supply (fixed or redundant).

Note: Make sure the relevant cables pass through the cable clips.

Signal cable

Power cable
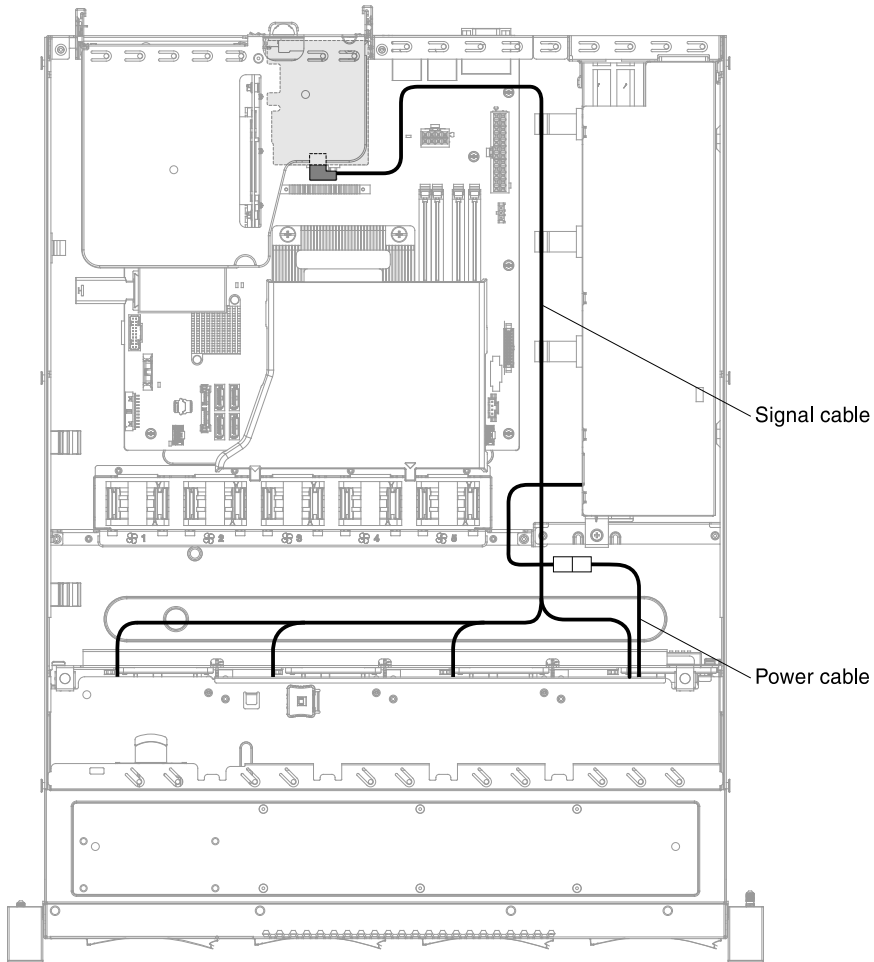
Figure 164. Hardware RAID signal cable routing for fixed power supply (Hardware RAID card inserted on the right side)

Port 0

Signal cable

Power cable
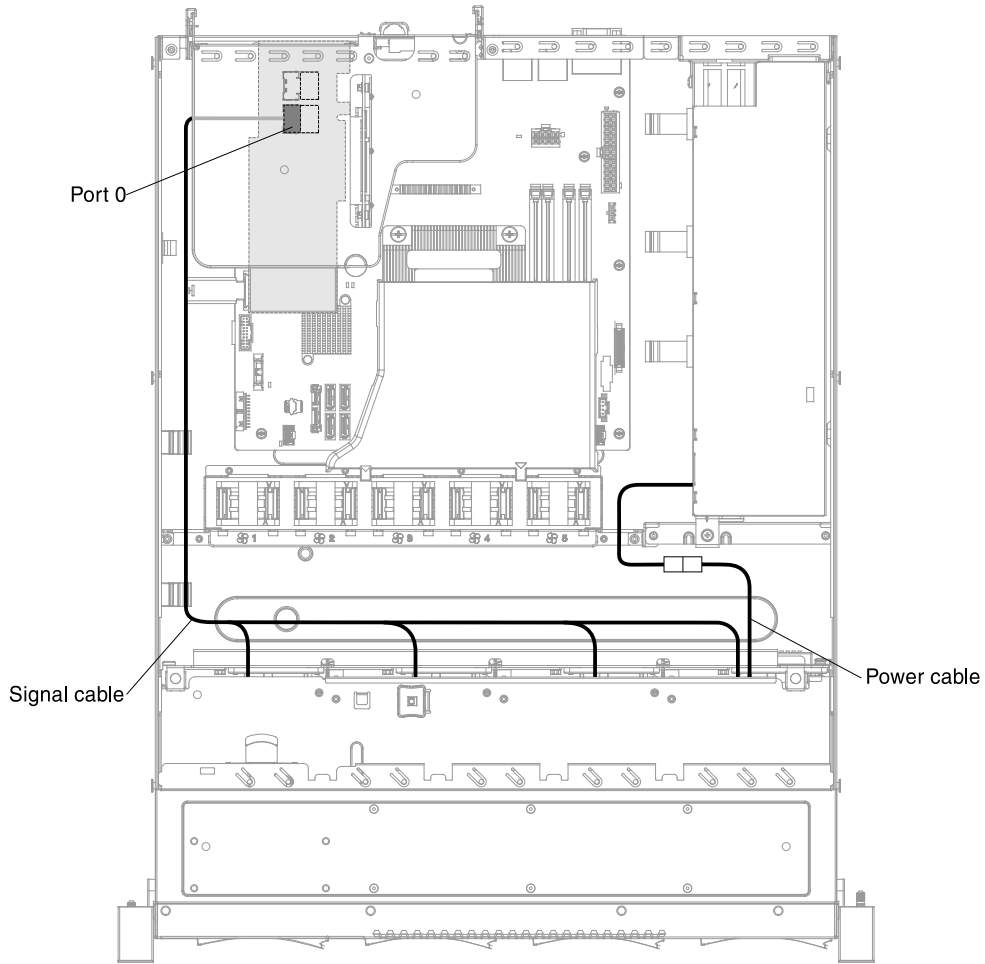
Figure 165. Hardware RAID signal cable routing for fixed power supply (Hardware RAID card inserted on the left side)
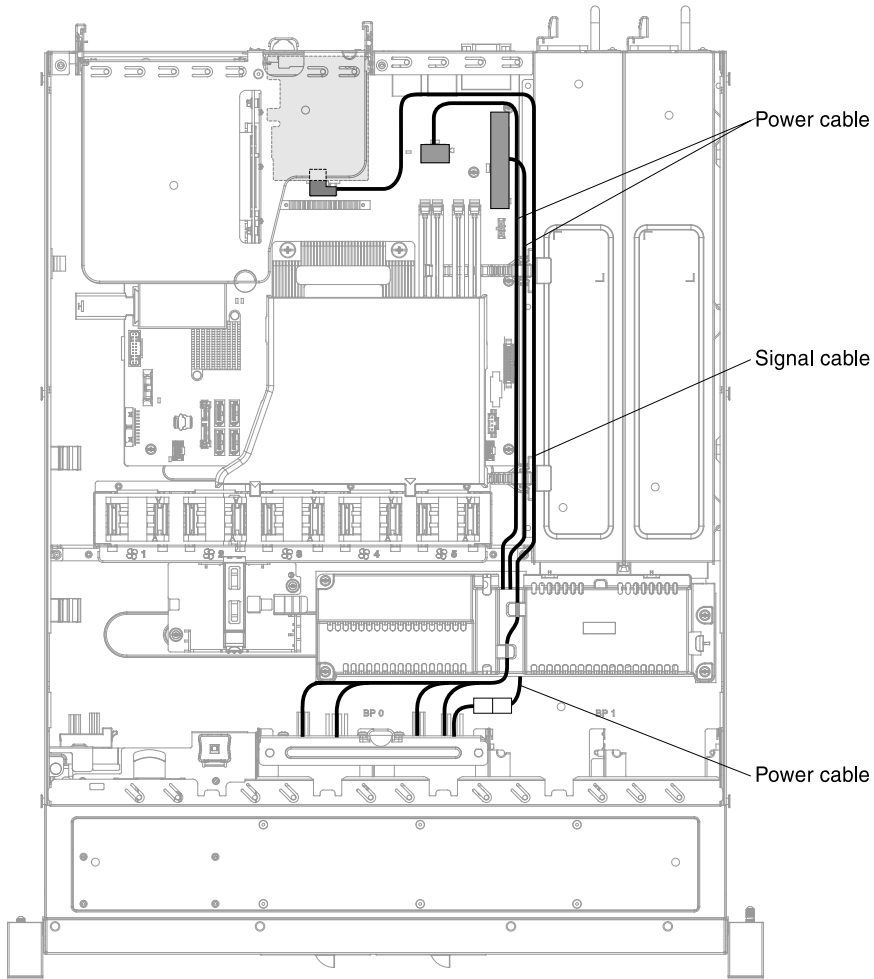
Figure 166. Hardware RAID signal cable routing for redundant power supply (Hardware RAID card inserted on the right side)
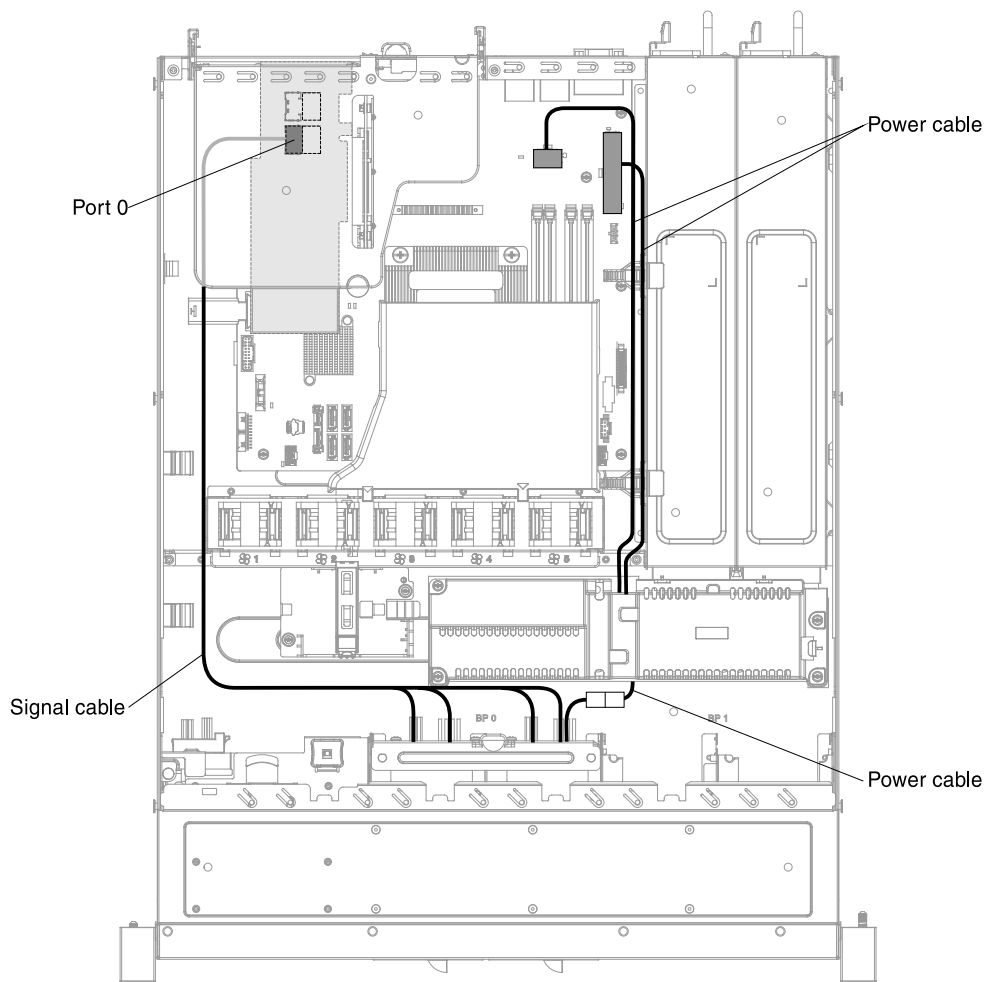
Figure 167. Hardware RAID signal cable routing for redundant power supply (Hardware RAID card inserted on the left side)

Step 8. Reinstall the cover (see "Replacing the cover" on page 160).

Step 9. Reinstall the hard disk drives and filler panels (see "Replacing a hot-swap hard disk drive" on page 176 and "Replacing a simple-swap hard disk drive" on page 179).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Removing and replacing Tier 2 CRUs

This section provides information for removing and replacing Tier 2 CRUs in the server.

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 a microprocessor and heat sink

Use this information to remove a microprocessor and heat sink.

The following notes describe the type of microprocessor that the server supports and other information that you must consider when you install a microprocessor and heat sink:

- The server supports one Intel land grid array (LGA) 1150 dual-core or quad-core microprocessor. The type, speed, and L3 cache of the microprocessor depends on the server model.
- Read the documentation that comes with the microprocessor to determine whether you have to update the server firmware. To download the most current level of server firmware, go to http://www.lenovo.com/support and http://www.ibm.com/support/ fixcentral.
- The microprocessor uses an integrated voltage regulator on the system board.

Attention:

- Microprocessors are to be installed only by trained technicians.
- Do not allow the thermal grease on the microprocessor and heat sink to come in contact with anything. Contact with any surface can compromise the thermal grease and the microprocessor socket.
- Dropping the microprocessor during installation or removal can damage the contacts.
- Do not touch the microprocessor contacts; handle the microprocessor by the edges only. Contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.
- The pins on the sockets are fragile. Any damage to the pins might require replacing the system board.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove a microprocessor and heat sink, complete the following steps.

Step 1. Remove the cover (see "Removing the cover" on page 159).

Step 2. Remove the air baffle if installed (see "Removing the air baffle" on page 161).

Step 3. Remove the heat sink:

> **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.

Heat sink

System board
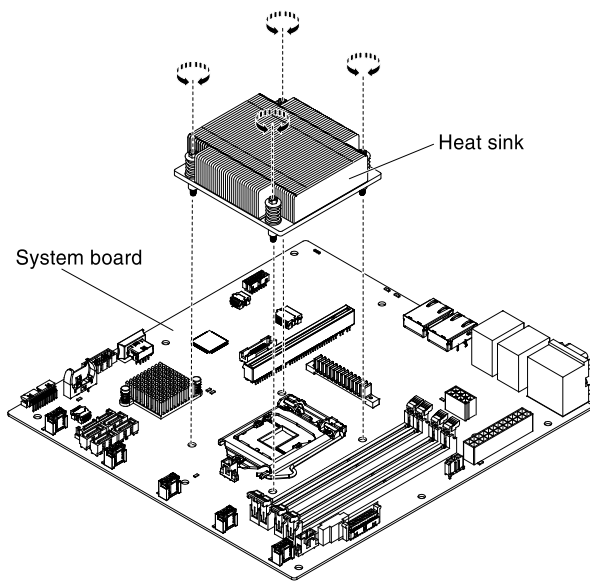
Figure 168. Heat sink removal

Step 4.   Lift the heat sink out of the server. After removal, place the heat sink on its side on a clean, flat surface.

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, you must wipe off the contaminated thermal material on the microprocessor or heat sink with the alcohol wipes and reapply clean thermal grease to the heat sink.

Step 5.   Release the microprocessor retention latch by pressing down on the end, moving it to the side, and releasing it to the open (up) position.

Step 6.   Open the microprocessor bracket frame by lifting up the tab on the top edge. Keep the bracket frame in the open position.

Attention: Handle the microprocessor carefully. Dropping the microprocessor during removal can damage the contacts. Also, contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.
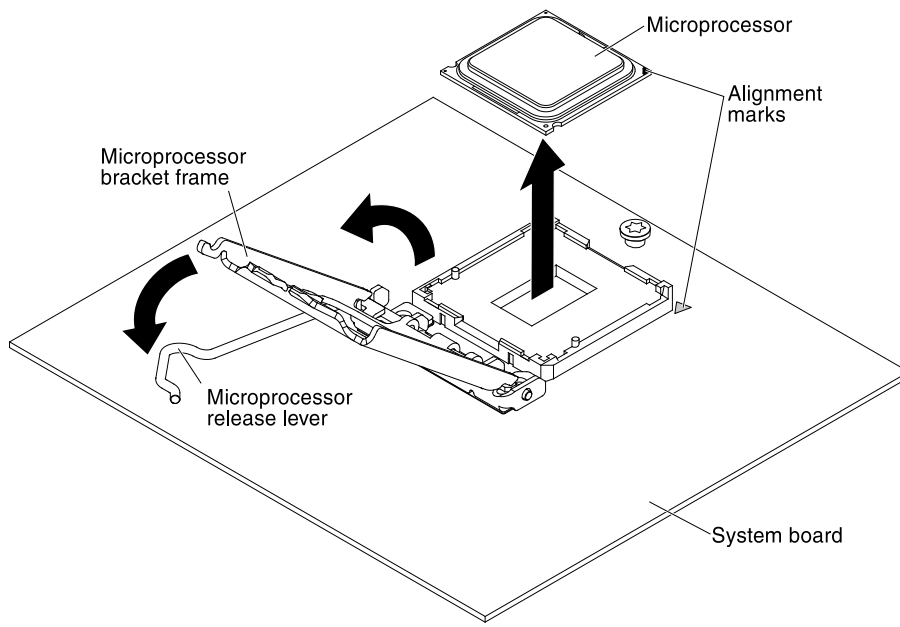
Figure 169. Microprocesssor removal

Step 7. Remove the microprocessor:

a. Carefully lift the microprocessor straight up and out of the socket, without touching the microprocessor contacts.

b. Place the microprocessor on a static-protective surface.

Attention: The pins on the sockets are fragile. Any damage to the pins might require replacing the system board.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a microprocessor and heat sink

Use this information to replace a microprocessor and heat sink.

The following notes describe the type of microprocessor that the server supports and other information that you must consider when you install a microprocessor and heat sink:

• The server supports one Intel land grid array (LGA) 1150 dual-core or quad-core microprocessor. The type, speed, and L3 cache of the microprocessor depends on the server model.

• Read the documentation that comes with the microprocessor to determine whether you have to update the server firmware. To download the most current level of server firmware, go to http://www.lenovo.com/ support and http://www.ibm.com/support/ fixcentral.

• The microprocessor uses an integrated voltage regulator on the system board.

• The microprocessor speeds are automatically set for this server; therefore, you do not have to set any microprocessor frequency-selection jumpers or switches.

• If the thermal-grease protective cover (for example, a plastic cap or tape liner) is removed from the heat sink, do not touch the thermal grease on the bottom of the heat sink or set down the heat sink. For more information about applying or working with thermal grease, see "Thermal grease" on page 244.

Note: Removing the heat sink from the microprocessor destroys the even distribution of the thermal grease and requires replacing the thermal grease.

Attention:

- Microprocessors are to be installed only by trained technicians.
- Do not allow the thermal grease on the microprocessor and heat sink to come in contact with anything. Contact with any surface can compromise the thermal grease and the microprocessor socket.
- Dropping the microprocessor during installation or removal can damage the contacts.
- Do not touch the microprocessor contacts; handle the microprocessor by the edges only. Contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.
- The pins on the sockets are fragile. Any damage to the pins might require replacing the system board.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To install a microprocessor and heat sink, complete the following steps.

Step 1.   Carefully turn the server on its side so that it is lying flat, with the cover facing up.

      Attention:

- When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see "Handling static-sensitive devices" on page 32.
- The microprocessor contacts are fragile; handle the microprocessor very carefully. Do not touch the microprocessor contacts with your skin.
- The microprocessor fits only one way on the socket.

Step 2.   Align the microprocessor with the socket (note the alignment mark and the position of the notches); then, carefully place the microprocessor on the socket, close the microprocessor bracket frame, and close the microprocessor release latch.
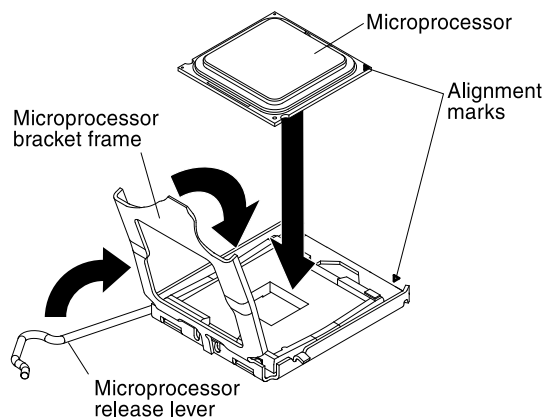
Figure 170. Microprocesssor installation

Step 3.   Gently lower the heat sink on the microprocessor.

Step 4.   Align the screw holes on the heat sink with the holes on the system board.
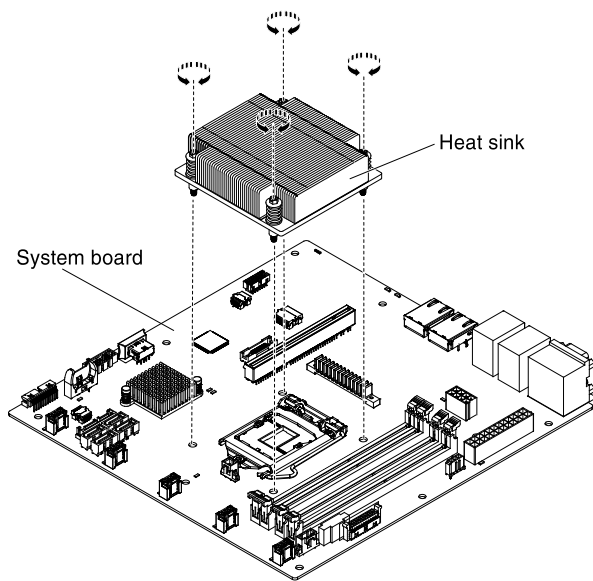
Figure 171. Heat sink installation

Step 5. Install the heat sink on the microprocessor.

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. Make sure that the thermal material is still on the bottom of the heat sink; then, align the heat sink so that the arrows on the label point toward the DIMMs and place the heat sink on top of the microprocessor, thermal material side down.

b. Align the screws on the heat sink with the screw holes on the system board.

c. 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.

Attention: When the two screws that are closer to the rear of the server are tightened, the screw heads are not level with the surface of the heat sink. Do not overtighten the screws by using excessive force.

Step 6. Reinstall the air baffle if it was removed before (see).

Step 7. Reinstall the cover (see).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and 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 it 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 30.
- Read "Handling static-sensitive devices" on page 32.

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

Step 1. Place the heat sink on a clean work surface.

Step 2. Remove the cleaning pad from its package and unfold it completely.

Step 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.

Step 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.
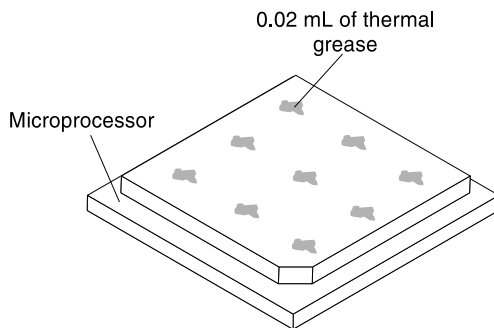
Figure 172. Thermal grease on microprocessor

Step 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.
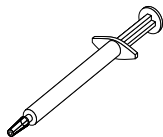
Figure 173. Thermal-grease syringe

Note: 0.01 mL is one tick mark on the syringe. If the grease is properly applied, approximately half (0.22 mL) of the grease will remain in the syringe.

Step 6. Install the heat sink onto the microprocessor as described in "Replacing a microprocessor and heat sink" on page 242.

Removing the 240 VA safety cover

Use this information to remove the 240 VA safety cover.

Read the safety information in and .

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the 240 VA safety cover, complete the following steps:

Step 1. Remove the cover (see).

Step 2. Remove any connected SAS/SATA signal cable and all other cables that pass through the safety cover (see).

Step 3. Remove the four screws from the safety cover.
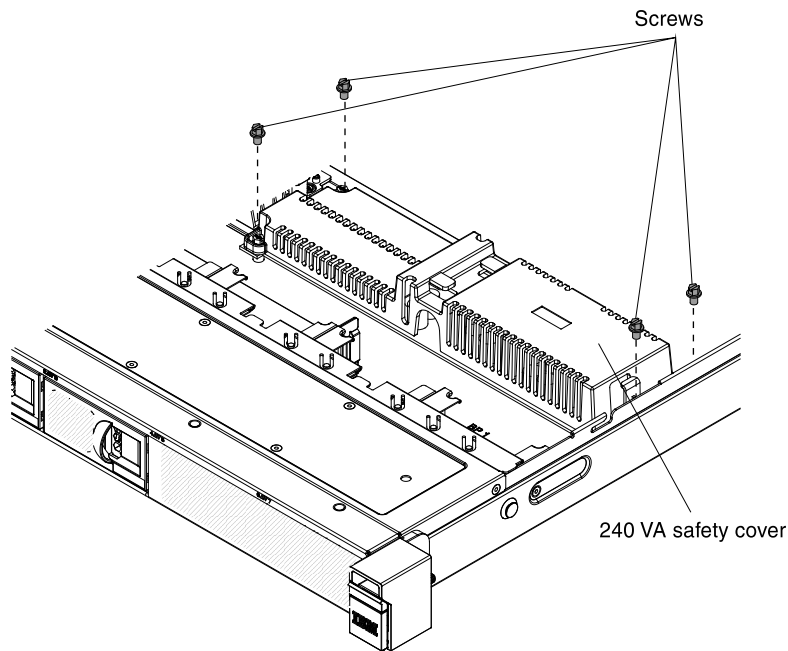
Figure 174. 240 VA safety cover's screws

Step 4. Lift the safety cover up to remove it from the server.
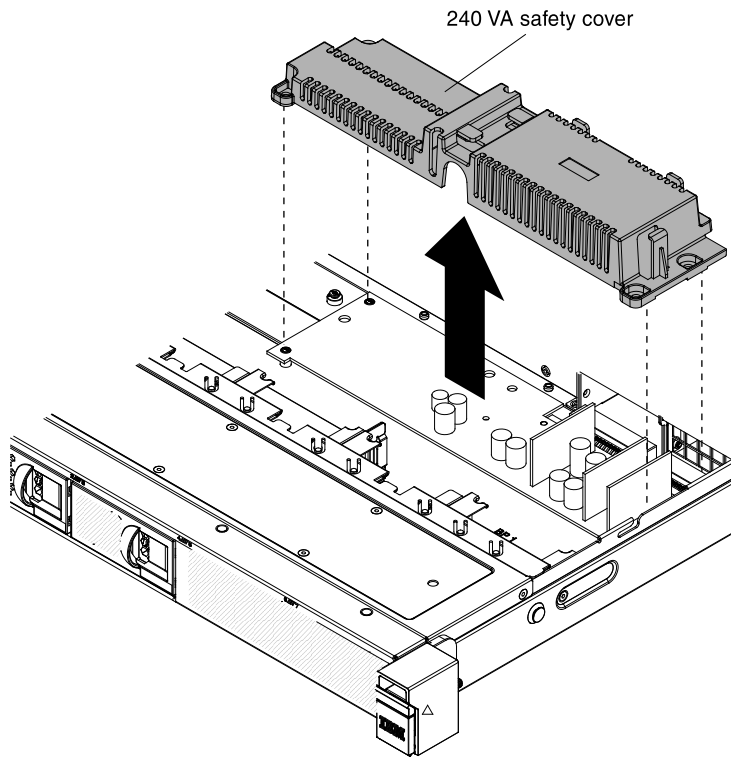
Figure 175. 240 VA safety cover removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 240 VA safety cover

Use this information to replace the 240 VA safety cover.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the 240 VA safety cover, complete the following steps:

Step 1.   Align the safety cover with the standoffs on the power paddle card and lower the safety cover onto the power paddle card until it is secure.
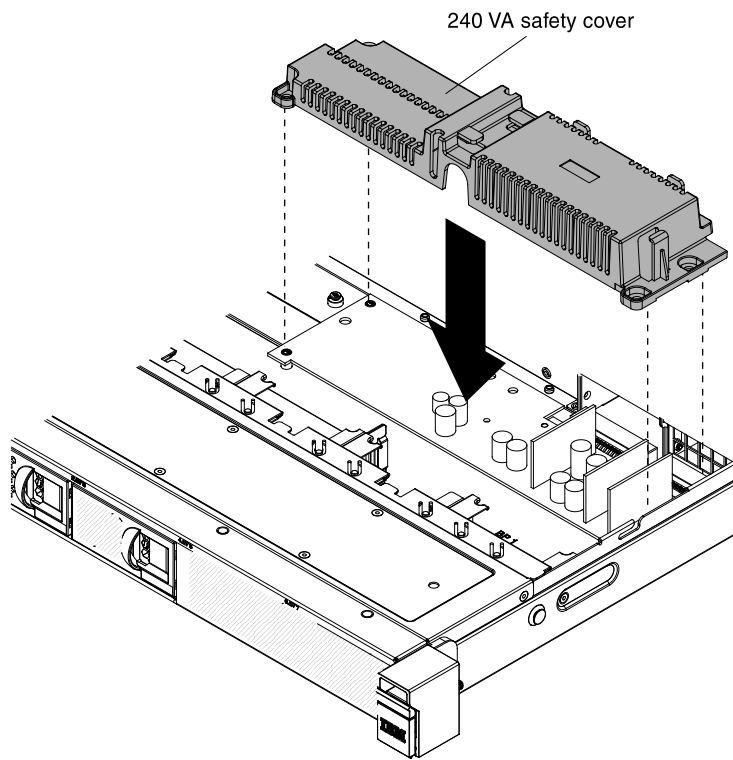
Figure 176. 240 VA safety cover installation

Step 2. Install the four screws to secure the safety cover.
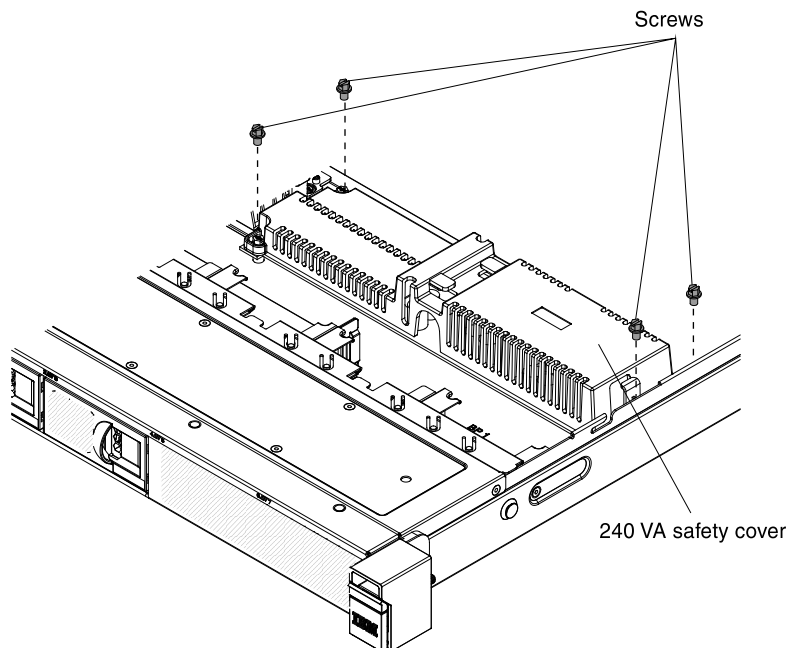
Figure 177. 240 VA safety cover's screws

Step 3. Reconnect any SAS/SATA signal cable and all other cables that you have removed previously (see "Internal cable routing and connectors" on page 259).

Step 4. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.
2. Reconnect the power cords and any cables that you removed.
3. Turn on the peripheral devices and the server.

Removing the power paddle card

Use this information to remove the power paddle card.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To remove the power paddle card, complete the following steps.

Step 1. Pull the power supplies out of the rear of the server, just enough to disengage them from the server.

Step 2. Remove the cover (see "Removing the cover" on page 159).

Step 3. Remove the air baffle if installed (see "Removing the air baffle" on page 161).

Step 4. Remove the 240 VA safety cover (see "Removing the 240 VA safety cover" on page 245).

Step 5. Loosen the cables from the cable tie.

Step 6. Disconnect the power cables from the power connectors on the system board.
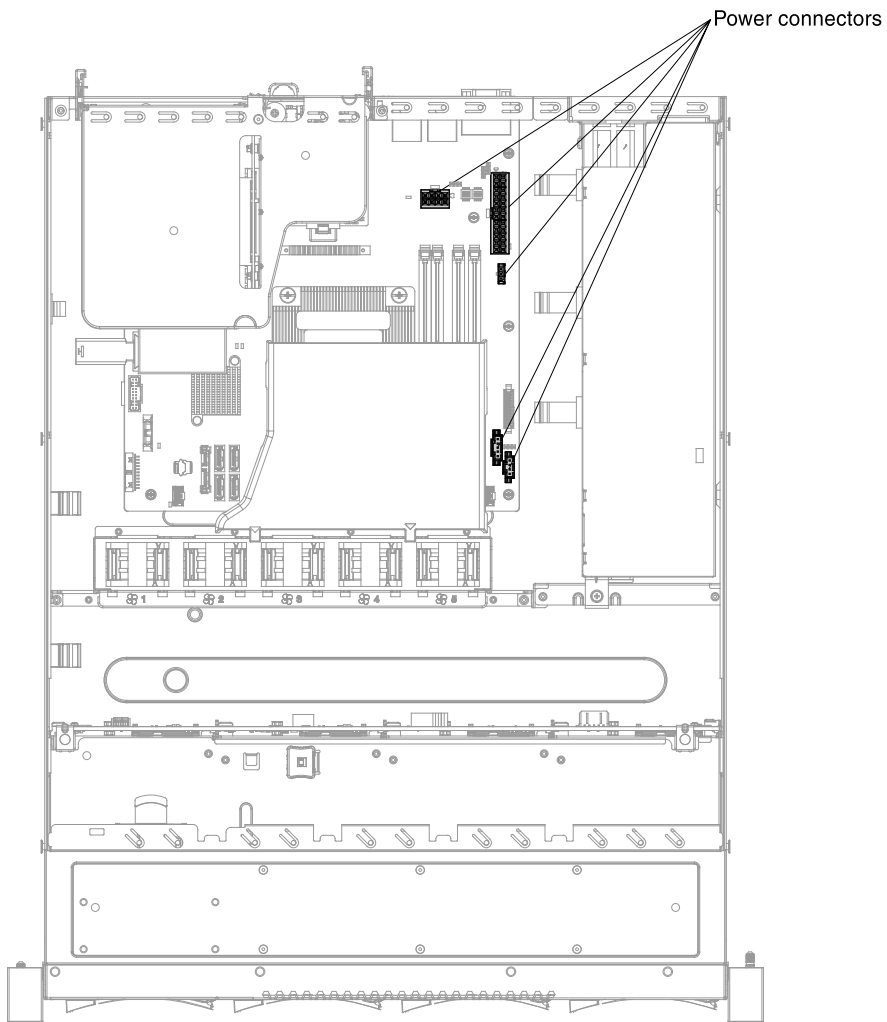
Figure 178. Power connectors

Attention: When disconnecting the power cable connector from the system board, do not grab the wires. Grab the middle connector to vertically remove the power cable connector from the system board.
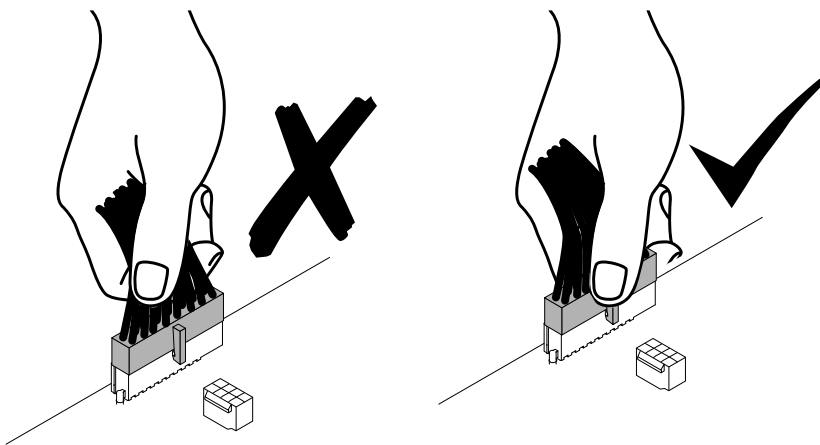
Figure 179. Correct way of removing the power cable connector from the system board

Step 7.   Disconnect the cables from the hard disk drive backplane or the backplate assembly.

Step 8.   Disconnect the power cable from the DVD power cable (if available).

Step 9.   Disconnect all other cables on the system board that block the removal of the power paddle card.

Step 10. Lift the power paddle card up to remove it from the server.
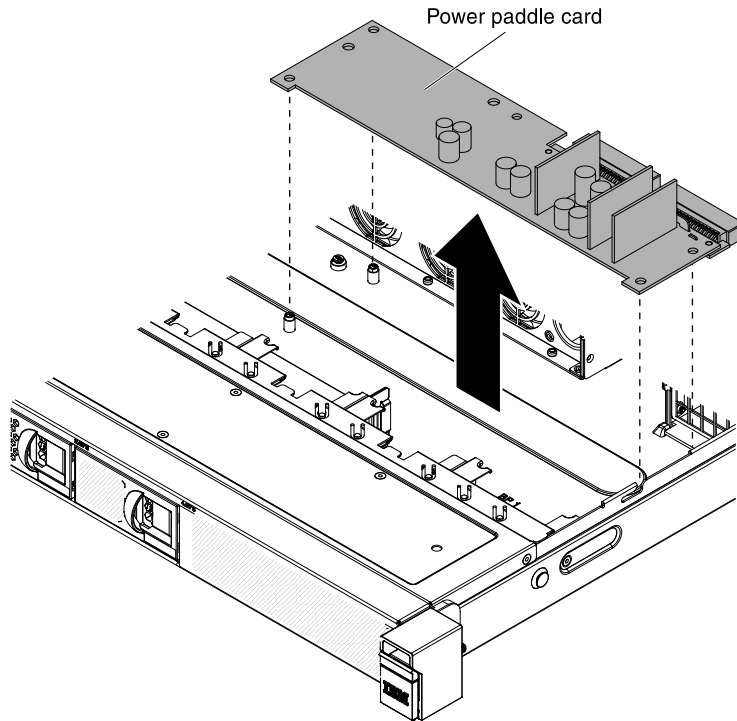
Figure 180. Power paddle card removal

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the power paddle card

Use this information to replace the power paddle card.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the power paddle card, complete the following steps.

Step 1.   Align the power paddle card with the standoffs on the system board and lower the power paddle card onto the system board until it is secure.
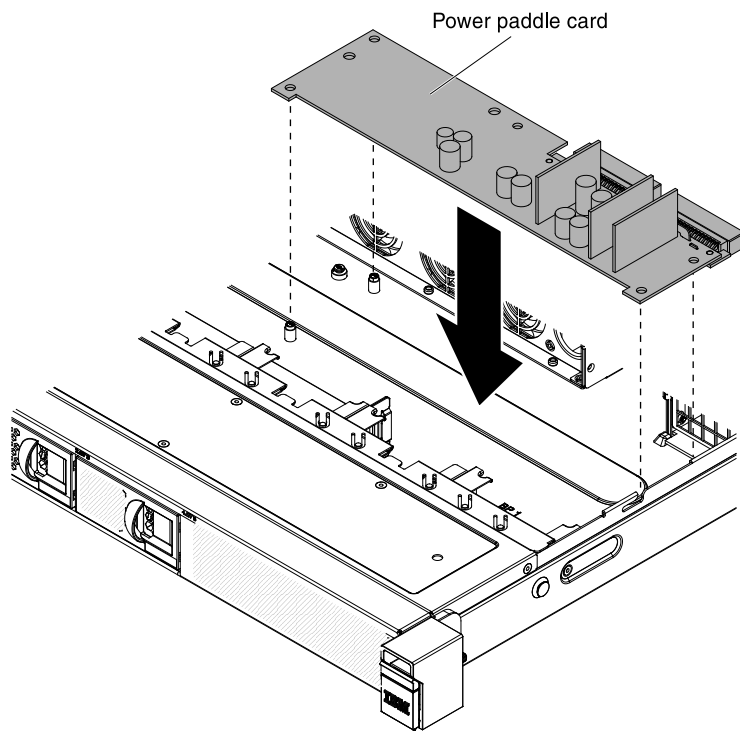
Power paddle card

Figure 181. Power paddle card installation

Step 2.   Reinstall the safety cover (see "Replacing the 240 VA safety cover" on page 247).

Step 3.   Reconnect the power cable to the DVD power cable (if available).

Step 4.   Reconnect the cables to the hard disk drive backplane or the backplate assembly.

Step 5.   Reconnect the power cables to power connectors on the system board.
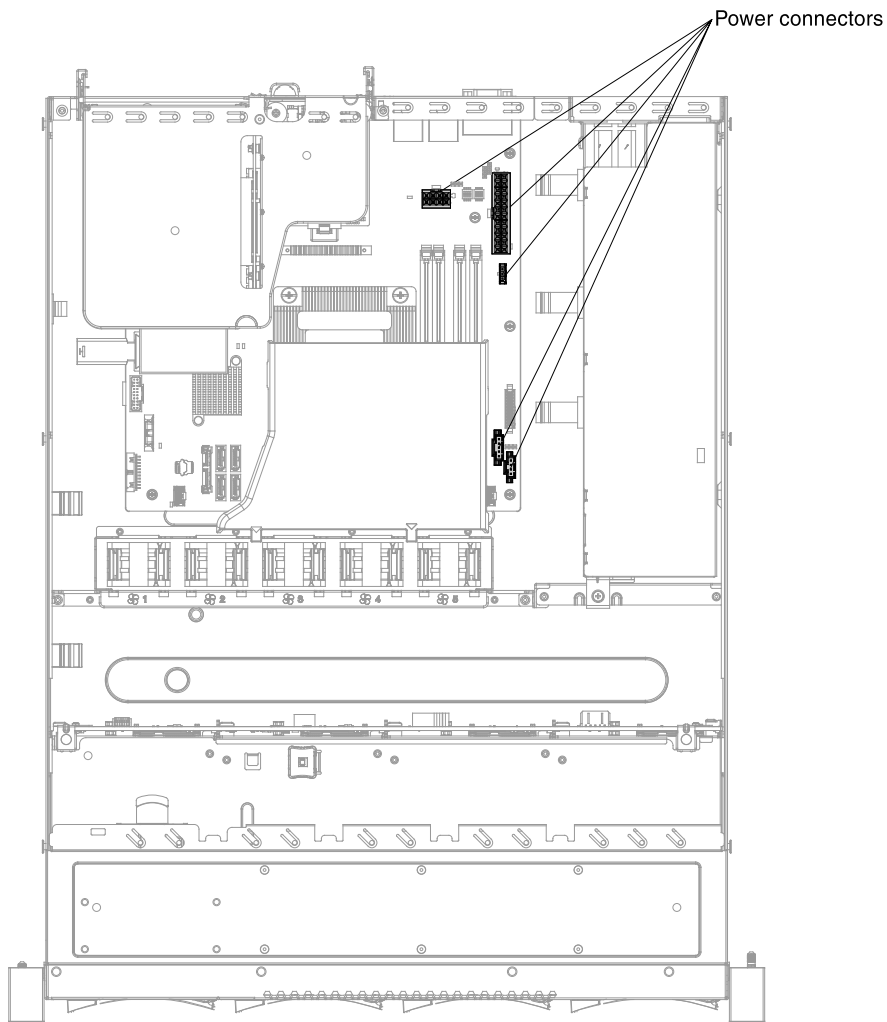
Figure 182. Power connectors

Attention: When connecting the power cable connector to the system board, do not grab the wires. Grab the middle connector to vertically connect the power cable connector to the system board.
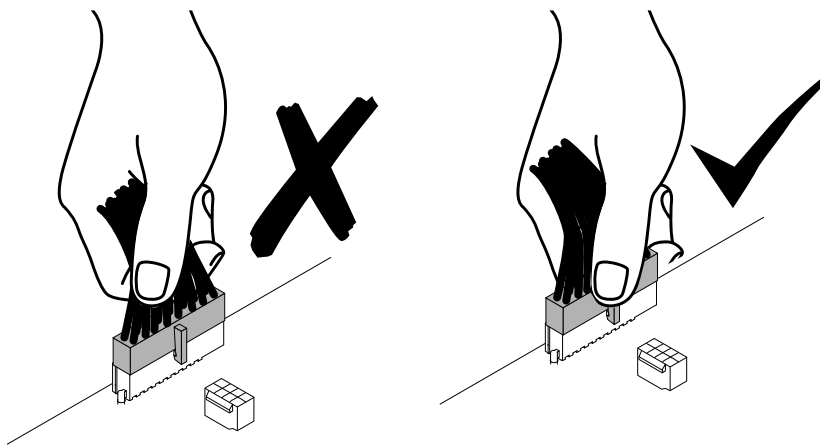
Figure 183. Correct way of connecting the power cable connector to the system board

Step 6.   Reconnect all of the cables on the system board that you removed.

Step 7.   Route the cables through the cable tie if any.

Step 8.   Reinstall the air baffle if it was removed before (see "Replacing the air baffle" on page 162).

Step 9.   Push the power supplies back into the server.

Step 10. Reinstall the cover (see "Replacing the cover" on page 160).

What to do next

1. Install the server into the rack enclosure and push the server into the rack until it clicks into place.

2. Reconnect the power cords and any cables that you removed.

3. Turn on the peripheral devices and the server.

Removing the system board

Use this information to remove the system board.

Notes:

1. 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. Make sure that you have the latest firmware or a copy of the pre-existing firmware before you proceed.

2. When you replace the system board, make sure that you remove the Integrated Management Module II (IMM2) Advanced Upgrade and place it on the new system board. For information about the Advanced Upgrade, see "Using the remote presence and blue-screen capture features" on page 94

   Note: You have to reactivate the Features on Demand (FoD) after replacing the system board.

3. Before you replace the system board, make sure that you back up any features on demand (FoD) keys that were enabled. Reactivate any Features on Demand features after replacing the system board. Instructions for automating the activation of features and installing activation keys is in the *Lenovo Features on Demand User's Guide*. To download the document, go to https://fod.lenovo.com/lkms, log in, and click **Help**.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

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 diskette or CD 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, complete the following steps.

Step 1.   Remove the cover (see "Removing the cover" on page 159).

Step 2.   Remove the air baffle (see "Removing the air baffle" on page 161).

Step 3.   Remove the PCI riser-card assembly (see "Removing the PCI riser-card assembly" on page 165).

Step 4.   Note where the cables are connected to the system board; then, disconnect them.

           Attention: Disengage all latches, cable clips, release tabs or locks on cable connectors when you disconnect all cables from the system board (see "Internal cable routing and connectors" on page 259). Failing to release them before removing the cables will damage the cable connectors on the system board. The cable connectors on the system board are fragile. Any damage to the cable connectors may require replacing the system board.

Step 5. Remove any of the following components that are installed on the system board and put them in a safe, static-protective place:

- Adapters (see "Removing an adapter" on page 185)
- DIMMs (see "Removing a DIMM" on page 169)

  Note: Make a note of the location of each DIMM as you remove it, so that you can later reinstall it in the same connector.

- Microprocessors and heat sinks (see "Removing a microprocessor and heat sink" on page 240)

  Notes:

  1. 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.

  2. Do not allow the thermal grease to come in contact with anything, and keep each heat sink paired with its microprocessor for reinstallation. Contact with any surface can compromise the thermal grease and the microprocessor socket. A mismatch between the microprocessor and its original heat sink can require the installation of a new heat sink.

- Remote RAID battery holder (see "Removing the RAID adapter battery or flash power module holder" on page 166)

Step 6. Remove the screws that secure the system board to the chassis, and put the screws in a safe place.

System board
(9 screws)
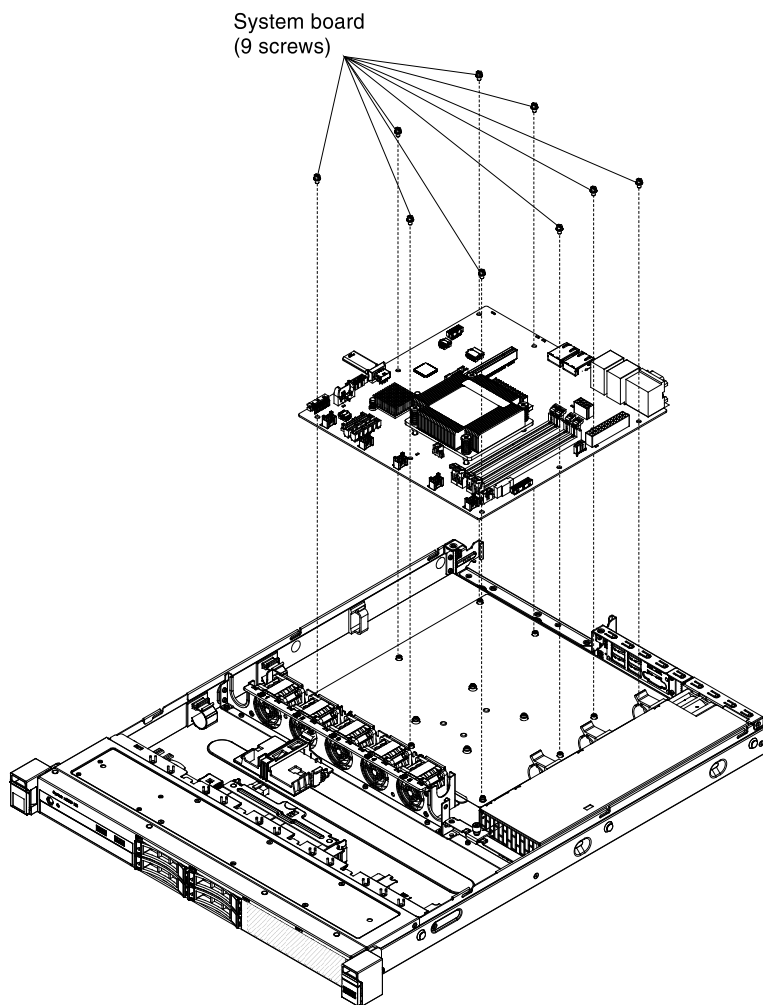
Figure 184. System board removal

Step 7. Carefully hold on to the edges of the system board. Avoid touching the connectors on the system board. Lift and tilt the system board upwards and slightly pull the system board forward (towards yourself). Then carefully lift and remove the system board from the server.

Note: When you remove the system board from the server, avoid touching the cable clips on the side of the chassis and the connectors on the system board. Be careful not to damage any surrounding components inside the chassis.

If you are instructed to return the server component or optional device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Attention: Make sure to place the socket cover for the microprocessor socket on the system board before returning the system board.

Replacing the system board

Use this information to replace the system board.

Notes:

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 from a diskette or CD image. 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 83, "Updating the Universal Unique Identifier (UUID)" on page 99, and "Updating the DMI/SMBIOS data" on page 101.

3. When you replace the system board, make sure that you remove the Integrated Management Module II (IMM2) Advanced Upgrade and place it on the new system board. For information about the Advanced Upgrade, see "Using the remote presence and blue-screen capture features" on page 94

4. Reactivate any Features on Demand features after replacing the system board. Instructions for automating the activation of features and installing activation keys is in the *Features on Demand User's Guide*. To download the document, go to https://fod.lenovo.com/lkms, log in, and click **Help**.

5. 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.

Read the safety information in "Safety" on page v and "Installation guidelines" on page 30.

If you are replacing a server component in the server, you need to slide the server out from the rack enclosure, turn off the server and peripheral devices, and disconnect the power cords and all external cables.

To replace the system board, complete the following steps.

Step 1. 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.

Note: When you are holding or replacing the system board in the server, avoid touching the cable clips on the side of the chassis and the connectors on the system board. Be careful not to damage any surrounding components inside the chassis.

Step 2. Align the system board with the chassis and replace the nine screws that you removed.

System board
(9 screws)
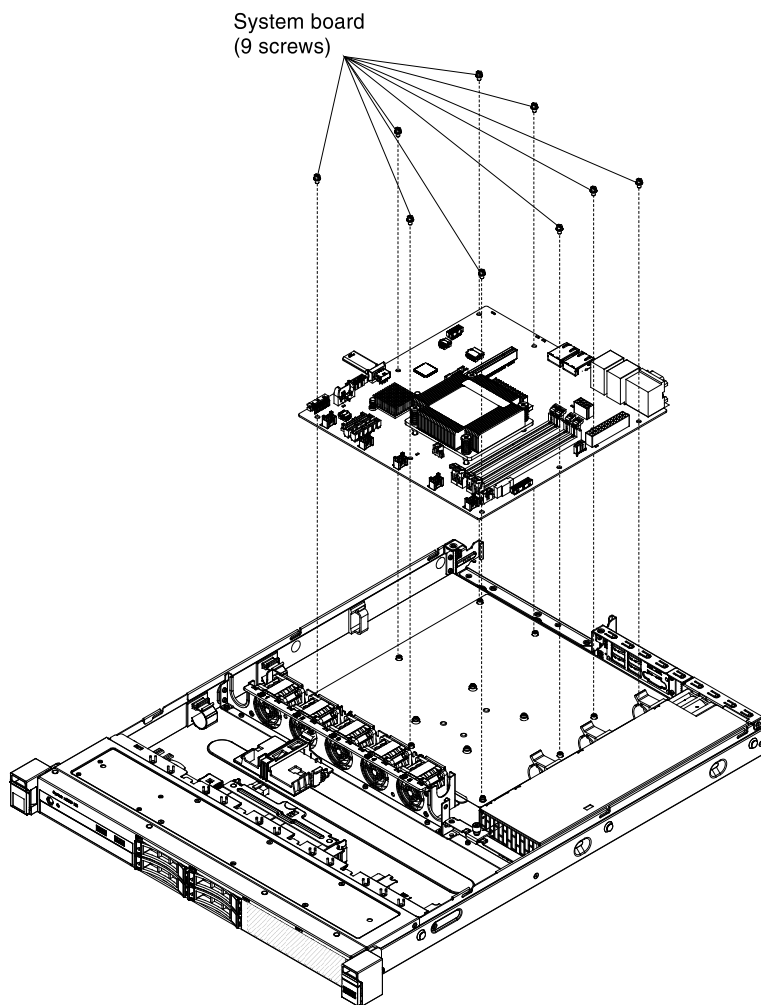
Figure 185. System board installation

Step 3. Install any of the following components that you removed from the system board:

Note: Make sure that none of the server cables are caught under the system board.

- Microprocessor and heat sink (see "Replacing a microprocessor and heat sink" on page 242)
- DIMMs (see "Installing a DIMM" on page 172)
- Adapters (see "Replacing an adapter" on page 186)
- Remote RAID battery holder (see "Replacing the RAID adapter battery or flash power module holder" on page 167)

Step 4. Reconnect any cables to the system board that you disconnected during removal (see "System-board internal connectors" on page 26 and "Internal cable routing and connectors" on page 259).

Step 5. Reinstall the PCI riser-card assembly (see "Replacing the PCI riser-card assembly" on page 165).

Step 6. Reinstall the air baffle (see "Replacing the air baffle" on page 162).

Step 7. Reinstall the cover (see "Replacing the cover" on page 160).

Step 8. Slide the server into the rack.

Step 9. Reconnect the external cables and power cords; then, turn on the attached devices and turn on the server.

Step 10. Start the Setup utility and reset the configuration.

a. Set the system date and time.

b. Set the power-on password.

c. Reconfigure the server.

See "Using the Setup utility" on page 85 for details.

Step 11. Either update the server with the latest RAID firmware or restore the pre-existing firmware from a diskette or CD image.

Step 12. Update the UUID (see "Updating the Universal Unique Identifier (UUID)" on page 99).

Step 13. Update the DMI/SMBIOS (see "Updating the DMI/SMBIOS data" on page 101).

Step 14. Reactivate any Features on Demand features.

Internal cable routing and connectors

This section provides information about routing the cables when you install some components in the server.

For more information about the requirements for cables and connecting devices, see the documentation that comes with these devices.

Cabling the DVD drive

The internal routing and connectors for the DVD drive.

Notes:

1. To disconnect the optional optical drive cable, you must first press the connector release tab, and then disconnect the cable from the connector on the system board. Do not disconnect the cable by using excessive force.

2. Follow the optical drive cable routing as the illustration shows. Make sure that the cable is not pinched and does not cover any connectors or obstruct any components on the system board.

3. Make sure the relevant cables pass through the cable clips.

Optical drive connector

SATA connector

DVD drive cable

Cable connector latch
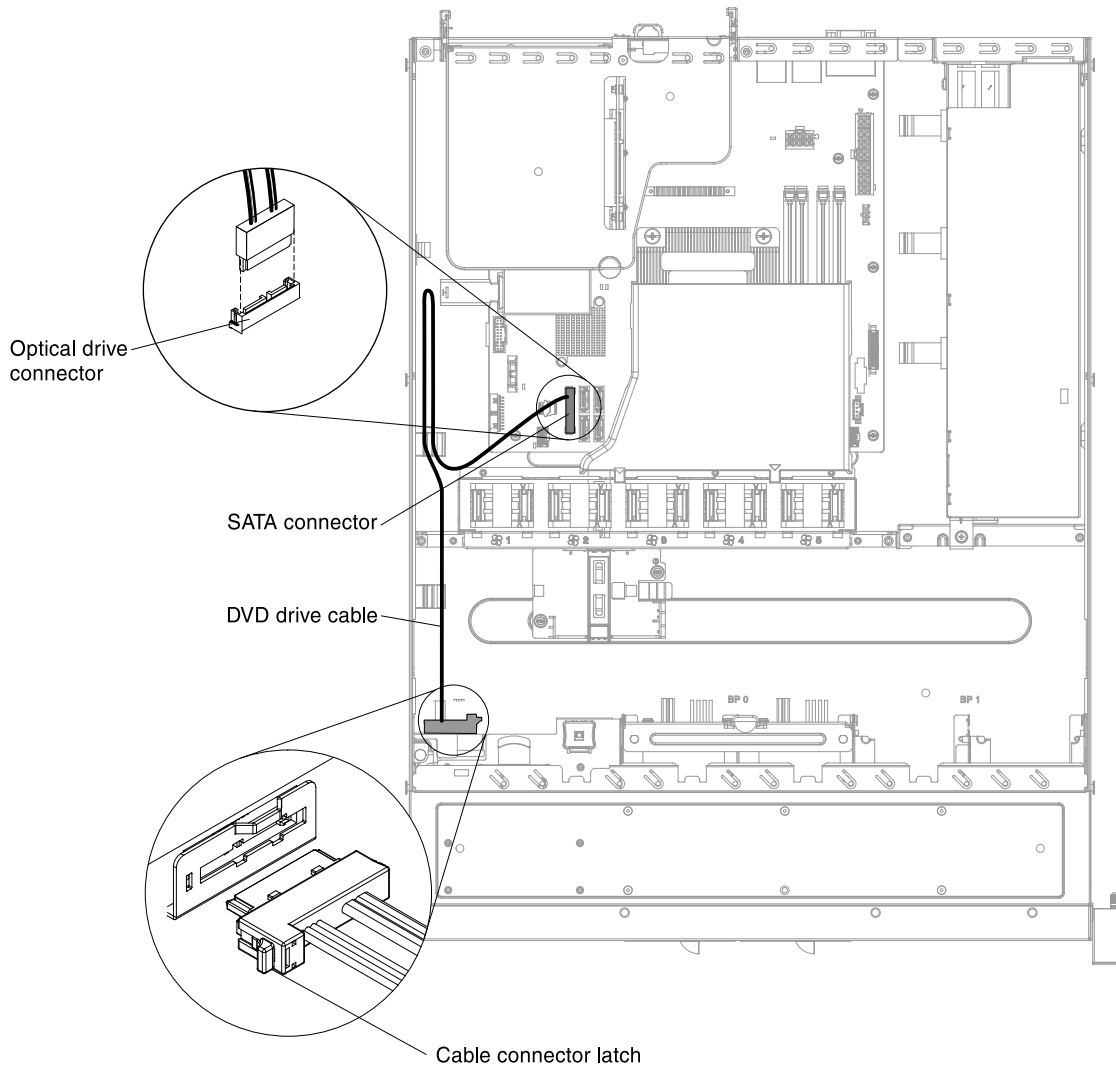
Figure 186. DVD drive cable connection

Cabling the *Operating temperature enhancement kit*

The internal routing and connectors for the thermal sensor cable of the *Operating temperature enhancement kit*.

The following illustrations show the internal routing and connectors for the *Operating temperature enhancement kit*.

Note: Make sure the relevant cables pass through the cable clips.

Thermal sensor cable
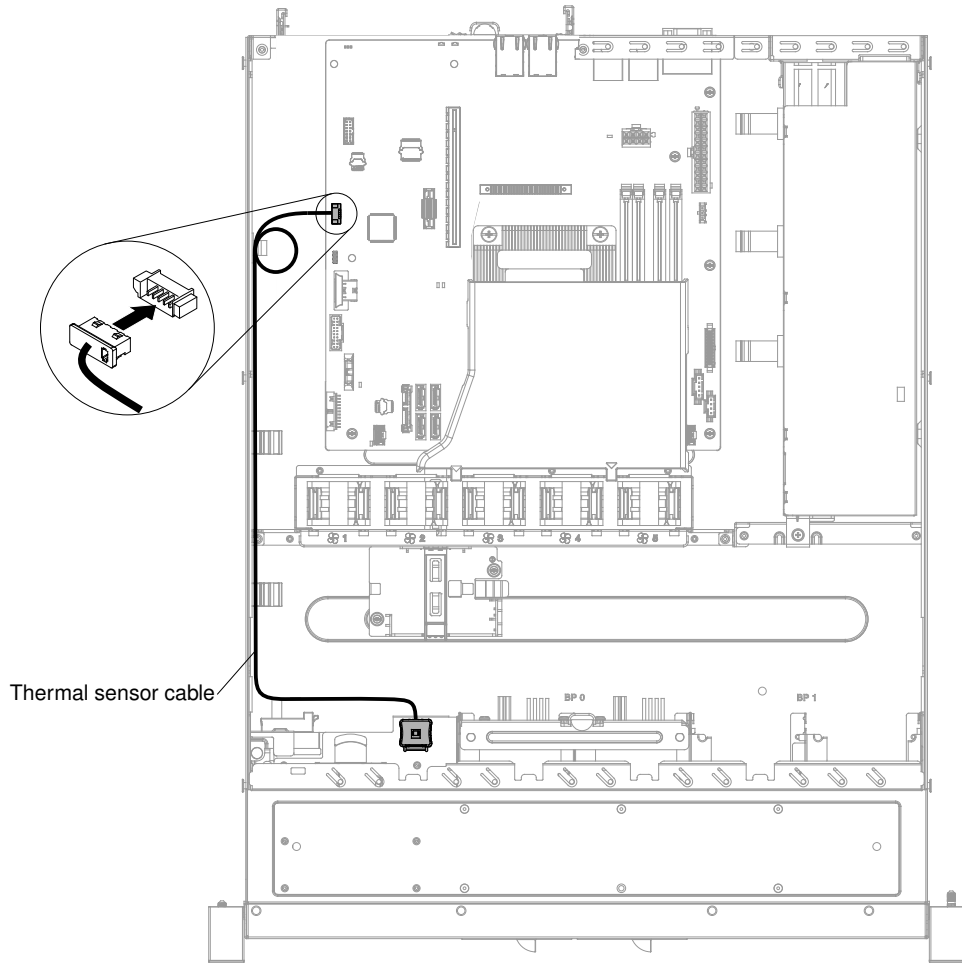
Figure 187. Operating temperature enhancement kit connection for 2.5-inch hard disk drive model

Thermal sensor cable
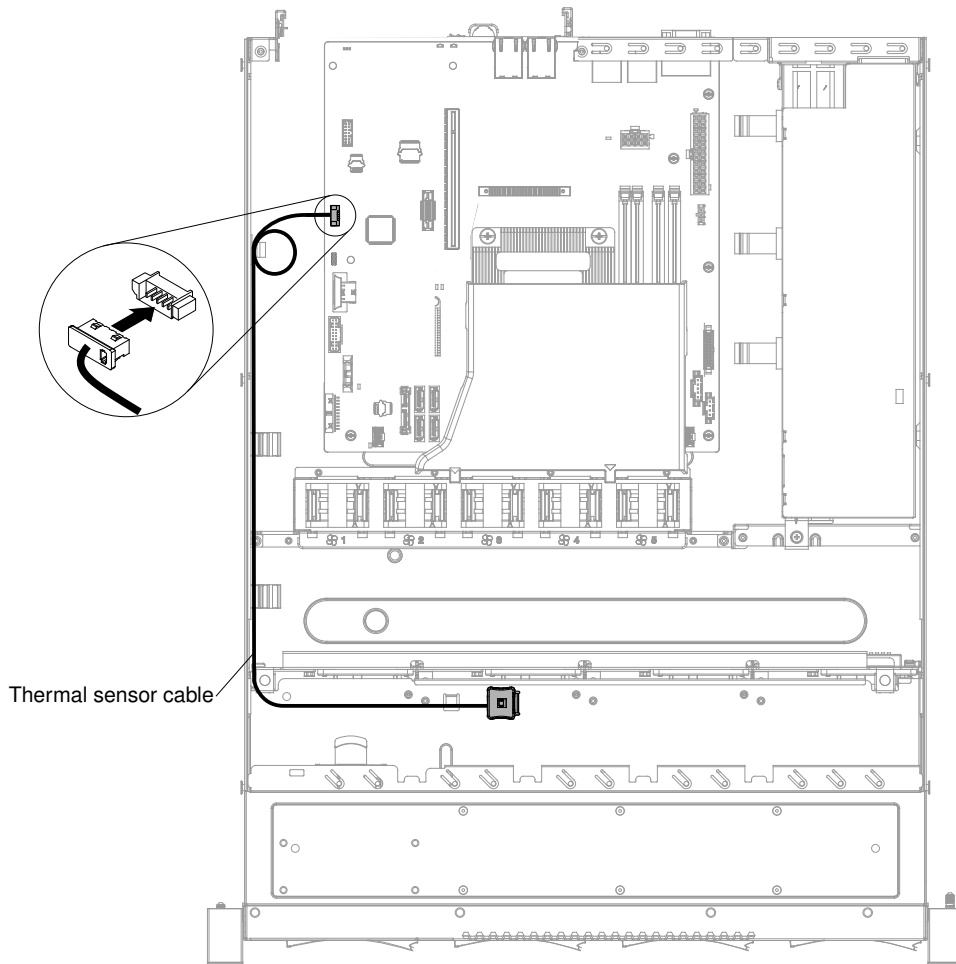
Figure 188. Operating temperature enhancement kit connection for 3.5-inch hard disk drive model

Cabling the power supply

The internal routing and connectors for the fixed power supply.

The following illustration shows the internal routing and connectors for the power supply cable.

Note: Make sure the relevant cables pass through the cable clips.
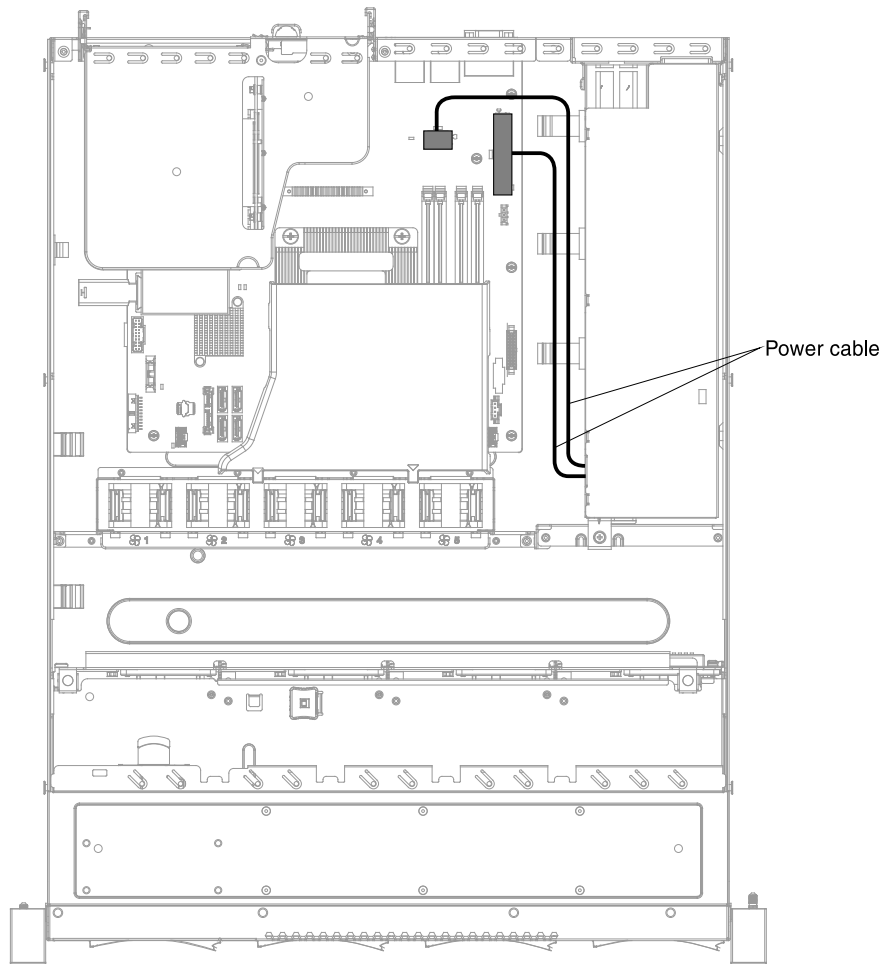
Figure 189. Power cable connection

Cabling the operator information panel cable

The internal routing and connectors for the operator information panel cable.

The following notes describe additional information you must consider when you install or remove the operator information panel cable:

- To remove the operator information panel cable on the system board, you have to press evenly on the release latch on the sides of the operator information panel cable connector before you can pull out and disengage the operator information panel cable connector from the operator information panel connector on the system board. Pulling the cable out of the connector by excessive force might cause damage to the cable or connector.

- To connect the operator information panel cable on the system board, press evenly on the release latch on the sides of the operator information panel cable connector. Pressing on one side of the cable connector might cause damage to the cable or connector.

The following illustration shows the internal routing and connectors for the operator information panel cable.

Note: Make sure the relevant cables pass through the cable clips.
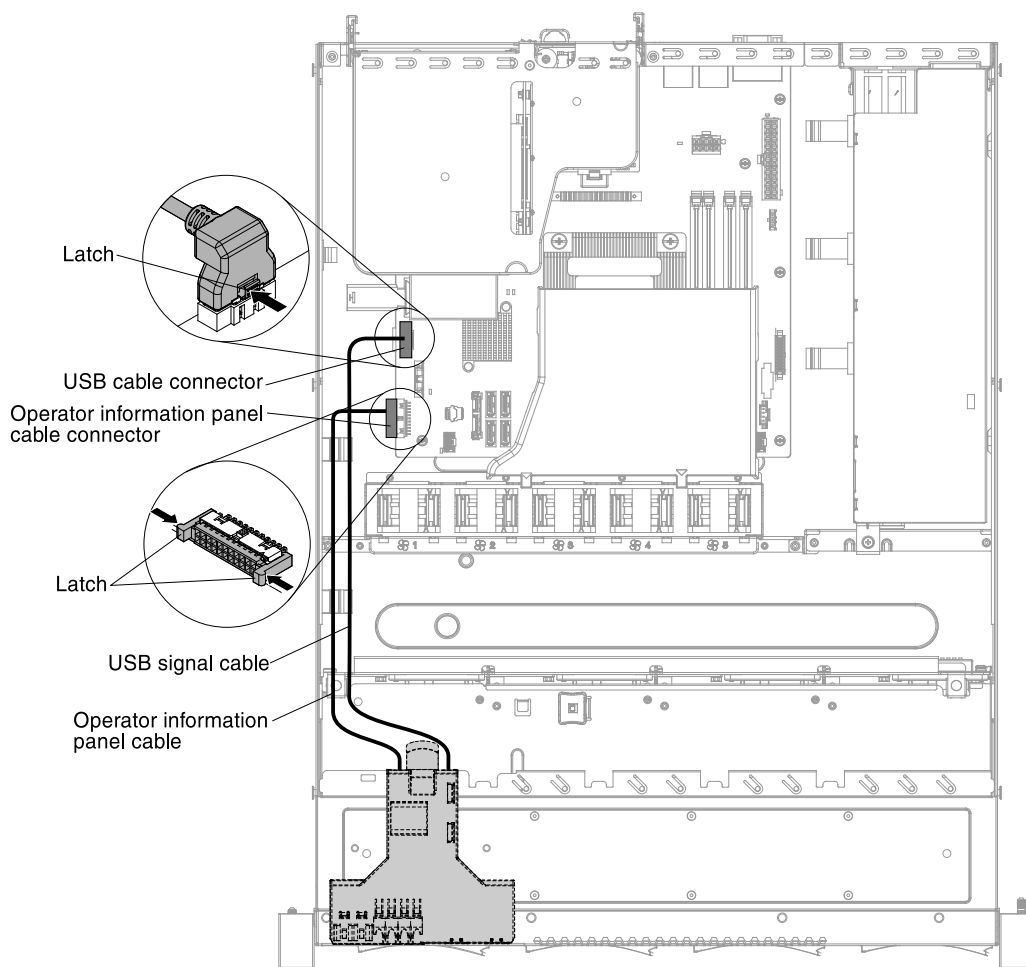
Figure 190. Operator information panel cable connection

Cabling the front USB cable

The internal routing and connectors for the front USB cable.

The following notes describe additional information you must consider when you install or remove the USB cable:

- To remove the USB cable on the system board, you have to press on the release latch on the top of the USB cable connector before you can pull out and disengage the USB cable connector from the USB connector on the system board. Pulling the cable out of the connector by excessive force might cause damage to the cable or connector.

- To connect the USB cable on the system board, press on the release latch on the top of the USB cable connector. Pressing on one side of the cable connector might cause damage to the cable or connector.

The following illustrations show the internal routing and connectors for the front USB cable.

Note: Make sure the relevant cables pass through the cable clips.
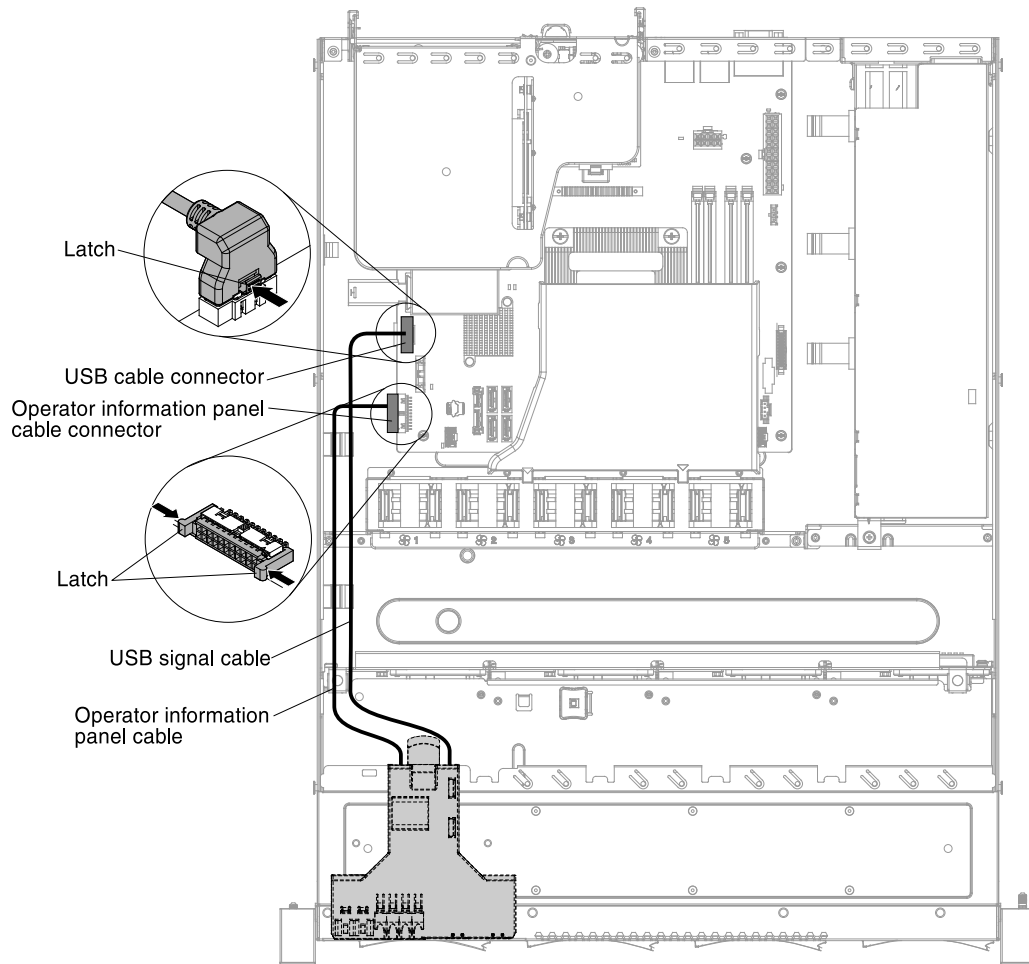
Figure 191. USB cable connection

Cabling the hard disk drive with software RAID signal cable

The internal routing and connectors for the simple-swap hard disk drive with software RAID signal cable.

The following illustrations show the internal routing and connectors for the simple-swap hard disk drive with software RAID signal cable.

Note: Make sure the relevant cables pass through the cable clips.
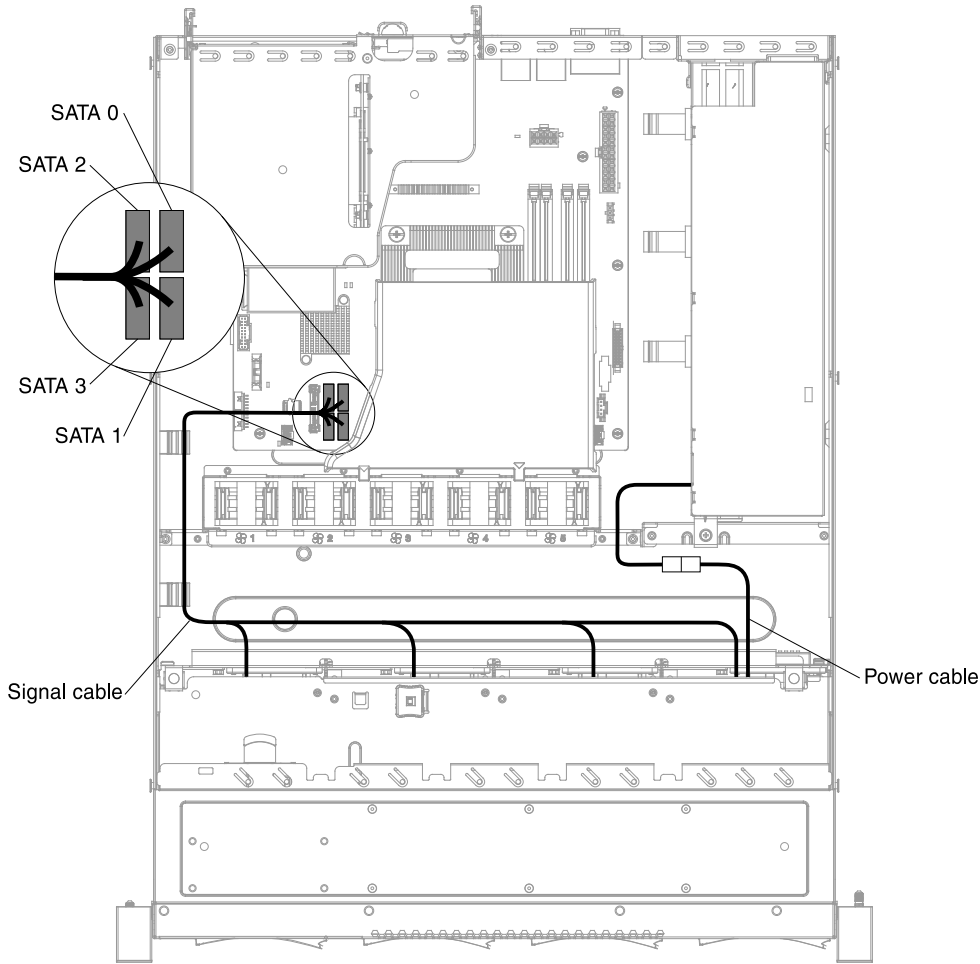
Figure 192. 3.5-inch simple-swap hard disk drive with software RAID signal cable connection for fixed power supply model
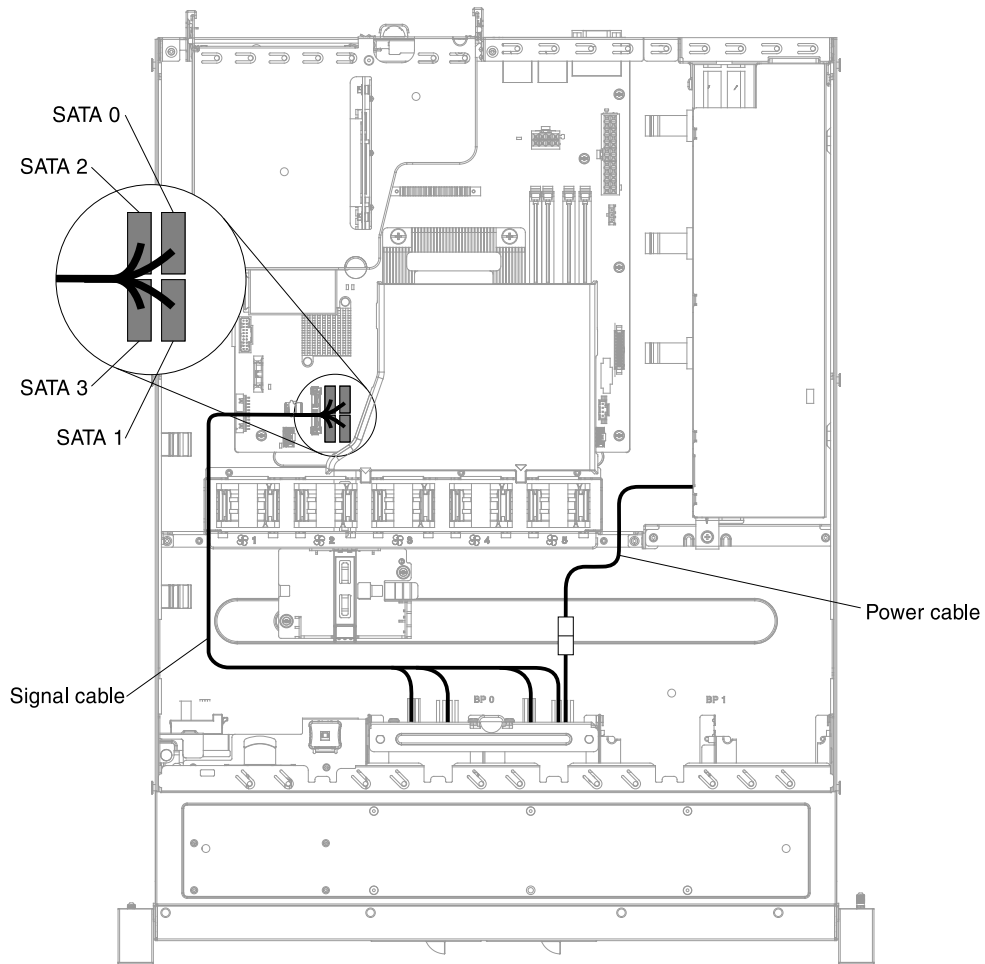
Figure 193. 2.5-inch simple-swap hard disk drive with software RAID signal cable connection for fixed power supply model

SATA 0
SATA 2
SATA 3
SATA 1
Signal cable
Power cable
Power cable
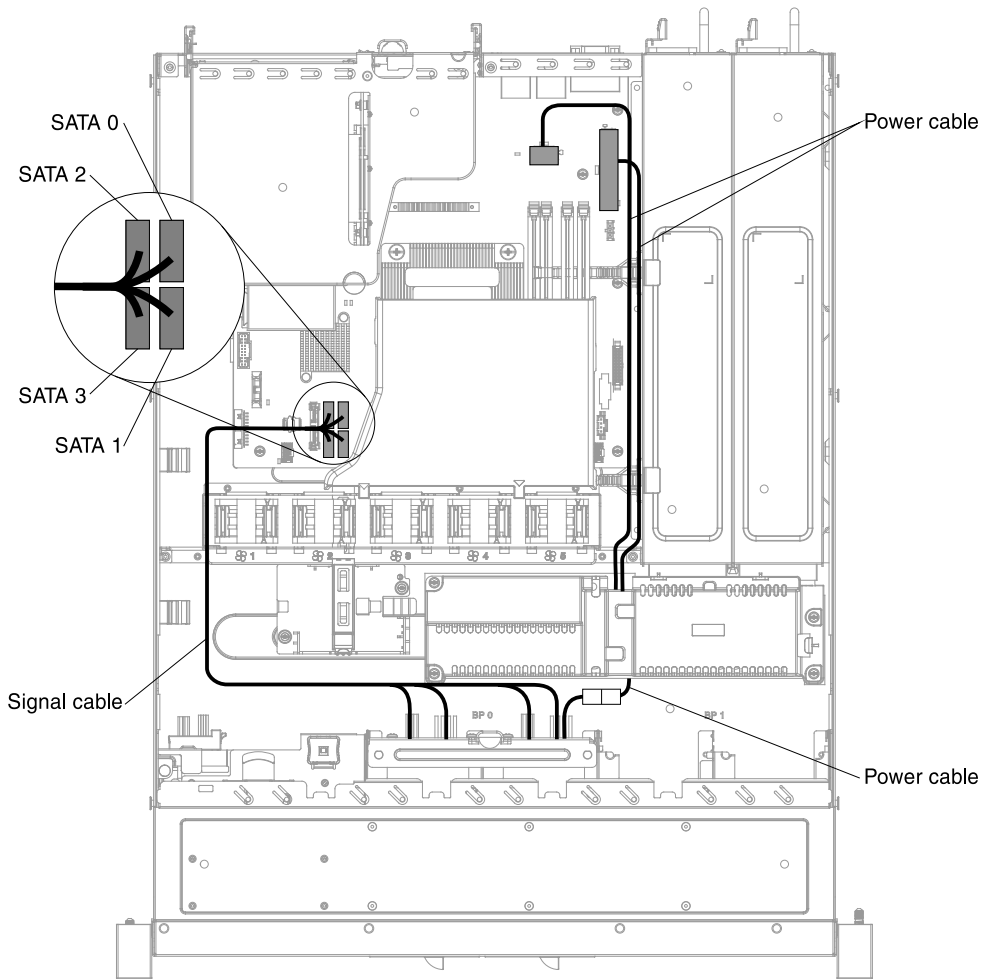
Figure 194. 2.5-inch simple-swap hard disk drive with software RAID signal cable connection for redundant power supply model

Cabling the hard disk drive with ServeRAID SAS/SATA controller for fixed power supply model

This section shows the cable routing for the hot-swap and simple-swap hard disk drive with ServeRAID SAS/SATA controller for the fixed power supply model.

Cabling the hot-swap hard disk drive with ServeRAID SAS/SATA controller (fixed power supply model)

The internal routing and connectors for the hot-swap hard disk drive with ServeRAID SAS/SATA controller (fixed power supply model).

The following illustrations show the internal routing and connectors for the 2.5-inch and 3.5-inch hot-swap hard disk drive models with ServeRAID SAS/SATA controller.

Note: Make sure the relevant cables pass through the cable clips.
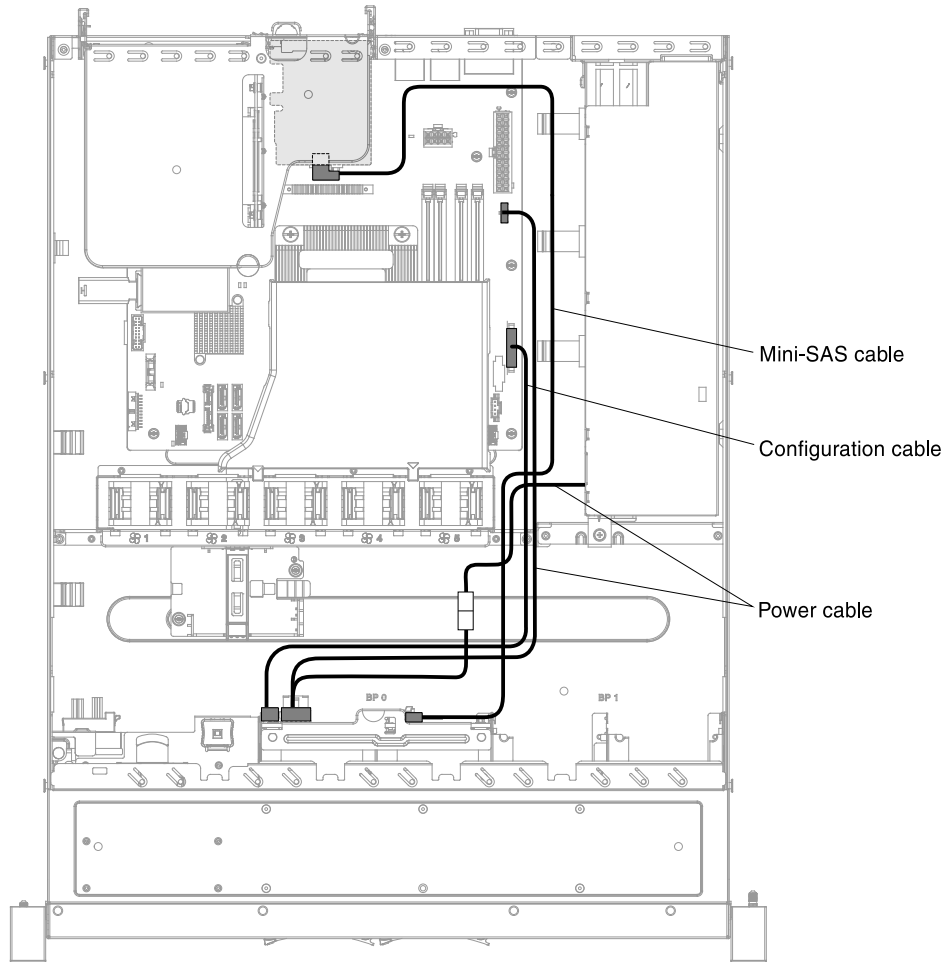
Figure 195. 2.5-inch hot-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)
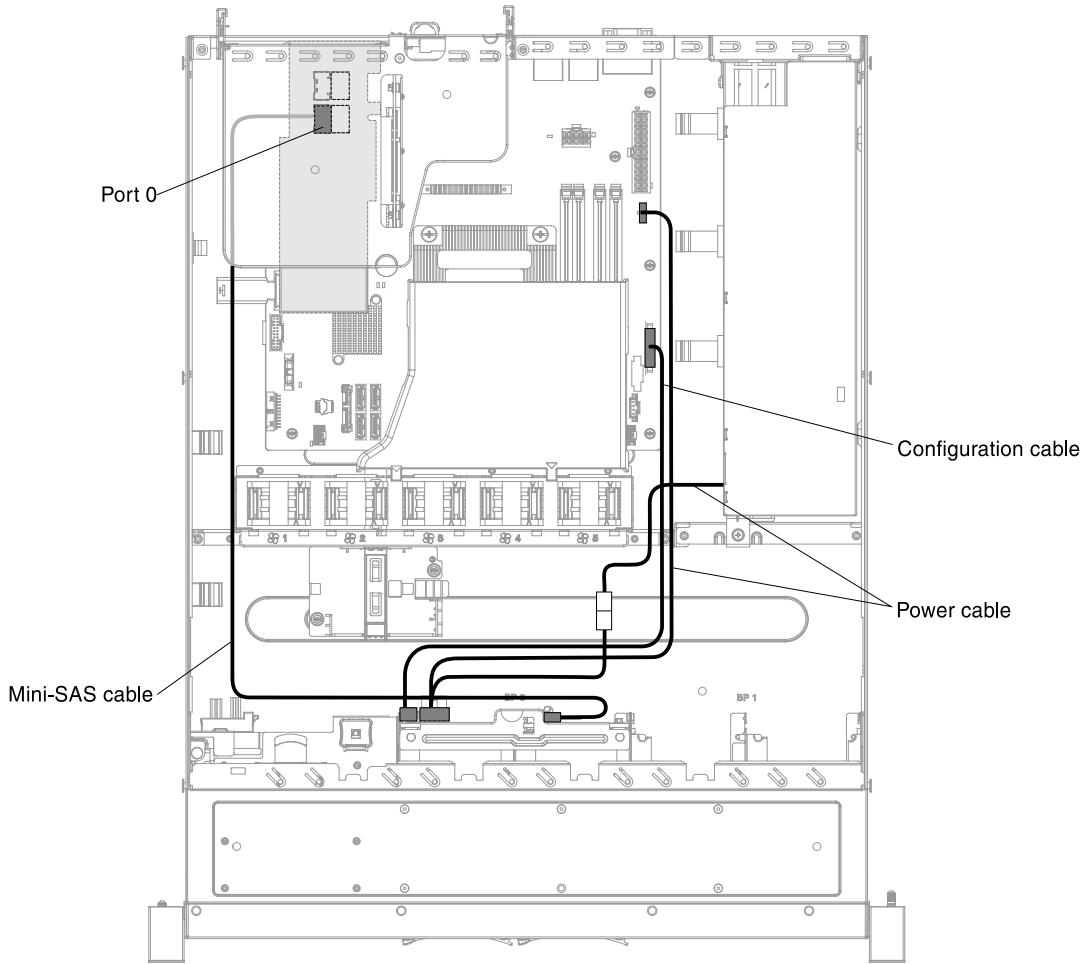
Figure 196. 2.5-inch hot-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

Configuration cable

Mini-SAS cable

Power cable
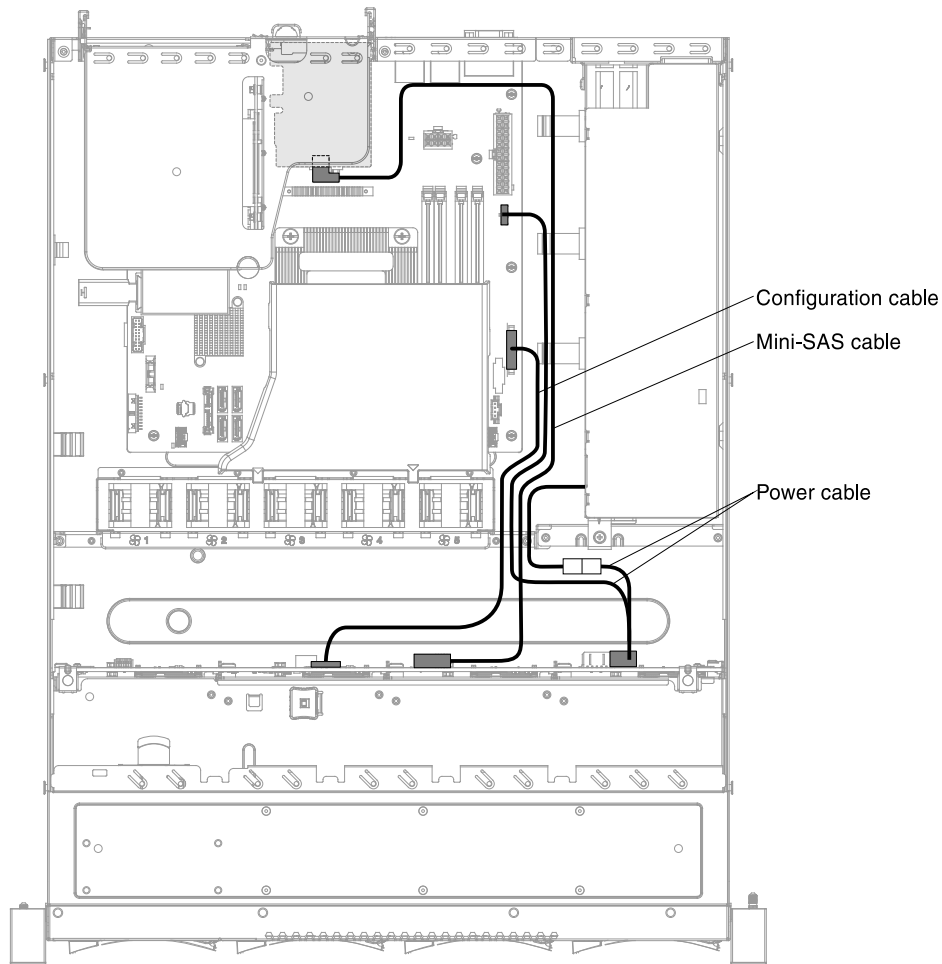
Figure 197. 3.5-inch hot-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Port 0

Configuration cable

Power cable

Mini-SAS cable
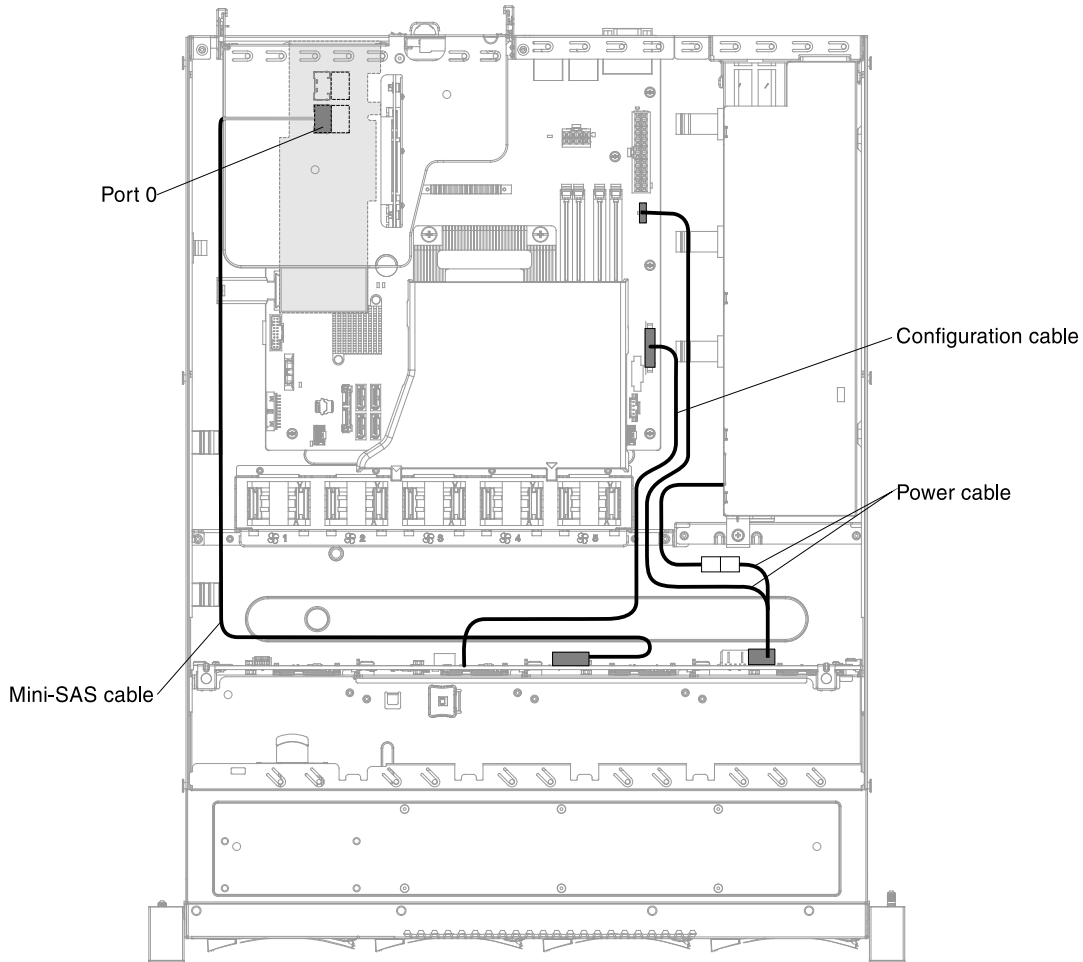
Figure 198. 3.5-inch hot-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

Cabling the simple-swap hard disk drive with ServeRAID SAS/SATA controller (fixed power supply model)

The internal routing and connectors for the simple-swap hard disk drive with ServeRAID SAS/SATA controller (fixed power supply model).

The following illustrations show the internal routing and connectors for the 2.5-inch and 3.5-inch simple-swap hard disk drive models with ServeRAID SAS/SATA controller.

Note: Make sure the relevant cables pass through the cable clips.
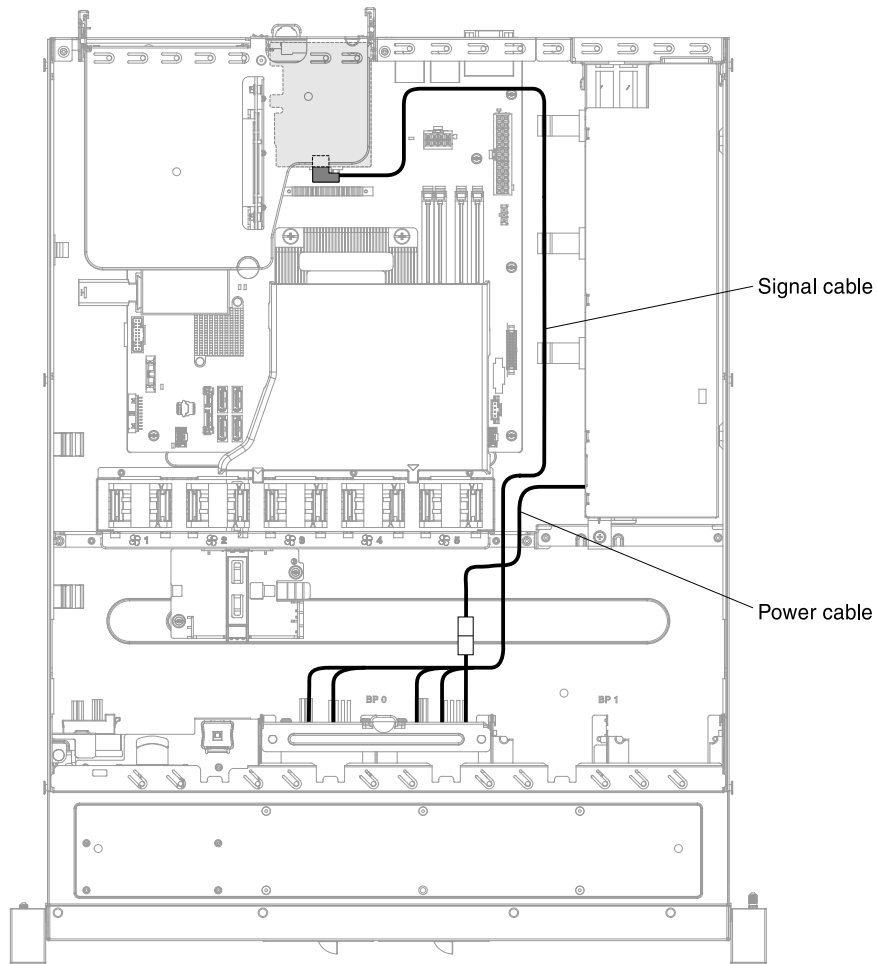
Figure 199. 2.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Port 0

Power cable

Signal cable

BP 0

BP 1
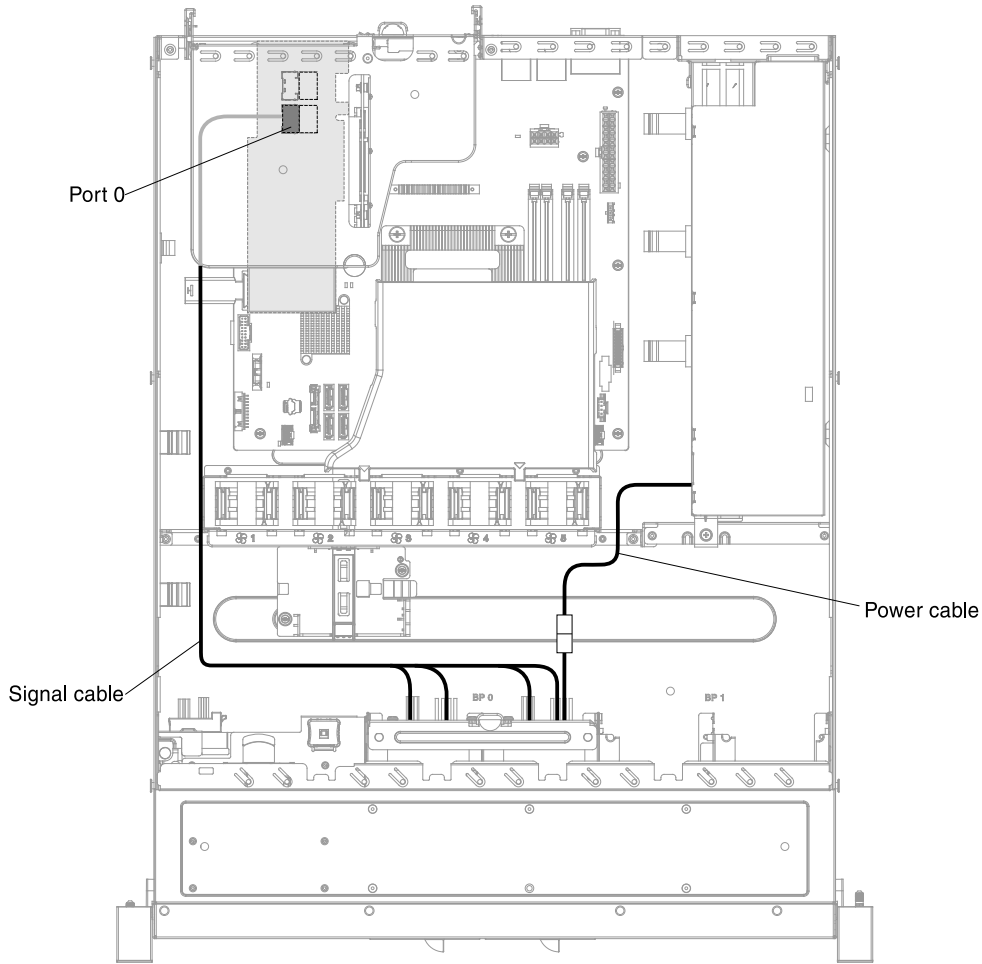
Figure 200. 2.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)
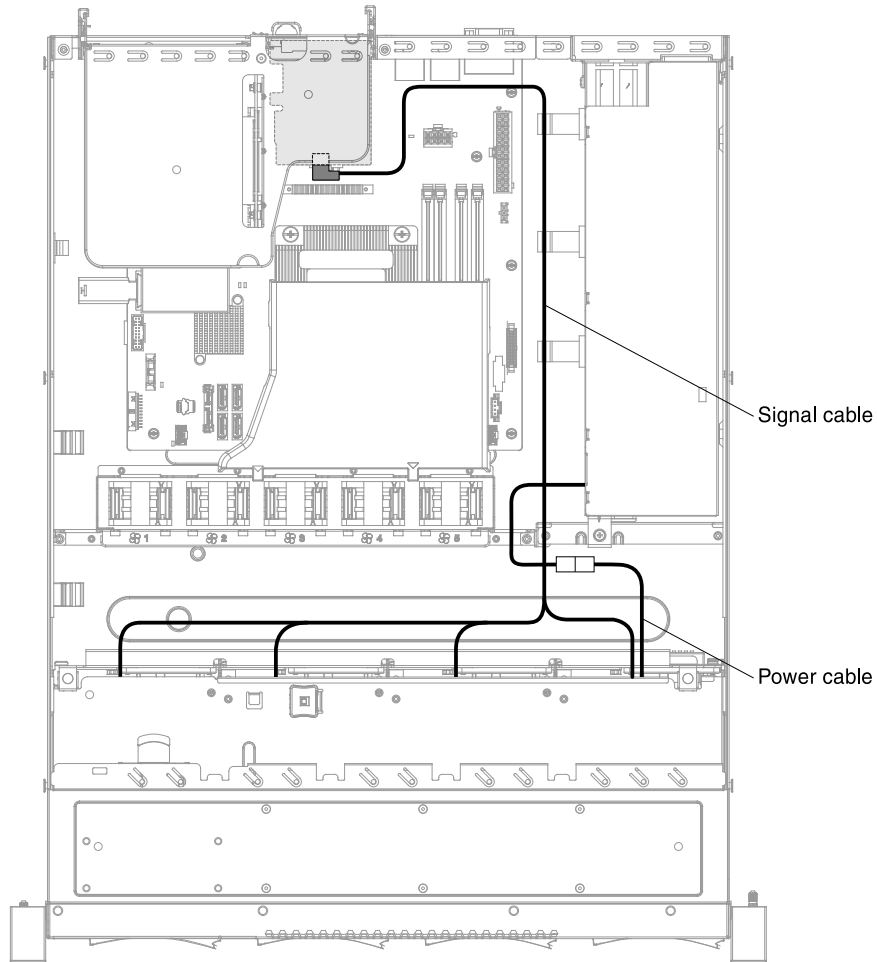
Figure 201. 3.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)
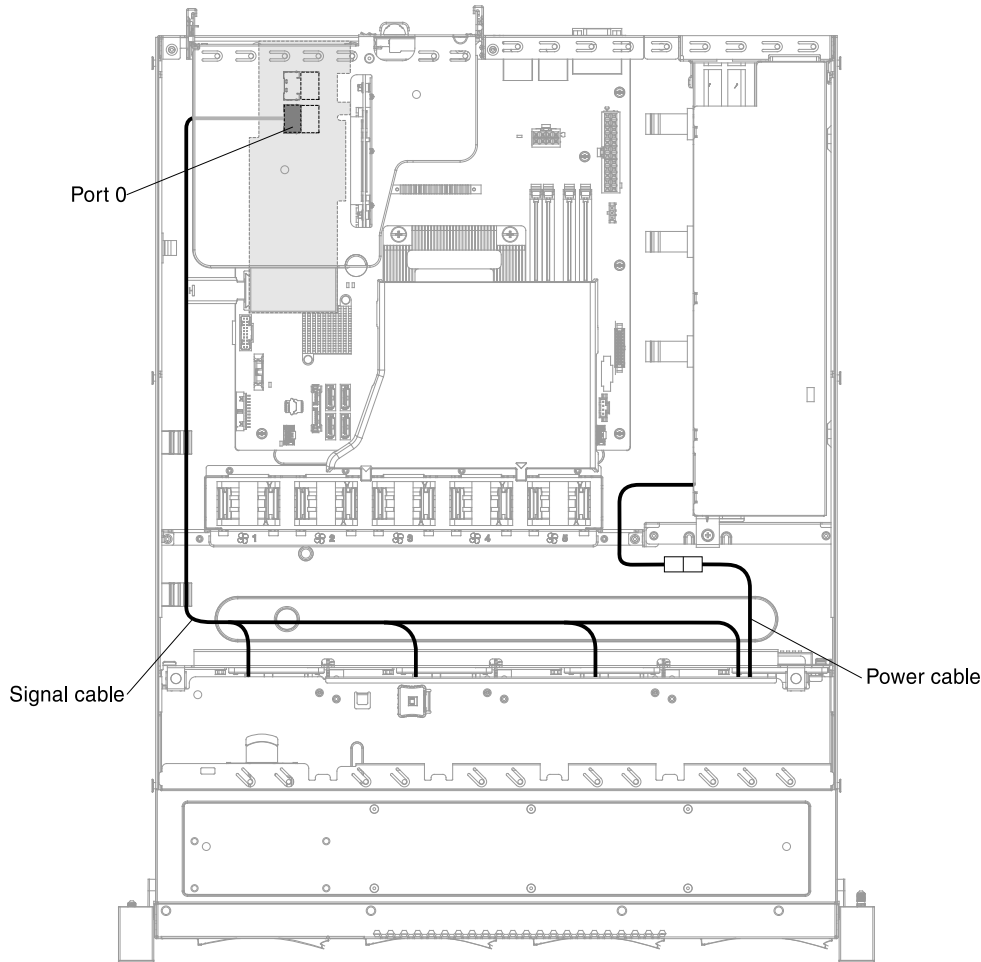
Figure 202. 3.5-inch simple-swap hard disk drive with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

Cabling the hard disk drive with ServeRAID SAS/SATA controller for redundant power supply model

This section shows the cable routing for the hot-swap and simple-swap hard disk drive with ServeRAID SAS/SATA controller for the redundant power supply model.

Cabling the hot-swap hard disk drive with ServeRAID SAS/SATA controller (redundant power supply model)

The internal routing and connectors for the hot-swap hard disk drive with ServeRAID SAS/SATA controller (redundant power supply model).

The following illustrations show the internal routing and connectors for the 2.5-inch hot-swap hard disk drive models with ServeRAID SAS/SATA controller.

Note: Make sure the relevant cables pass through the cable clips.
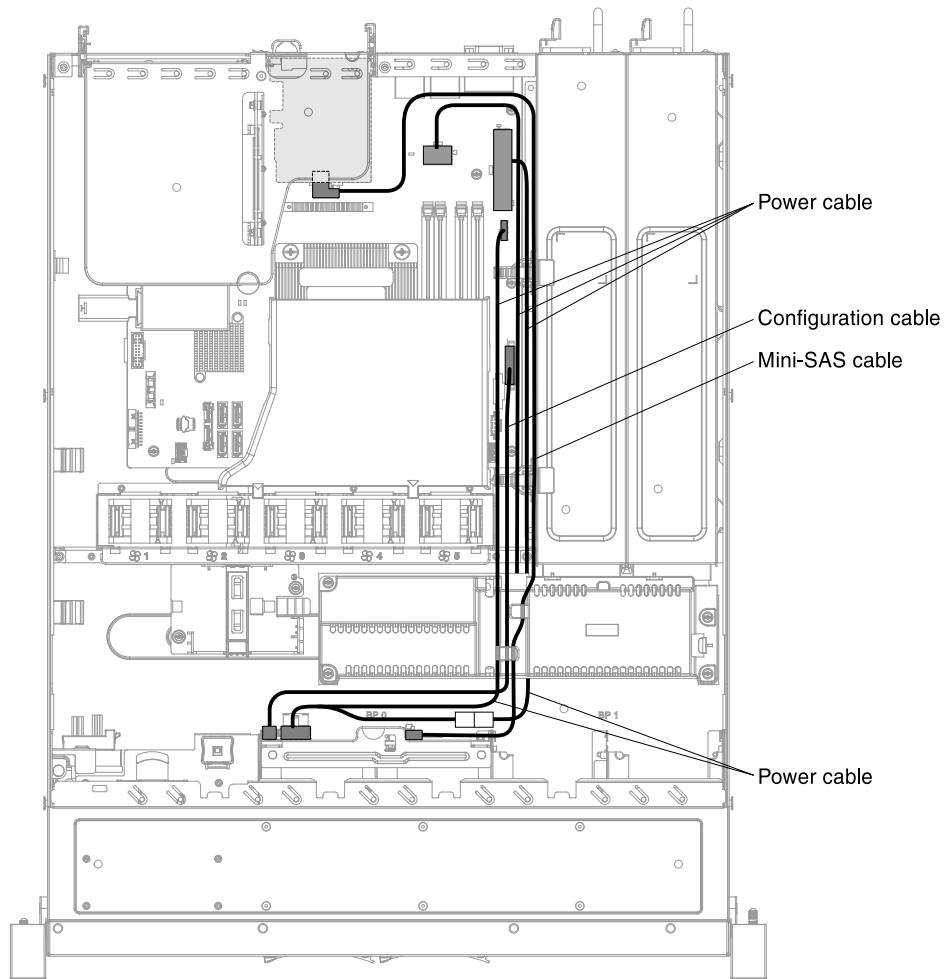
Figure 203. Four hot-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Port 0

Power cable

Configuration cable

Mini-SAS cable

Power cable
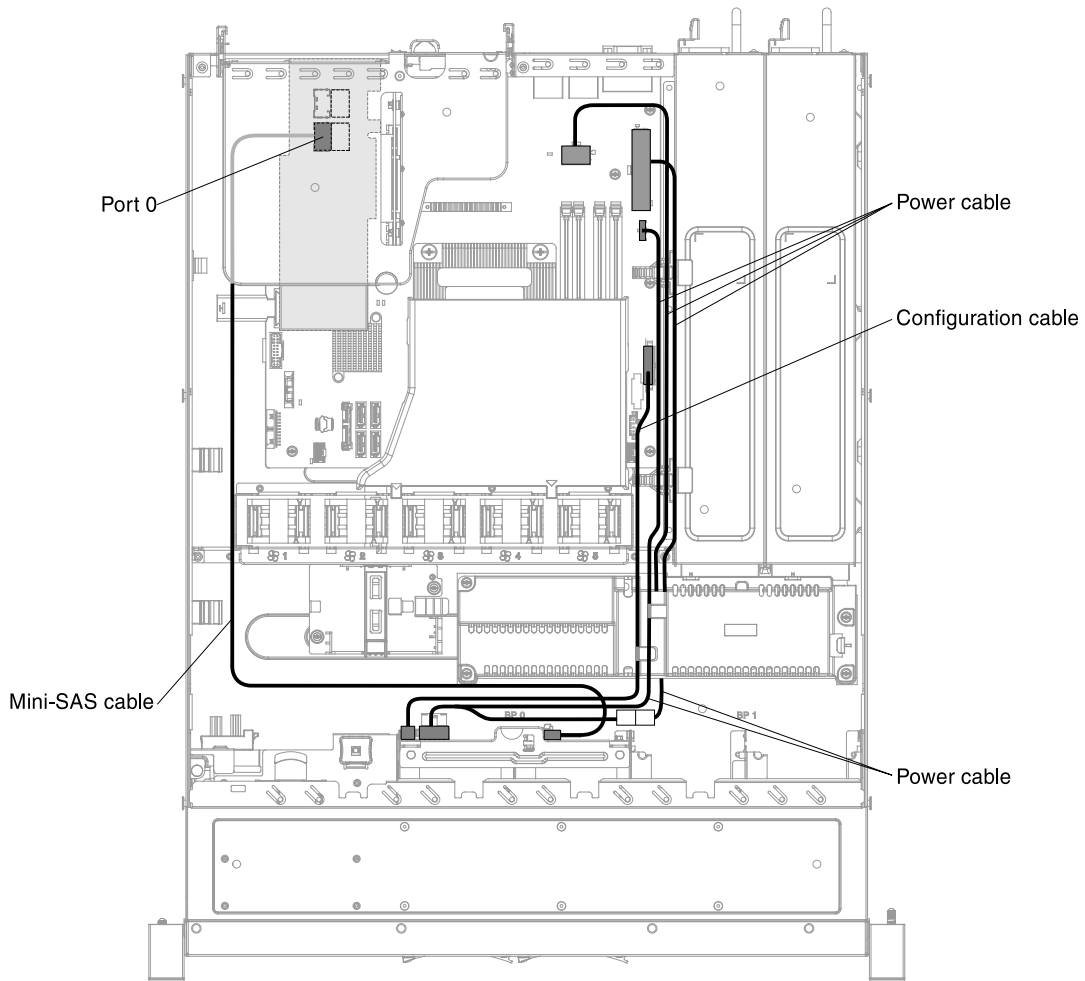
Figure 204. Four hot-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)
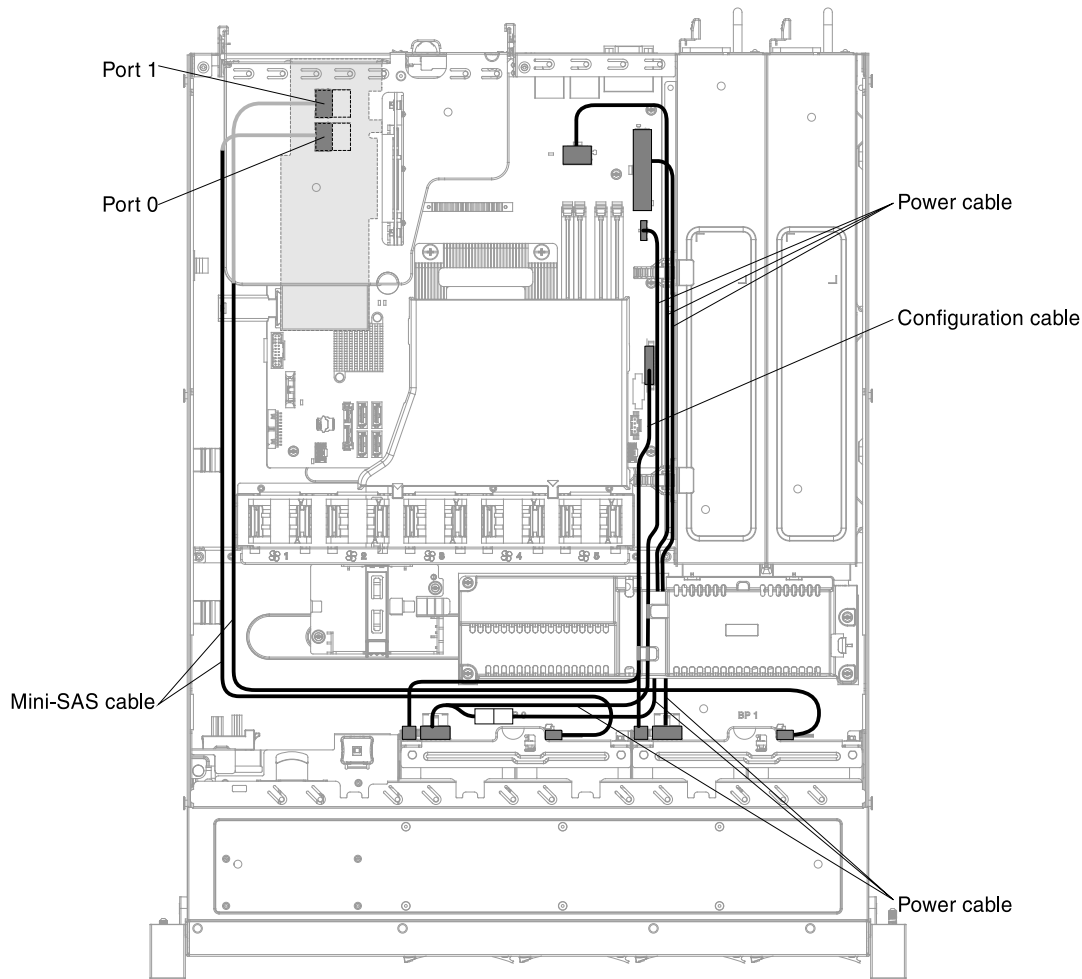
Figure 205. Eight hot-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

Note: Make sure you connect the mini-SAS cable connector 0 to the hot-swap hard disk drive backplane 0 and the mini-SAS cable connector 1 to the hot-swap hard disk drive backplane 1.

Cabling the simple-swap hard disk drive with ServeRAID SAS/SATA controller (redundant power supply model)

The internal routing and connectors for the simple-swap hard disk drive with ServeRAID SAS/SATA controller (redundant power supply model).

The following illustrations show the internal routing and connectors for the 2.5-inch simple-swap hard disk drive models with ServeRAID SAS/SATA controller.

Note: Make sure the relevant cables pass through the cable clips.
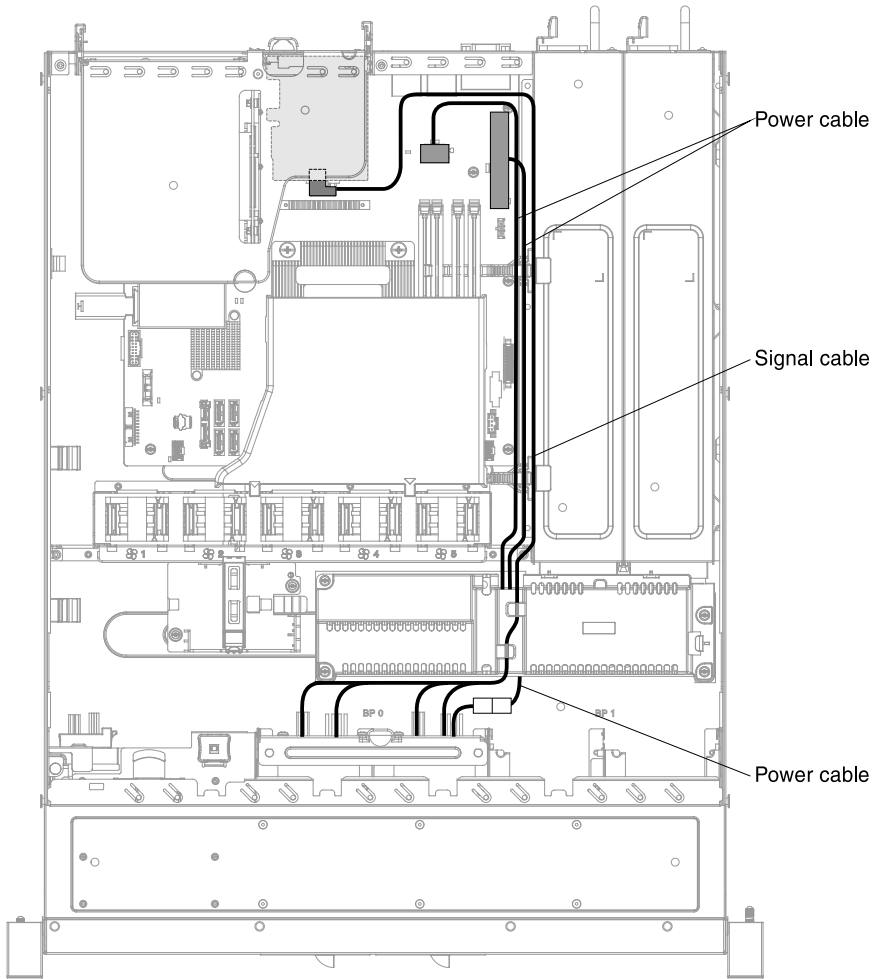
Figure 206. Four simple-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the right side)

Port 0

Power cable

Signal cable

Power cable
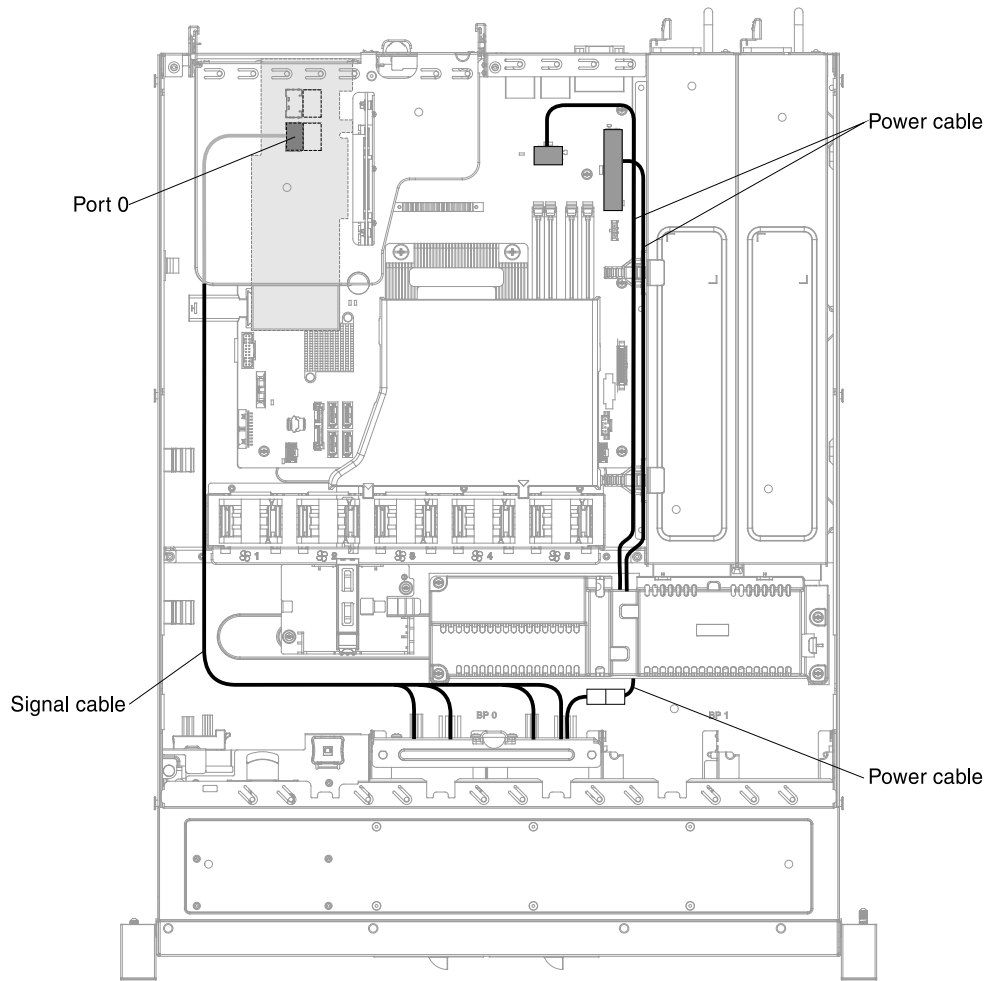
Figure 207. Four simple-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)
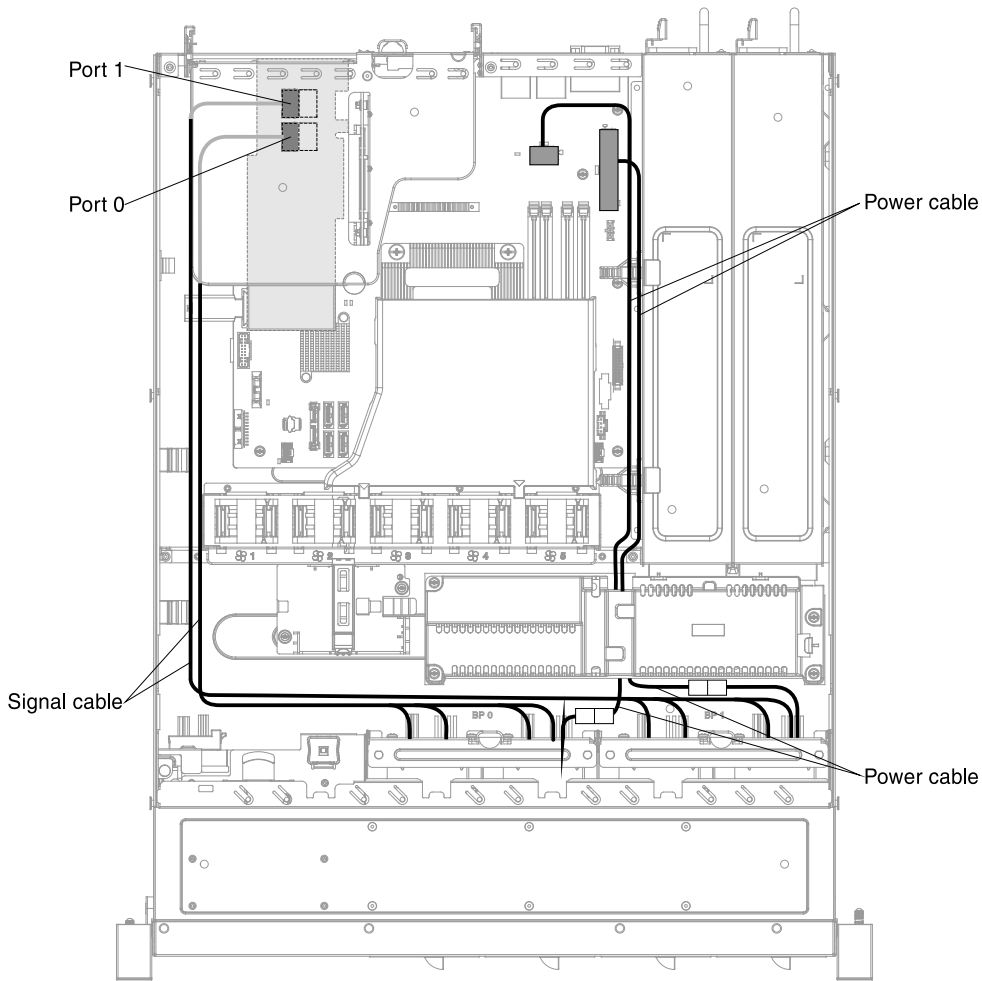
Figure 208. Eight simple-swap hard disk drives with ServeRAID SAS/SATA controller cable connection (hardware RAID card inserted on the left side)

Note: Make sure you connect the mini-SAS cable connector 0 to the simple-swap hard disk drive backplate assembly 0 and the mini-SAS cable connector 1 to the simple-swap hard disk drive backplate assembly 1.

Appendix A. Integrated Management Module II (IMM2) error messages

This section details the Integrated Management Module II (IMM2) error messages.

When a hardware event is detected by the IMM2 on the server, the IMM2 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 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
Provides 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
Specifies whether user action is required to correct the problem.

CIM Information

Provides 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

Indicates what actions 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 https://pubs.lenovo.com/imm2/.

List of IMM events

This section lists all messages that can be sent from the IMM.

- **40000001-00000000 : Management Controller [arg1] Network Initialization Complete.**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    System - IMM Network event

  SNMP Trap ID
    37

  CIM Information
    Prefix: IMM **ID:** 0001

  User Response
    Information only; no action is required.

- **40000002-00000000 : Certificate Authority [arg1] has detected a [arg2] Certificate Error.**

  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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - SSL certification

SNMP Trap ID
    22

CIM Information
    Prefix: IMM **ID:** 0002

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].**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0003

  User Response
      Information only; no action is required.

- **40000004-00000000 : Ethernet Duplex setting modified from [arg1] to [arg2] by user [arg3].**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0004

User Response
    Information only; no action is required.

- **40000005-00000000 : Ethernet MTU setting modified from [arg1] to [arg2] by user [arg3].**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0005

User Response
    Information only; no action is required.

- **40000006-00000000 : Ethernet locally administered MAC address modified from [arg1] to [arg2] by user [arg3].**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0006

User Response
    Information only; no action is required.

- **40000007-00000000 : Ethernet interface [arg1] by user [arg2].**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM ID: 0007

  User Response
  Information only; no action is required.

- **40000008-00000000 : Hostname set to [arg1] by user [arg2].**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - IMM Network event

  SNMP Trap ID
  37

  CIM Information
  Prefix: IMM ID: 0008

  User Response
  Information only; no action is required.

- **40000009-00000000 : IP address of network interface modified from [arg1] to [arg2] by user [arg3].**

  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

  Serviceable
  No

Automatically notify support
    No

Alert Category
    System - IMM Network event

SNMP Trap ID
    37

CIM Information
    Prefix: IMM **ID:** 0009

User Response
    Information only; no action is required.

- **4000000a-00000000 : IP subnet mask of network interface modified from [arg1] to [arg2] by user [arg3].**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0010

    User Response
        Information only; no action is required.

- **4000000b-00000000 : IP address of default gateway modified from [arg1] to [arg2] by user [arg3].**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0011

User Response
    Information only; no action is required.

- **4000000c-00000000 : OS Watchdog response [arg1] by [arg2] .**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0012

User Response
    Information only; no action is required.

- **4000000d-00000000 : DHCP[[arg1]] failure, no IP address assigned.**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0013

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].**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Remote Login

  SNMP Trap ID
  > 30

  CIM Information
  > **Prefix:** IMM **ID:** 0014

  User Response
  > Information only; no action is required.

- **4000000f-00000000 : Attempting to [arg1] server [arg2] by user [arg3].**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0015

  User Response
  > Information only; no action is required.

- **40000010-00000000 : Security: Userid: [arg1] had [arg2] login failures from WEB client at IP address [arg3].**

  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

Serviceable
No

Automatically notify support
No

Alert Category
System - Remote Login

SNMP Trap ID
30

CIM Information
Prefix: IMM **ID:** 0016

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].**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Remote Login

SNMP Trap ID
30

CIM Information
Prefix: IMM **ID:** 0017

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].**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Remote Login

SNMP Trap ID
30

CIM Information
Prefix: IMM **ID:** 0018

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].**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Remote Login

SNMP Trap ID
30

CIM Information
Prefix: IMM **ID:** 0019

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].**

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

Serviceable
No

Automatically notify support
No

Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0020

User Response
    Information only; no action is required.

- **40000015-00000000 : Management Controller [arg1] reset was initiated by user [arg2].**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0021

  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] .**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0022

  User Response

Information only; no action is required.

- **40000017-00000000 : ENET[[arg1]] IP-Cfg:HstName=[arg2], IP@=[arg3] ,NetMsk=[arg4], GW@= [arg5] .**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    none

  SNMP Trap ID

  CIM Information
    Prefix: IMM **ID:** 0023

  User Response
    Information only; no action is required.

- **40000018-00000000 : LAN: Ethernet[[arg1]] interface is no longer active.**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    none

  SNMP Trap ID

  CIM Information
    Prefix: IMM **ID:** 0024

  User Response
    Information only; no action is required.

- **40000019-00000000 : LAN: Ethernet[[arg1]] interface is now active.**

  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

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM ID: 0025

User Response
Information only; no action is required.

- **4000001a-00000000 : DHCP setting changed to [arg1] by user [arg2].**

  This message is for the use case where a user changes the DHCP setting.

  May also be shown as 4000001a00000000 or 0x4000001a00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM ID: 0026

  User Response
  Information only; no action is required.

- **4000001b-00000000 : Management Controller [arg1]: Configuration restored from a file by user [arg2].**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0027

User Response
    Information only; no action is required.

- **4000001c-00000000 : Watchdog [arg1] Screen Capture Occurred .**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        System - other

    SNMP Trap ID
        22

    CIM Information
        Prefix: IMM **ID:** 0028

    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.**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category

System - other

SNMP Trap ID
22

CIM Information
Prefix: IMM **ID:** 0029

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.**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - other

SNMP Trap ID
22

CIM Information
Prefix: IMM **ID:** 0030

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.**

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

Serviceable

No

Automatically notify support
No

Alert Category
System - other

SNMP Trap ID
22

CIM Information
Prefix: IMM **ID:** 0031

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.**

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

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0032

User Response
Information only; no action is required.

- **40000021-00000000 : Management Controller [arg1] clock has been set from NTP server [arg2].**

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

Serviceable
No

Automatically notify support
No

Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0033

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.**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - other

SNMP Trap ID
    22

CIM Information
    Prefix: IMM **ID:** 0034

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] .**

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

Serviceable
    No

Automatically notify support
    No

Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0035

User Response
    Information only; no action is required.

- **40000024-00000000 : Flash of [arg1] from [arg2] failed for user [arg3].**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - other

SNMP Trap ID
    22

CIM Information
    Prefix: IMM **ID:** 0036

User Response
    Information only; no action is required.

- **40000025-00000000 : The [arg1] on system [arg2] is 75% full.**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Event Log 75% full

SNMP Trap ID
    35

CIM Information
    Prefix: IMM **ID:** 0037

User Response
    Information only; no action is required.

- **40000026-00000000 : The [arg1] on system [arg2] is 100% full.**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Event Log 75% full

  SNMP Trap ID
  > 35

  CIM Information
  > **Prefix:** IMM **ID:** 0038

  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].**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - OS Timeout

  SNMP Trap ID
  > 21

  CIM Information
  > **Prefix:** IMM **ID:** 0039

  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].**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - other

SNMP Trap ID
22

CIM Information
Prefix: IMM **ID:** 0040

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].**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Remote Login

SNMP Trap ID
30

CIM Information
Prefix: IMM **ID:** 0041

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.**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID
22

CIM Information
Prefix: IMM **ID:** 0042

User Response
Reflash the IMM firmware to the latest version.

- **4000002b-00000000 : Domain name set to [arg1].**

Domain name set by user

May also be shown as 4000002b00000000 or 0x4000002b00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0043

User Response
Information only; no action is required.

- **4000002c-00000000 : Domain Source changed to [arg1] by user [arg2].**

Domain source changed by user

May also be shown as 4000002c00000000 or 0x4000002c00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0044

User Response
    Information only; no action is required.

- **4000002d-00000000 : DDNS setting changed to [arg1] by user [arg2].**

    DDNS setting changed by user

    May also be shown as 4000002d00000000 or 0x4000002d00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0045

    User Response
        Information only; no action is required.

- **4000002e-00000000 : DDNS registration successful. The domain name is [arg1].**

    DDNS registation and values

    May also be shown as 4000002e00000000 or 0x4000002e00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0046

    User Response
        Information only; no action is required.

- **4000002f-00000000 : IPv6 enabled by user [arg1] .**

IPv6 protocol is enabled by user

May also be shown as 4000002f00000000 or 0x4000002f00000000

Severity
   Info

Serviceable
   No

Automatically notify support
   No

Alert Category
   none

SNMP Trap ID

CIM Information
   Prefix: IMM **ID:** 0047

User Response
   Information only; no action is required.

- **40000030-00000000 : IPv6 disabled by user [arg1] .**

   IPv6 protocol is disabled by user

   May also be shown as 4000003000000000 or 0x4000003000000000

   Severity
      Info

   Serviceable
      No

   Automatically notify support
      No

   Alert Category
      none

   SNMP Trap ID

   CIM Information
      Prefix: IMM **ID:** 0048

   User Response
      Information only; no action is required.

- **40000031-00000000 : IPv6 static IP configuration enabled by user [arg1].**

   IPv6 static address assignment method is enabled by user

   May also be shown as 4000003100000000 or 0x4000003100000000

   Severity
      Info

   Serviceable
      No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0049

User Response
Information only; no action is required.

- **40000032-00000000 : IPv6 DHCP enabled by user [arg1].**

  IPv6 DHCP assignment method is enabled by user

  May also be shown as 4000003200000000 or 0x4000003200000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0050

  User Response
  Information only; no action is required.

- **40000033-00000000 : IPv6 stateless auto-configuration enabled by user [arg1].**

  IPv6 statless auto-assignment method is enabled by user

  May also be shown as 4000003300000000 or 0x4000003300000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0051

User Response
    Information only; no action is required.

- **40000034-00000000 : IPv6 static IP configuration disabled by user [arg1].**

    IPv6 static assignment method is disabled by user

    May also be shown as 4000003400000000 or 0x4000003400000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0052

    User Response
        Information only; no action is required.

- **40000035-00000000 : IPv6 DHCP disabled by user [arg1].**

    IPv6 DHCP assignment method is disabled by user

    May also be shown as 4000003500000000 or 0x4000003500000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0053

    User Response
        Information only; no action is required.

- **40000036-00000000 : IPv6 stateless auto-configuration disabled by user [arg1].**

    IPv6 statless auto-assignment method is disabled by user

    May also be shown as 4000003600000000 or 0x4000003600000000

    Severity

Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0054

User Response
    Information only; no action is required.

- **40000037-00000000 : ENET[[arg1]] IPv6-LinkLocal:HstName=[arg2], IP@=[arg3] ,Pref=[arg4] .**

    IPv6 Link Local address is active

    May also be shown as 4000003700000000 or 0x4000003700000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0055

    User Response
        Information only; no action is required.

- **40000038-00000000 : ENET[[arg1]] IPv6-Static:HstName=[arg2], IP@=[arg3] ,Pref=[arg4], GW@= [arg5] .**

    IPv6 Static address is active

    May also be shown as 4000003800000000 or 0x4000003800000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0056

User Response
    Information only; no action is required.

- **40000039-00000000 : ENET[[arg1]] DHCPv6-HSTN=[arg2], DN=[arg3], IP@=[arg4], Pref=[arg5].**

    IPv6 DHCP-assigned address is active

    May also be shown as 4000003900000000 or 0x4000003900000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0057

User Response
    Information only; no action is required.

- **4000003a-00000000 : IPv6 static address of network interface modified from [arg1] to [arg2] by user [arg3].**

    A user modifies the IPv6 static address of a Management Controller

    May also be shown as 4000003a00000000 or 0x4000003a00000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0058

User Response
    Information only; no action is required.

- **4000003b-00000000 : DHCPv6 failure, no IP address assigned.**

  S DHCP6 server fails to assign an IP address to a Management Controller.

  May also be shown as 4000003b00000000 or 0x4000003b00000000

  Severity
  > Warning

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0059

  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].**

  An implementation has detected an OS Loader Watchdog Timer Expired

  May also be shown as 4000003c00000000 or 0x4000003c00000000

  Severity
  > Error

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Loader timeout

  SNMP Trap ID
  > 26

  CIM Information
  > **Prefix:** IMM **ID:** 0060

  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].**

  A user has modified the telnet port number

  May also be shown as 4000003d00000000 or 0x4000003d00000000

  Severity
      Info

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0061

  User Response
      Information only; no action is required.

- **4000003e-00000000 : SSH port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the SSH port number

  May also be shown as 4000003e00000000 or 0x4000003e00000000

  Severity
      Info

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0062

  User Response
      Information only; no action is required.

- **4000003f-00000000 : Web-HTTP port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the Web HTTP port number

  May also be shown as 4000003f00000000 or 0x4000003f00000000

  Severity
      Info

  Serviceable
      No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0063

User Response
Information only; no action is required.

- **40000040-00000000 : Web-HTTPS port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the Web HTTPS port number

  May also be shown as 4000004000000000 or 0x4000004000000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0064

  User Response
  Information only; no action is required.

- **40000041-00000000 : CIM/XML HTTP port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the CIM HTTP port number

  May also be shown as 4000004100000000 or 0x4000004100000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0065

User Response
Information only; no action is required.

- **40000042-00000000 : CIM/XML HTTPS port number changed from [arg1] to [arg2] by user [arg3].**

A user has modified the CIM HTTPS port number

May also be shown as 4000004200000000 or 0x4000004200000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0066

User Response
Information only; no action is required.

- **40000043-00000000 : SNMP Agent port number changed from [arg1] to [arg2] by user [arg3].**

A user has modified the SNMP Agent port number

May also be shown as 4000004300000000 or 0x4000004300000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0067

User Response
Information only; no action is required.

- **40000044-00000000 : SNMP Traps port number changed from [arg1] to [arg2] by user [arg3].**

A user has modified the SNMP Traps port number

May also be shown as 4000004400000000 or 0x4000004400000000

Severity

Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0068

User Response
Information only; no action is required.

- **40000045-00000000 : Syslog port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the Syslog receiver port number

  May also be shown as 4000004500000000 or 0x4000004500000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0069

  User Response
  Information only; no action is required.

- **40000046-00000000 : Remote Presence port number changed from [arg1] to [arg2] by user [arg3].**

  A user has modified the Remote Presence port number

  May also be shown as 4000004600000000 or 0x4000004600000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category

SNMP Trap ID

CIM Information
   Prefix: IMM **ID:** 0070

User Response
   Information only; no action is required.

- **40000047-00000000 : LED [arg1] state changed to [arg2] by [arg3].**

   A user has modified the state of an LED

   May also be shown as 4000004700000000 or 0x4000004700000000

   Severity
      Info

   Serviceable
      No

   Automatically notify support
      No

   Alert Category
      none

   SNMP Trap ID

   CIM Information
      Prefix: IMM **ID:** 0071

   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] .**

   Something has caused the physical inventory to change

   May also be shown as 4000004800000000 or 0x4000004800000000

   Severity
      Info

   Serviceable
      No

   Automatically notify support
      No

   Alert Category
      none

   SNMP Trap ID

   CIM Information
      Prefix: IMM **ID:** 0072

   User Response
      Information only; no action is required.

- **40000049-00000000 : SNMP [arg1] enabled by user [arg2] .**

  A user enabled SNMPv1 or SNMPv3 or Traps

  May also be shown as 4000004900000000 or 0x4000004900000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0073

  User Response
  > Information only; no action is required.

- **4000004a-00000000 : SNMP [arg1] disabled by user [arg2] .**

  A user disabled SNMPv1 or SNMPv3 or Traps

  May also be shown as 4000004a00000000 or 0x4000004a00000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0074

  User Response
  > Information only; no action is required.

- **4000004b-00000000 : SNMPv1 [arg1] set by user [arg2]: Name=[arg3], AccessType=[arg4], Address=[arg5], .**

  A user changed the SNMP community string

  May also be shown as 4000004b00000000 or 0x4000004b00000000

  Severity
  > Info

  Serviceable

No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0075

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].**

  A user changed the LDAP server configuration

  May also be shown as 4000004c00000000 or 0x4000004c00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0076

  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].**

  A user configured an LDAP Miscellaneous setting

  May also be shown as 4000004d00000000 or 0x4000004d00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0077

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].**

    A user configured the Serial Port mode

    May also be shown as 4000004e00000000 or 0x4000004e00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0078

    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].**

    A user configured the Date and Time settings

    May also be shown as 4000004f00000000 or 0x4000004f00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0079

    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].**

  A user configured the Location setting

  May also be shown as 4000005000000000 or 0x4000005000000000

  Severity
      Info

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0080

  User Response
      Information only; no action is required.

- **40000051-00000000 : Server Power Off Delay set to [arg1] by user [arg2].**

  A user configured the Server Power Off Delay

  May also be shown as 4000005100000000 or 0x4000005100000000

  Severity
      Info

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      none

  SNMP Trap ID

  CIM Information
      Prefix: IMM **ID:** 0081

  User Response
      Information only; no action is required.

- **40000052-00000000 : Server [arg1] scheduled for [arg2] at [arg3] by user [arg4].**

  A user configured a Server Power action at a specific time

  May also be shown as 4000005200000000 or 0x4000005200000000

  Severity
      Info

  Serviceable

No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0082

User Response
Information only; no action is required.

• **40000053-00000000 : Server [arg1] scheduled for every [arg2] at [arg3] by user [arg4].**

A user configured a recurring Server Power Action

May also be shown as 4000005300000000 or 0x4000005300000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0083

User Response
Information only; no action is required.

• **40000054-00000000 : Server [arg1] [arg2] cleared by user [arg3].**

A user cleared a Server Power Action.

May also be shown as 4000005400000000 or 0x4000005400000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0084

User Response
    Information only; no action is required.

- **40000055-00000000 : Synchronize time setting by user [arg1]: Mode=[arg2], NTPServerHost=[arg3]: [arg4],NTPUpdateFrequency=[arg5].**

    A user configured the Date and Time synchronize settings

    May also be shown as 4000005500000000 or 0x4000005500000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0085

User Response
    Information only; no action is required.

- **40000056-00000000 : SMTP Server set by user [arg1] to [arg2]:[arg3].**

    A user configured the SMTP server

    May also be shown as 4000005600000000 or 0x4000005600000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0086

User Response
    Information only; no action is required.

- **40000057-00000000 : Telnet [arg1] by user [arg2].**

    A user enables or disables Telnet services

May also be shown as 4000005700000000 or 0x4000005700000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0087

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].**

A user configures the DNS servers

May also be shown as 4000005800000000 or 0x4000005800000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0088

User Response
Information only; no action is required.

- **40000059-00000000 : LAN over USB [arg1] by user [arg2].**

A user configured USB-LAN

May also be shown as 4000005900000000 or 0x4000005900000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0089

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].**

  A user configured USB-LAN port forwarding

  May also be shown as 4000005a00000000 or 0x4000005a00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0090

  User Response
  Information only; no action is required.

- **4000005b-00000000 : Secure Web services (HTTPS) [arg1] by user [arg2].**

  A user enables or disables Secure web services

  May also be shown as 4000005b00000000 or 0x4000005b00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information

Prefix: IMM **ID:** 0091

User Response
Information only; no action is required.

- **4000005c-00000000 : Secure CIM/XML(HTTPS) [arg1] by user [arg2].**

  A user enables or disables Secure CIM/XML services

  May also be shown as 4000005c00000000 or 0x4000005c00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0092

  User Response
  Information only; no action is required.

- **4000005d-00000000 : Secure LDAP [arg1] by user [arg2].**

  A user enables or disables Secure LDAP services

  May also be shown as 4000005d00000000 or 0x4000005d00000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0093

  User Response
  Information only; no action is required.

- **4000005e-00000000 : SSH [arg1] by user [arg2].**

  A user enables or disables SSH services

  May also be shown as 4000005e00000000 or 0x4000005e00000000

Severity
      Info

Serviceable
      No

Automatically notify support
      No

Alert Category
      none

SNMP Trap ID

CIM Information
      Prefix: IMM **ID:** 0094

User Response
      Information only; no action is required.

- **4000005f-00000000 : Server timeouts set by user [arg1]: EnableOSWatchdog=[arg2], OSWatchdogTimout=[arg3], EnableLoaderWatchdog=[arg4], LoaderTimeout=[arg5].**

  A user configures Server Timeouts

  May also be shown as 4000005f00000000 or 0x4000005f00000000

Severity
      Info

Serviceable
      No

Automatically notify support
      No

Alert Category
      none

SNMP Trap ID

CIM Information
      Prefix: IMM **ID:** 0095

User Response
      Information only; no action is required.

- **40000060-00000000 : License key for [arg1] added by user [arg2].**

  A user installs License Key

  May also be shown as 4000006000000000 or 0x4000006000000000

Severity
      Info

Serviceable
      No

Automatically notify support
      No

Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0096

User Response
    Information only; no action is required.

- **40000061-00000000 : License key for [arg1] removed by user [arg2].**

    A user removes a License Key

    May also be shown as 4000006100000000 or 0x4000006100000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0097

    User Response
        Information only; no action is required.

- **40000062-00000000 : Global Login General Settings set by user [arg1]: AuthenticationMethod= [arg2], LockoutPeriod=[arg3], SessionTimeout=[arg4].**

    A user changes the Global Login General Settings

    May also be shown as 4000006200000000 or 0x4000006200000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0098

    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].**

  A user changes the Global Login Account Security Settings to Legacy

  May also be shown as 4000006300000000 or 0x4000006300000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0099

  User Response
  > Information only; no action is required.

- **40000064-00000000 : User [arg1] created.**

  A user account was created

  May also be shown as 4000006400000000 or 0x4000006400000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0100

  User Response
  > Information only; no action is required.

- **40000065-00000000 : User [arg1] removed.**

  A user account was deleted

  May also be shown as 4000006500000000 or 0x4000006500000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0101

User Response
    Information only; no action is required.

- **40000066-00000000 : User [arg1] password modified.**

    A user account was changed

    May also be shown as 4000006600000000 or 0x4000006600000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0102

    User Response
        Information only; no action is required.

- **40000067-00000000 : User [arg1] role set to [arg2].**

    A user account role assigned

    May also be shown as 4000006700000000 or 0x4000006700000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0103

User Response
    Information only; no action is required.

- **40000068-00000000 : User [arg1] custom privileges set: [arg2].**

    User account priveleges assigned

    May also be shown as 4000006800000000 or 0x4000006800000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0104

    User Response
        Information only; no action is required.

- **40000069-00000000 : User [arg1] for SNMPv3 set: AuthenticationProtocol=[arg2], PrivacyProtocol= [arg3], AccessType=[arg4], HostforTraps=[arg5].**

    User account SNMPv3 settings changed

    May also be shown as 4000006900000000 or 0x4000006900000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0105

    User Response
        Information only; no action is required.

- **4000006a-00000000 : SSH Client key added for user [arg1].**

  User locally defined an SSH Client key

  May also be shown as 4000006a00000000 or 0x4000006a00000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0106

  User Response
  > Information only; no action is required.

- **4000006b-00000000 : SSH Client key imported for user [arg1] from [arg2].**

  User imported an SSH Client key

  May also be shown as 4000006b00000000 or 0x4000006b00000000

  Severity
  > Info

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > none

  SNMP Trap ID

  CIM Information
  > **Prefix:** IMM **ID:** 0107

  User Response
  > Information only; no action is required.

- **4000006c-00000000 : SSH Client key removed from user [arg1].**

  User removed an SSH Client key

  May also be shown as 4000006c00000000 or 0x4000006c00000000

  Severity
  > Info

  Serviceable
  > No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0108

User Response
    Information only; no action is required.

- **4000006d-00000000 : Management Controller [arg1]: Configuration saved to a file by user [arg2].**

    A user saves a Management Controller configuration to a file.

    May also be shown as 4000006d00000000 or 0x4000006d00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0109

    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].**

    A user changes the Global Event Notification settings.

    May also be shown as 4000006e00000000 or 0x4000006e00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information

Prefix: IMM **ID:** 0110

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].**

A user adds or updates an Alert Recipient

May also be shown as 4000006f00000000 or 0x4000006f00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0111

User Response
Information only; no action is required.

- **40000070-00000000 : SNMP Traps enabled by user [arg1]: EnabledAlerts=[arg2], AllowedFilters= [arg3] .**

A user enabled the SNMP Traps configuration

May also be shown as 4000007000000000 or 0x4000007000000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0112

User Response
Information only; no action is required.

- **40000071-00000000 : The power cap value changed from [arg1] watts to [arg2] watts by user [arg3].**

Power Cap values changed by user

May also be shown as 4000007100000000 or 0x4000007100000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0113

User Response
    Information only; no action is required.

- **40000072-00000000 : The minimum power cap value changed from [arg1] watts to [arg2] watts.**

    Minimum Power Cap value changed

    May also be shown as 4000007200000000 or 0x4000007200000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0114

    User Response
        Information only; no action is required.

- **40000073-00000000 : The maximum power cap value changed from [arg1] watts to [arg2] watts.**

    Maximum Power Cap value changed

    May also be shown as 4000007300000000 or 0x4000007300000000

    Severity
        Info

    Serviceable
        No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0115

User Response
Information only; no action is required.

- **40000074-00000000 : The soft minimum power cap value changed from [arg1] watts to [arg2] watts.**

  Soft Minimum Power Cap value changed

  May also be shown as 4000007400000000 or 0x4000007400000000

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  none

  SNMP Trap ID

  CIM Information
  Prefix: IMM **ID:** 0116

  User Response
  Information only; no action is required.

- **40000075-00000000 : The measured power value exceeded the power cap value.**

  Power exceeded cap

  May also be shown as 4000007500000000 or 0x4000007500000000

  Severity
  Warning

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Warning - Power

  SNMP Trap ID
  164

  CIM Information

Prefix: IMM **ID:** 0117

User Response
Information only; no action is required.

- **40000076-00000000 : The new minimum power cap value exceeded the power cap value.**

Minimum Power Cap exceeds Power Cap

May also be shown as 4000007600000000 or 0x4000007600000000

Severity
Warning

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Power

SNMP Trap ID
164

CIM Information
Prefix: IMM **ID:** 0118

User Response
Information only; no action is required.

- **40000077-00000000 : Power capping was activated by user [arg1].**

Power capping activated by user

May also be shown as 4000007700000000 or 0x4000007700000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0119

User Response
Information only; no action is required.

- **40000078-00000000 : Power capping was deactivated by user [arg1].**

Power capping deactivated by user

May also be shown as 4000007800000000 or 0x4000007800000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0120

User Response
    Information only; no action is required.

- **40000079-00000000 : Static Power Savings mode has been turned on by user [arg1].**

    Static Power Savings mode turned on by user

    May also be shown as 4000007900000000 or 0x4000007900000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0121

    User Response
        Information only; no action is required.

- **4000007a-00000000 : Static Power Savings mode has been turned off by user [arg1].**

    Static Power Savings mode turned off by user

    May also be shown as 4000007a00000000 or 0x4000007a00000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0122

User Response
    Information only; no action is required.

- **4000007b-00000000 : Dynamic Power Savings mode has been turned on by user [arg1].**

Dynamic Power Savings mode turned on by user

May also be shown as 4000007b00000000 or 0x4000007b00000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0123

User Response
    Information only; no action is required.

- **4000007c-00000000 : Dynamic Power Savings mode has been turned off by user [arg1].**

Dynamic Power Savings mode turned off by user

May also be shown as 4000007c00000000 or 0x4000007c00000000

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    none

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0124

User Response
    Information only; no action is required.

- **4000007d-00000000 : Power cap and external throttling occurred.**

Power cap and external throttling occurred

May also be shown as 4000007d00000000 or 0x4000007d00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0125

User Response
Information only; no action is required.

- **4000007e-00000000 : External throttling occurred .**

External throttling occurred

May also be shown as 4000007e00000000 or 0x4000007e00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0126

User Response
Information only; no action is required.

- **4000007f-00000000 : Power cap throttling occurred.**

Power cap throttling occurrred

May also be shown as 4000007f00000000 or 0x4000007f00000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0127

User Response
Information only; no action is required.

- **40000080-00000000 : Remote Control session started by user [arg1] in [arg2] mode.**

Remote Control session started

May also be shown as 4000008000000000 or 0x4000008000000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0128

User Response
Information only; no action is required.

- **40000081-00000000 : PXE boot requested by user [arg1].**

PXE boot requested

May also be shown as 4000008100000000 or 0x4000008100000000

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
none

SNMP Trap ID

CIM Information
Prefix: IMM **ID:** 0129

User Response
    Information only; no action is required.

- **40000082-00000000 : The measured power value has returned below the power cap value.**

    Power exceeded cap recovered

    May also be shown as 4000008200000000 or 0x4000008200000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Warning - Power

    SNMP Trap ID
        164

    CIM Information
        Prefix: IMM **ID:** 0130

    User Response
        Information only; no action is required.

- **40000083-00000000 : The new minimum power cap value has returned below the power cap value.**

    Minimum Power Cap exceeds Power Cap recovered

    May also be shown as 4000008300000000 or 0x4000008300000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Warning - Power

    SNMP Trap ID
        164

    CIM Information
        Prefix: IMM **ID:** 0131

    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.**

    A mismatch of IMM firmware has been detected between nodes

    May also be shown as 4000008400000000 or 0x4000008400000000

Severity
    Error

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID
    22

CIM Information
    Prefix: IMM **ID:** 0132

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.**

    A mismatch of FPGA firmware has been detected between nodes

    May also be shown as 4000008500000000 or 0x4000008500000000

    Severity
        Error

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        System - Other

    SNMP Trap ID
        22

    CIM Information
        Prefix: IMM **ID:** 0133

    User Response
        Attempt to flash the FPGA firmware to the same level on all nodes.

- **40000086-00000000 : Test Call Home Generated by user [arg1].**

    Test Call Home generated by user.

    May also be shown as 4000008600000000 or 0x4000008600000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        Yes

    Alert Category

SNMP Trap ID

CIM Information
    Prefix: IMM **ID:** 0134

User Response
    Information only; no action is required.

- **40000087-00000000 : Manual Call Home by user [arg1]: [arg2].**

    Manual Call Home by user.

    May also be shown as 4000008700000000 or 0x4000008700000000

    Severity
        Info

    Serviceable
        No

    Automatically notify support
        Yes

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0135

    User Response
        IBM Support will address the problem.

- **40000088-00000000 : Management Controller [arg1]: Configuration restoration from a file by user [arg2] completed.**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        none

    SNMP Trap ID

    CIM Information
        Prefix: IMM **ID:** 0136

    User Response

Information only; no action is required.

- **40000089-00000000 : Management Controller [arg1]: Configuration restoration from a file by user [arg2] failed to complete.**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID
  > 22

  CIM Information
  > **Prefix:** IMM **ID:** 0137

  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.**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID
  > 22

  CIM Information
  > **Prefix:** IMM **ID:** 0138

  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.**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - IMM Network event

  SNMP Trap ID
  37

  CIM Information
  Prefix: IMM **ID:** 0139

  User Response
  Information only; no action is required.

- **80010002-0701ffff : Numeric sensor [NumericSensorElementName] going low (lower non-critical) has asserted. (CMOS Battery)**

  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

  Serviceable
  Yes

  Automatically notify support
  No

  Alert Category
  Warning - Voltage

  SNMP Trap ID
  13

  CIM Information
  Prefix: PLAT **ID:** 0476

  User Response
  Replace the system battery.

- **80010202-0701ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted.**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Voltage

SNMP Trap ID
    1

CIM Information
    Prefix: PLAT **ID:** 0480

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 for OVER SPEC LED in Light path diagnostics LEDs.
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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0480

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)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT **ID:** 0480

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)

- **80010204-1d03ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (Fan 3 Tach)**

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 800102041d03ffff or 0x800102041d03ffff

Severity
Error

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT **ID:** 0480

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)

- **80010204-1d04ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (Fan 4 Tach)**

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 800102041d04ffff or 0x800102041d04ffff

Severity
Error

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT ID: 0480

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)

- **80010204-1d05ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has asserted. (Fan 5 Tach)**

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 800102041d05ffff or 0x800102041d05ffff

Severity
Error

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT ID: 0480

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)**

  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

  Serviceable
  Yes

  Automatically notify support
  No

  Alert Category
  Warning - Temperature

  SNMP Trap ID
  12

  CIM Information
  Prefix: PLAT ID: 0490

  User Response
  1. Reduce the temperature.
  2. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010701-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (VRD Temp)**

  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

  Serviceable
  Yes

  Automatically notify support
  No

  Alert Category
  Warning - Temperature

  SNMP Trap ID
  12

  CIM Information
  Prefix: PLAT ID: 0490

  User Response
  1. Reduce the temperature.

2. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010701-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (Ambient 1 Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Warning - Temperature

SNMP Trap ID
12

CIM Information
Prefix: PLAT **ID:** 0490

User Response

1. Reduce the temperature.

2. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010701-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (Ambient 2 Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Warning - Temperature

SNMP Trap ID
12

CIM Information
Prefix: PLAT **ID:** 0490

User Response

1. Reduce the temperature.

2. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010701-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has asserted. (PCH Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Warning - Temperature

SNMP Trap ID
12

CIM Information
Prefix: PLAT ID: 0490

User Response

1. Reduce the temperature.
2. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010901-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (PCI Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT ID: 0494

User Response

1. Reduce the ambient temperature.

2. Ensure the air baffle is installed correctly.

3. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010901-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (VRD Temp)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0494

User Response

1. Reduce the ambient temperature.

2. Ensure the air baffle is installed correctly.

3. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010901-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (Ambient 1 Temp)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0494

User Response

1. Reduce the ambient temperature.

2. Ensure the air baffle is installed correctly.

3. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

• **80010901-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (Ambient 2 Temp)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Temperature

SNMP Trap ID
   0

CIM Information
   Prefix: PLAT **ID:** 0494

User Response

1. Reduce the ambient temperature.

2. Ensure the air baffle is installed correctly.

3. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

• **80010901-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted. (PCH Temp)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Temperature

SNMP Trap ID
   0

CIM Information
      Prefix: PLAT **ID:** 0494

User Response
   1. Reduce the ambient temperature.
   2. Ensure the air baffle is installed correctly.
   3. Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010902-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has asserted.**

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

Serviceable
      Yes

Automatically notify support
      Yes

Alert Category
      Critical - Voltage

SNMP Trap ID
      1

CIM Information
      Prefix: PLAT **ID:** 0494

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)**

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

Serviceable
      Yes

Automatically notify support
      No

Alert Category

Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0498

User Response
Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

• **80010b01-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (VRD Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0498

User Response
Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

• **80010b01-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (Ambient 1 Temp)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
    Prefix: PLAT **ID:** 0498

User Response
    Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010b01-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (Ambient 2 Temp)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0498

User Response
    Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80010b01-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has asserted. (PCH Temp)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0498

User Response

Check the server airflow. Make sure that nothing is blocking the air from coming into or preventing the air from exiting the server.

- **80030006-2101ffff : Sensor [SensorElementName] has deasserted. (Sig Verify Fail)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0509

  User Response
  No action; information only.

- **80030012-2301ffff : Sensor [SensorElementName] has deasserted. (OS RealTime Mod)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0509

  User Response
  No action; information only.

- **8007010f-2582ffff : Sensor [SensorElementName] has transitioned from normal to non-critical state. (I/O Resources)**

  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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Warning - Other

SNMP Trap ID
    60

CIM Information
    Prefix: PLAT **ID:** 0520

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Warning - Other

SNMP Trap ID
    60

CIM Information
    Prefix: PLAT **ID:** 0520

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)**

  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

  Serviceable
  > Yes

  Automatically notify support
  > No

  Alert Category
  > Critical - Temperature

  SNMP Trap ID
  > 0

  CIM Information
  > **Prefix:** PLAT **ID:** 0522

  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)**

  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

  Serviceable
  > Yes

  Automatically notify support
  > No

  Alert Category
  > Critical - Temperature

  SNMP Trap ID
  > 0

  CIM Information
  > **Prefix:** PLAT **ID:** 0522

User Response

1. Shutdown the system and reboot.
2. If failure symptom continue occurred, reseated the CPU.
3. Replace the planar if CPU reseating is not resolved the problem.

- **80070202-0701ffff : Sensor [SensorElementName] has transitioned to critical from a less severe state. (SysBrd Vol Fault)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Voltage

SNMP Trap ID
1

CIM Information
Prefix: PLAT **ID:** 0522

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)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0522

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0522

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)

*   **80070208-0a01ffff : Sensor [SensorElementName] has transitioned to critical from a less severe state. (PS 1 Therm Fault)**

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 800702080a01ffff or 0x800702080a01ffff

Severity
    Error

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0522

User Response

1.   Make sure that there are no obstructions, such as bundled cables, to the airflow from the power-supply fan.

2.   Use the IBM Power Configurator utility to ensure current system power consumption is under limitation. For more information and to download the utility, go to http://www-03.ibm.com/systems/bladecenter/resources/powerconfig.html.

3.   Replace power supply n. (n = power supply number)

*   **80070208-0a02ffff : Sensor [SensorElementName] has transitioned to critical from a less severe state. (PS 2 Therm Fault)**

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 800702080a02ffff or 0x800702080a02ffff

Severity
    Error

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0522

User Response

1.   Make sure that there are no obstructions, such as bundled cables, to the airflow from the power-supply fan.

2.   Use the IBM Power Configurator utility to ensure current system power consumption is under limitation. For more information and to download the utility, go to http://www-03.ibm.com/systems/bladecenter/resources/powerconfig.html.

3.   Replace power supply n. (n = power supply number)

*   **8007020f-2201ffff : Sensor [SensorElementName] has transitioned to critical from a less severe state. (TXT ACM Module)**

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

Serviceable

Yes

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0522

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)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0522

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0522

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0522

User Response

1. Check for an error LED on the system board.

2. Check the system-event log.

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. Replace any failing device.

5. (Trained technician only) Replace the system board.

- **80070301-0301ffff : Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state. (CPU 1 OverTemp)**

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

Serviceable
  Yes

Automatically notify support
  No

Alert Category
  Critical - Temperature

SNMP Trap ID
  0

CIM Information
  Prefix: PLAT **ID:** 0524

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)

- **80070608-0a01ffff : Sensor [SensorElementName] has transitioned to non-recoverable.**

This message is for the use case when an implementation has detected a Sensor transitioned to non-recoverable.

May also be shown as 800706080a01ffff or 0x800706080a01ffff

Severity
  Error

Serviceable
  Yes

Automatically notify support
  No

Alert Category
  Critical - Power

SNMP Trap ID
  4

CIM Information
  Prefix: PLAT **ID:** 0530

User Response
  If the specified sensor is PS n 12V OC Fault, complete the following steps until the problem is solved:

1. Use the IBM Power Configurator utility to determine current system power consumption. For more information and to download the utility, go to http://www-03.ibm.com/systems/bladecenter/resources/powerconfig.html.

2. Follow actions in "Power Problems and Solving Power Problems".

If the specified sensor is PS n 12V OV Fault, 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)

If the specified sensor is PS n 12V UV Fault, 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)

If the specified sensor is PS n 12Vaux Fault, complete the following steps until the problem is solved:

1. Check power supply n LED.

2. Replace power supply n. (n = power supply number)

- **80070608-0a02ffff : Sensor [SensorElementName] has transitioned to non-recoverable.**

This message is for the use case when an implementation has detected a Sensor transitioned to non-recoverable.

May also be shown as 800706080a02ffff or 0x800706080a02ffff

Severity
    Error

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT ID: 0530

User Response
    If the specified sensor is PS n 12V OC Fault, complete the following steps until the problem is solved:

1. Use the IBM Power Configurator utility to determine current system power consumption. For more information and to download the utility, go to http://www-03.ibm.com/systems/bladecenter/resources/powerconfig.html.

2. Follow actions in "Power Problems and Solving Power Problems".

If the specified sensor is PS n 12V OV Fault, 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)

If the specified sensor is PS n 12V UV Fault, 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)

If the specified sensor is PS n 12Vaux Fault, complete the following steps until the problem is solved:

1. Check power supply n LED.
2. Replace power supply n. (n = power supply number)

- **80070614-2201ffff : Sensor [SensorElementName] has transitioned to non-recoverable. (TPM Phy Pres Set)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0530

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0536

User Response
    No action; information only.

- **800b0108-1301ffff : Redundancy Lost for [RedundancySetElementName] has asserted. (Power Unit)**

This message is for the use case when Redundancy Lost has asserted.

May also be shown as 800b01081301ffff or 0x800b01081301ffff

Severity
    Error

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Redundant Power Supply

SNMP Trap ID
    9

CIM Information
    Prefix: PLAT **ID:** 0802

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - CPU

SNMP Trap ID
    40

CIM Information
    Prefix: PLAT **ID:** 0042

User Response

1. Make sure that the latest level of firmware and device drivers are installed for all adapters and standard devices, such as Ethernet, SCSI, 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. Update the firmware (UEFI and IMM) to the latest level (Updating the firmware).
3. Run the DSA program.
4. Reseat the adapter.
5. Replace the adapter.
6. (Trained technician only) Replace microprocessor n.
7. (Trained technician only) Replace the system board. (n = microprocessor number)

- **806f0008-0a01ffff : [PowerSupplyElementName] has been added to container [PhysicalPackageElementName]. (Power Supply 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0084

User Response
    No action; information only.

- **806f0008-0a02ffff : [PowerSupplyElementName] has been added to container [PhysicalPackageElementName]. (Power Supply 2)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0084

User Response
    No action; information only.

- **806f0009-1301ffff : [PowerSupplyElementName] has been turned off. (Host Power)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        System - Power Off

    SNMP Trap ID
        23

    CIM Information
        Prefix: PLAT **ID:** 0106

    User Response
        No action; information only.

- **806f000d-0400ffff : The Drive [StorageVolumeElementName] has been added. (Drive 0)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Critical - Hard Disk drive

    SNMP Trap ID
        5

    CIM Information
        Prefix: PLAT **ID:** 0162

    User Response
        No action; information only.

- **806f000d-0401ffff : The Drive [StorageVolumeElementName] has been added. (Drive 1)**

    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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0162

User Response
No action; information only.

- **806f000d-0402ffff : The Drive [StorageVolumeElementName] has been added. (Drive 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0162

User Response
No action; information only.

- **806f000d-0403ffff : The Drive [StorageVolumeElementName] has been added. (Drive 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0162

User Response
No action; information only.

- **806f000d-0404ffff : The Drive [StorageVolumeElementName] has been added. (Drive 4)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Hard Disk drive

  SNMP Trap ID
  5

  CIM Information
  Prefix: PLAT **ID:** 0162

  User Response
  No action; information only.

- **806f000d-0405ffff : The Drive [StorageVolumeElementName] has been added. (Drive 5)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Hard Disk drive

  SNMP Trap ID
  5

  CIM Information
  Prefix: PLAT **ID:** 0162

  User Response
  No action; information only.

- **806f000d-0406ffff : The Drive [StorageVolumeElementName] has been added. (Drive 6)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > Critical - Hard Disk drive

  SNMP Trap ID
  > 5

  CIM Information
  > **Prefix:** PLAT **ID:** 0162

  User Response
  > No action; information only.

- **806f000d-0407ffff : The Drive [StorageVolumeElementName] has been added. (Drive 7)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > Critical - Hard Disk drive

  SNMP Trap ID
  > 5

  CIM Information
  > **Prefix:** PLAT **ID:** 0162

  User Response
  > No action; information only.

- **806f000f-220101ff : The System [ComputerSystemElementName] has detected no memory in the system. (ABR Status)**

  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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0794

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)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0132

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0770

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0795

User Response

This is a UEFI detected event. The UEFI diagnostic 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 Info Center for the appropriate user response. Firmware Error : Sys Boot Status :

- **806f000f-220107ff : The System [ComputerSystemElementName] encountered firmware error - unrecoverable keyboard failure. (ABR Status)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0764

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0766

User Response

This is a UEFI detected event. The UEFI(POST) error 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)**

Firmware BIOS (ROM) corruption was detected on the system during POST.

May also be shown as 806f000f22010bff or 0x806f000f22010bff

Severity
    Info

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    40

CIM Information
    Prefix: PLAT **ID:** 0850

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - CPU

SNMP Trap ID
40

CIM Information
    Prefix: PLAT **ID:** 0050

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 Info Center for the appropriate user response. Firmware Error : Sys Boot Status :

• **806f000f-2201ffff : The System [ComputerSystemElementName] encountered a POST Error. (ABR Status)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0184

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0222

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.

- **806f0021-2201ffff : Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (No Op ROM Space)**

    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

    Serviceable
        Yes

    Automatically notify support
        Yes

    Alert Category
        Critical - Other

    SNMP Trap ID
        50

    CIM Information
        Prefix: PLAT **ID:** 0330

    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. Remove both 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)**

    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

    Serviceable
        Yes

Automatically notify support
    Yes

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0330

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. Remove both 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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0330

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. Remove both 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)**

  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

  Serviceable
    Yes

  Automatically notify support
    Yes

  Alert Category
    Critical - Other

  SNMP Trap ID
    50

  CIM Information
    Prefix: PLAT **ID:** 0330

  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. Remove both adapters.

    5. Replace the riser card.

    6. (Trained service technicians only) Replace the system board.

- **806f0023-2101ffff : Watchdog Timer expired for [WatchdogElementName]. (IPMI Watchdog)**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    System - Other

  SNMP Trap ID

  CIM Information
    Prefix: PLAT **ID:** 0368

User Response
No action; information only.

- **806f0107-0301ffff : An Over-Temperature Condition has been detected on [ProcessorElementName]. (CPU 1)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0036

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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Power

SNMP Trap ID
4

CIM Information
Prefix: PLAT **ID:** 0086

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0086

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0108

User Response
    No action; information only.

- **806f010c-2001ffff : Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)**

  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

  Serviceable
  > Yes

  Automatically notify support
  > Yes

  Alert Category
  > Critical - Memory

  SNMP Trap ID
  > 41

  CIM Information
  > **Prefix:** PLAT **ID:** 0138

  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)**

  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

  Serviceable
  > Yes

  Automatically notify support
  > Yes

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0138

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)**

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

Serviceable
   Yes

Automatically notify support
   Yes

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0138

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0138

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0138

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. One of the DIMMs :

- **806f010d-0400ffff : The Drive [StorageVolumeElementName] has been disabled due to a detected fault. (Drive 0)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID

5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support

Yes

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0164

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)**

  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

  Serviceable
  > Yes

  Automatically notify support
  > No

  Alert Category
  > System - Boot failure

  SNMP Trap ID
  > 25

  CIM Information
  > **Prefix:** PLAT **ID:** 0186

  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)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID

  CIM Information
  > **Prefix:** PLAT **ID:** 0370

User Response
No action; information only.

- **806f0207-0301ffff : [ProcessorElementName] has Failed with FRB1/BIST condition. (CPU 1)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - CPU

SNMP Trap ID
40

CIM Information
Prefix: PLAT ID: 0044

User Response
1. Make sure that the latest levels of firmware and device drivers are installed for all adapters and standard devices, such as Ethernet, SCSI, 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. Update the firmware (UEFI and IMM) to the latest level (Updating the firmware).
3. Run the DSA program.
4. Reseat the adapter.
5. Replace the adapter.
6. (Trained technician only) Replace microprocessor n.
7. (Trained technician only) Replace the system board. (n = microprocessor number)

- **806f020d-0400ffff : Failure Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 0)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
System - Predicted Failure

SNMP Trap ID

27

CIM Information
    Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    System - Predicted Failure

SNMP Trap ID
    27

CIM Information
    Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
    Yes

Automatically notify support

Yes

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    System - Predicted Failure

SNMP Trap ID
    27

CIM Information
    Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    System - Predicted Failure

SNMP Trap ID
    27

CIM Information
    Prefix: PLAT **ID:** 0168

User Response

1. Run the hard disk drive diagnostic test on drive n.

2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT **ID:** 0168

User Response
1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT **ID:** 0168

User Response
1. Run the hard disk drive diagnostic test on drive n.
2. Reseat the following components: a. Hard disk 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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0372

User Response
    No action; information only.

- **806f0308-0a01ffff : [PowerSupplyElementName] has lost input. (Power Supply 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0100

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0100

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0136

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. Make sure that the DIMMs are firmly seated and no foreign material is found in the DIMM connector. Then, retry with the same DIMM.

3. If the problem is related to a DIMM, replace the failing DIMM indicated by the error LEDs.

4. If the problem occurs on the same DIMM connector, 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.

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 service 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 service technician only) If the problem is related to microprocessor socket pins, replace the system board.

- **806f030c-2002ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0136

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. Make sure that the DIMMs are firmly seated and no foreign material is found in the DIMM connector. Then, retry with the same DIMM.

3. If the problem is related to a DIMM, replace the failing DIMM indicated by the error LEDs.

4. If the problem occurs on the same DIMM connector, 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.

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 service 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 service technician only) If the problem is related to microprocessor socket pins, replace the system board.

- **806f030c-2003ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT ID: 0136

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. Make sure that the DIMMs are firmly seated and no foreign material is found in the DIMM connector. Then, retry with the same DIMM.

3. If the problem is related to a DIMM, replace the failing DIMM indicated by the error LEDs.

4. If the problem occurs on the same DIMM connector, 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.

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 service 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 service technician only) If the problem is related to microprocessor socket pins, replace the system board.

- **806f030c-2004ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0136

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. Make sure that the DIMMs are firmly seated and no foreign material is found in the DIMM connector. Then, retry with the same DIMM.

3. If the problem is related to a DIMM, replace the failing DIMM indicated by the error LEDs.

4. If the problem occurs on the same DIMM connector, 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.

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 service 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 service technician only) If the problem is related to microprocessor socket pins, replace the system board.

- **806f030c-2581ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
    Prefix: PLAT **ID:** 0136

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. Make sure that the DIMMs are firmly seated and no foreign material is found in the DIMM connector. Then, retry with the same DIMM.

    3. If the problem is related to a DIMM, replace the failing DIMM indicated by the error LEDs.

    4. If the problem occurs on the same DIMM connector, 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.

    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 service 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 service technician only) If the problem is related to microprocessor socket pins, replace the system board. One of the DIMMs :

- **806f0313-1701ffff : A software NMI has occurred on system [ComputerSystemElementName]. (NMI State)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0228

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)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0374

User Response
No action; information only.

- **806f040c-2001ffff : [PhysicalMemoryElementName] Disabled on Subsystem [MemoryElementName]. (DIMM 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0131

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0131

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0131

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)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID

  CIM Information
  > **Prefix:** PLAT **ID:** 0131

  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)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID

  CIM Information
  > **Prefix:** PLAT **ID:** 0131

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). One of the DIMMs :

- **806f0413-2582ffff : A PCI PERR has occurred on system [ComputerSystemElementName]. (PCIs)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Other

SNMP Trap ID
   50

CIM Information
   Prefix: PLAT **ID:** 0232

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)**

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

Serviceable
   Yes

Automatically notify support
Yes

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT ID: 0144

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 error still occurs on the same DIMM, replace the affected 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.

- **806f050c-2002ffff : Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

  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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT ID: 0144

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 error still occurs on the same DIMM, replace the affected 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.

- **806f050c-2003ffff : Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Warning - Memory

SNMP Trap ID
    43

CIM Information
    Prefix: PLAT **ID:** 0144

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 error still occurs on the same DIMM, replace the affected 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.

- **806f050c-2004ffff : Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable

Yes

Automatically notify support
Yes

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0144

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 error still occurs on the same DIMM, replace the affected 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.

• **806f050c-2581ffff : Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0144

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 error still occurs on the same DIMM, replace the affected 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. One of the DIMMs :

- **806f050d-0400ffff : Array [ComputerSystemElementName] is in critical condition. (Drive 0)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID

5

CIM Information
　　Prefix: PLAT **ID:** 0174

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)**

  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

  Serviceable
  　　Yes

  Automatically notify support
  　　No

  Alert Category
  　　Critical - Hard Disk drive

  SNMP Trap ID
  　　5

  CIM Information
  　　Prefix: PLAT **ID:** 0174

  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)**

  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

  Serviceable
  　　Yes

  Automatically notify support

No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
Yes

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0174

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0234

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0446

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)**

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

Serviceable
    Yes

Automatically notify support
No

Alert Category
Critical - CPU

SNMP Trap ID
40

CIM Information
Prefix: PLAT **ID:** 0816

User Response

1. Make sure that the installed microprocessors are compatible with each other (see Installing a microprocessor and heat sink for information about microprocessor requirements).

2. Update the server firmware to the latest level (see Updating the firmware).

3. (Trained technician only) Replace the incompatible microprocessor.

- **806f060d-0400ffff : Array [ComputerSystemElementName] has failed. (Drive 0)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0176

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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0176

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)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0176

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)**

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

Serviceable
   Yes

Automatically notify support
   Yes

Alert Category
   Critical - Hard Disk drive

SNMP Trap ID
   5

CIM Information
   Prefix: PLAT **ID:** 0176

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)**

   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

Serviceable
   Yes

Automatically notify support
   Yes

Alert Category
   Critical - Hard Disk drive

SNMP Trap ID
   5

CIM Information
   Prefix: PLAT **ID:** 0176

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)**

   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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0176

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)**

    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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0176

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)**

    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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0176

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0126

User Response
    Make sure that DIMMs are installed in the correct sequence and have the same size, type, speed, and technology.

- **806f070c-2002ffff : Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0126

User Response
   Make sure that DIMMs are installed in the correct sequence and have the same size, type, speed, and technology.

- **806f070c-2003ffff : Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
   Yes

Automatically notify support
   No

Alert Category
   Critical - Memory

SNMP Trap ID
   41

CIM Information
   Prefix: PLAT **ID:** 0126

User Response
   Make sure that DIMMs are installed in the correct sequence and have the same size, type, speed, and technology.

- **806f070c-2004ffff : Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0126

User Response
    Make sure that DIMMs are installed in the correct sequence and have the same size, type, speed, and technology.

- **806f070c-2581ffff : Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0126

User Response
    Make sure that DIMMs are installed in the correct sequence and have the same size, type, speed, and technology. One of the DIMMs :

- **806f070d-0400ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 0)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0178

User Response
No action; information only.

- **806f070d-0401ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 1)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0178

  User Response
  No action; information only.

- **806f070d-0402ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 2)**

  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

  Serviceable
  No

  Automatically notify support

No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0178

User Response
No action; information only.

- **806f070d-0403ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0178

User Response
No action; information only.

- **806f070d-0404ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0178

User Response
    No action; information only.

- **806f070d-0405ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 5)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0178

User Response
    No action; information only.

- **806f070d-0406ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 6)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0178

User Response

No action; information only.

- **806f070d-0407ffff : Rebuild in progress for Array in system [ComputerSystemElementName]. (Drive 7)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0178

User Response
No action; information only.

- **806f072b-2201ffff : A successful software or firmware change was detected on system [ComputerSystemElementName]. (Bkup Auto Update)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0450

User Response
No action; information only. ROM Recovery :

- **806f0807-0301ffff : [ProcessorElementName] has been Disabled. (CPU 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0061

User Response
No action; information only.

- **806f0813-2581ffff : A Uncorrectable Bus Error has occurred on system [ComputerSystemElementName]. (DIMMs)**

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

Serviceable
Yes

Automatically notify support
Yes

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0240

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0240

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)**

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

Serviceable
    Yes

Automatically notify support
    Yes

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0240

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0376

User Response
    No action; information only.

- **806f090c-2001ffff : [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled. (DIMM 1)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID
    22

CIM Information
    Prefix: PLAT **ID:** 0142

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID
    22

CIM Information
    Prefix: PLAT **ID:** 0142

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID
    22

CIM Information
    Prefix: PLAT **ID:** 0142

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID
    22

CIM Information
    Prefix: PLAT **ID:** 0142

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Warning - CPU

SNMP Trap ID
    42

CIM Information
    Prefix: PLAT **ID:** 0038

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0146

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0146

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0146

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)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0146

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - Voltage

SNMP Trap ID
    13

CIM Information
    Prefix: PLAT **ID:** 0477

User Response
    No action; information only.

* **81010202-0701ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (CMOS Battery)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Voltage

SNMP Trap ID

1

CIM Information
    Prefix: PLAT **ID:** 0481

User Response
    If the specified sensor is one of the following, SysBrd 3.3V, SysBrd 5V or SysBrd 12V: No action;
    information only.

• **81010204-1d01ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has
deasserted. (Fan 1 Tach)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0481

User Response
    No action; information only.

• **81010204-1d02ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has
deasserted. (Fan 2 Tach)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0481

User Response
No action; information only.

- **81010204-1d03ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (Fan 3 Tach)**

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 810102041d03ffff or 0x810102041d03ffff

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT **ID:** 0481

User Response
No action; information only.

- **81010204-1d04ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (Fan 4 Tach)**

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 810102041d04ffff or 0x810102041d04ffff

Severity
Info

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT **ID:** 0481

User Response
No action; information only.

- **81010204-1d05ffff : Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted. (Fan 5 Tach)**

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 810102041d05ffff or 0x810102041d05ffff

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0481

User Response
    No action; information only.

- **81010701-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (PCI Temp)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - Temperature

SNMP Trap ID
    12

CIM Information
    Prefix: PLAT **ID:** 0491

User Response
    No action; information only.

- **81010701-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (VRD Temp)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - Temperature

SNMP Trap ID
    12

CIM Information
    Prefix: PLAT **ID:** 0491

User Response
    No action; information only.

- **81010701-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (Ambient 1 Temp)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - Temperature

SNMP Trap ID
    12

CIM Information
    Prefix: PLAT **ID:** 0491

User Response
    No action; information only.

- **81010701-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (Ambient 2 Temp)**

    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

Serviceable
    No

Automatically notify support
No

Alert Category
Warning - Temperature

SNMP Trap ID
12

CIM Information
Prefix: PLAT **ID:** 0491

User Response
No action; information only.

* **81010701-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper non-critical) has deasserted. (PCH Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Temperature

SNMP Trap ID
12

CIM Information
Prefix: PLAT **ID:** 0491

User Response
No action; information only.

* **81010901-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (PCI Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0495

User Response
No action; information only.

• **81010901-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (VRD Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0495

User Response
No action; information only.

• **81010901-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (Ambient 1 Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0495

User Response
No action; information only.

- **81010901-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (Ambient 2 Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0495

User Response
No action; information only.

- **81010901-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted. (PCH Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0495

User Response
No action; information only.

- **81010902-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper critical) has deasserted.**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Voltage

SNMP Trap ID
1

CIM Information
Prefix: PLAT **ID:** 0495

User Response
If the specified sensor is one of the following, SysBrd 3.3V, SysBrd 5V or SysBrd 12V: No action; information only.

• **81010b01-0701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (PCI Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0499

User Response
No action; information only.

• **81010b01-0702ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (VRD Temp)**

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

Serviceable
  No

Automatically notify support
  No

Alert Category
  Critical - Temperature

SNMP Trap ID
  0

CIM Information
  Prefix: PLAT **ID:** 0499

User Response
  No action; information only.

- **81010b01-0703ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (Ambient 1 Temp)**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    Critical - Temperature

  SNMP Trap ID
    0

  CIM Information
    Prefix: PLAT **ID:** 0499

  User Response
    No action; information only.

- **81010b01-2701ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (Ambient 2 Temp)**

  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

  Serviceable
    No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0499

User Response
No action; information only.

• **81010b01-2d01ffff : Numeric sensor [NumericSensorElementName] going high (upper non-recoverable) has deasserted. (PCH Temp)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0499

User Response
No action; information only.

• **81030006-2101ffff : Sensor [SensorElementName] has asserted. (Sig Verify Fail)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0508

User Response
    No action; information only.

- **81030012-2301ffff : Sensor [SensorElementName] has asserted. (OS RealTime Mod)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      System - Other

  SNMP Trap ID

  CIM Information
      Prefix: PLAT **ID:** 0508

  User Response
      No action; information only.

- **8107010f-2582ffff : Sensor [SensorElementName] has deasserted the transition from normal to non-critical state. (I/O Resources)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      Warning - Other

  SNMP Trap ID
      60

  CIM Information
      Prefix: PLAT **ID:** 0521

  User Response
      No action; information only.

- **81070201-0301ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (CPU 1 OverTemp)**

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

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Temperature

SNMP Trap ID
   0

CIM Information
   Prefix: PLAT **ID:** 0523

User Response
   No action; information only.

• **81070201-0701ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (VR Hot)**

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

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Temperature

SNMP Trap ID
   0

CIM Information
   Prefix: PLAT **ID:** 0523

User Response
   No action; information only.

• **81070202-0701ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (SysBrd Vol Fault)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Voltage

SNMP Trap ID
    1

CIM Information
    Prefix: PLAT **ID:** 0523

User Response
    No action; information only.

- **81070204-0a01ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 1 Fan Fault)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Fan Failure

SNMP Trap ID
    11

CIM Information
    Prefix: PLAT **ID:** 0523

User Response
    No action; information only.

- **81070204-0a02ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 2 Fan Fault)**

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

Serviceable
    No

Automatically notify support
No

Alert Category
Critical - Fan Failure

SNMP Trap ID
11

CIM Information
Prefix: PLAT **ID:** 0523

User Response
No action; information only.

- **81070208-0a01ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 1 Therm Fault)**

  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 810702080a01ffff or 0x810702080a01ffff

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Power

  SNMP Trap ID
  4

  CIM Information
  Prefix: PLAT **ID:** 0523

  User Response
  No action; information only.

- **81070208-0a02ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (PS 2 Therm Fault)**

  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 810702080a02ffff or 0x810702080a02ffff

  Severity
  Info

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0523

User Response
    No action; information only.

- **8107020f-2201ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (TXT ACM Module)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Critical - Other

    SNMP Trap ID
        50

    CIM Information
        Prefix: PLAT **ID:** 0523

    User Response
        No action; information only.

- **8107020f-2582ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (I/O Resources)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Critical - Other

    SNMP Trap ID
        50

    CIM Information
        Prefix: PLAT **ID:** 0523

User Response
No action; information only.

- **81070214-2201ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (TPM Lock)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0523

User Response
No action; information only.

- **81070219-0701ffff : Sensor [SensorElementName] has transitioned to a less severe state from critical. (SysBrd Fault)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0523

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)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0525

User Response
    No action; information only.

- **81070608-0a01ffff : Sensor [SensorElementName] has deasserted the transition to non-recoverable.**

This message is for the use case when an implementation has detected that the Sensor transition to non-recoverable has deasserted.

May also be shown as 810706080a01ffff or 0x810706080a01ffff

Severity
    Info

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0531

User Response
    If the specified sensor is one of the following, PS1 12V OC Fault, PS1 12V OV Fault, PS1 12V UV Fault or PS1 12Vaux Fault: No action; information only.

- **81070608-0a02ffff : Sensor [SensorElementName] has deasserted the transition to non-recoverable.**

This message is for the use case when an implementation has detected that the Sensor transition to non-recoverable has deasserted.

May also be shown as 810706080a02ffff or 0x810706080a02ffff

Severity
   Info

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Power

SNMP Trap ID
   4

CIM Information
   Prefix: PLAT **ID:** 0531

User Response
   If the specified sensor is one of the following, PS1 12V OC Fault, PS1 12V OV Fault, PS1 12V UV Fault
   or PS1 12Vaux Fault: No action; information only.

- **810b0108-1301ffff : Redundancy Lost for [RedundancySetElementName] has deasserted. (Power Unit)**

   This message is for the use case when Redundacy Lost has deasserted.

   May also be shown as 810b01081301ffff or 0x810b01081301ffff

Severity
   Info

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Redundant Power Supply

SNMP Trap ID
   9

CIM Information
   Prefix: PLAT **ID:** 0803

User Response
   No action; information only.

- **816f0007-0301ffff : [ProcessorElementName] has Recovered from IERR. (CPU 1)**

   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

Serviceable
   No

Automatically notify support

No

Alert Category
Critical - CPU

SNMP Trap ID
40

CIM Information
Prefix: PLAT **ID:** 0043

User Response
No action; information only.

- **816f0008-0a01ffff : [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName]. (Power Supply 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0085

User Response
No action; information only.

- **816f0008-0a02ffff : [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName]. (Power Supply 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0085

User Response
    No action; information only.

- **816f0009-1301ffff : [PowerSupplyElementName] has been turned on. (Host Power)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Power On

SNMP Trap ID
    24

CIM Information
    Prefix: PLAT **ID:** 0107

User Response
    No action; information only.

- **816f000d-0400ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 0)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response
    1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

- **816f000d-0401ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 1)**

  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

  Serviceable
  Yes

  Automatically notify support
  No

  Alert Category
  Critical - Hard Disk drive

  SNMP Trap ID
  5

  CIM Information
  Prefix: PLAT **ID:** 0163

  User Response
  1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

  2. Replace the hard disk drive.

  3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

  4. Check the SAS cable.

- **816f000d-0402ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 2)**

  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

  Serviceable
  Yes

  Automatically notify support
  No

  Alert Category
  Critical - Hard Disk drive

  SNMP Trap ID
  5

  CIM Information
  Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

- **816f000d-0403ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 3)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

- **816f000d-0404ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 4)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID

5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

• **816f000d-0405ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 5)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

• **816f000d-0406ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 6)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

- **816f000d-0407ffff : The Drive [StorageVolumeElementName] has been removed from unit [PhysicalPackageElementName]. (Drive 7)**

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

Serviceable
    Yes

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0163

User Response

1. Reseat hard disk drive n.(n = hard disk drive number). Wait 1 minute or more before reinstalling the drive.

2. Replace the hard disk drive.

3. Make sure that the disk firmware and RAID controller firmware are at the latest level.

4. Check the SAS cable.

- **816f000f-2201ffff : The System [ComputerSystemElementName] has detected a POST Error deassertion.**

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

Serviceable

No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0185

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)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0223

User Response
No action; information only.

- **816f0021-2201ffff : Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (No Op ROM Space)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0331

User Response
No action; information only.

- **816f0021-2582ffff : Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (All PCI Error)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0331

User Response
No action; information only. One of PCI Error :

- **816f0021-3001ffff : Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
    Prefix: PLAT **ID:** 0331

User Response
    No action; information only.

- **816f0021-3002ffff : Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName]. (PCI 2)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Other

SNMP Trap ID
    50

CIM Information
    Prefix: PLAT **ID:** 0331

User Response
    No action; information only.

- **816f0107-0301ffff : An Over-Temperature Condition has been removed on [ProcessorElementName]. (CPU 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0037

User Response
    No action; information only.

- **816f0108-0a01ffff : [PowerSupplyElementName] has returned to OK status. (Power Supply 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0087

User Response
    No action; information only.

- **816f0108-0a02ffff : [PowerSupplyElementName] has returned to OK status. (Power Supply 2)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Power

SNMP Trap ID
    4

CIM Information
    Prefix: PLAT **ID:** 0087

User Response
    No action; information only.

- **816f010c-2001ffff : Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0139

User Response
    No action; information only.

- **816f010c-2002ffff : Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0139

User Response
    No action; information only.

- **816f010c-2003ffff : Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

    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

Serviceable
    No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0139

User Response
No action; information only.

• **816f010c-2004ffff : Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0139

User Response
No action; information only.

• **816f010c-2581ffff : Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0139

User Response
No action; information only. One of the DIMMs :

- **816f010d-0400ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 0)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010d-0401ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010d-0402ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010d-0403ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010d-0404ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 4)**

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

Serviceable
No

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0167

User Response
    No action; information only.

- **816f010d-0405ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 5)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Critical - Hard Disk drive

    SNMP Trap ID
        5

    CIM Information
        Prefix: PLAT **ID:** 0167

    User Response
        No action; information only.

- **816f010d-0406ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 6)**

    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

    Serviceable
        No

    Automatically notify support
        No

    Alert Category
        Critical - Hard Disk drive

    SNMP Trap ID
        5

    CIM Information
        Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010d-0407ffff : The Drive [StorageVolumeElementName] has been enabled. (Drive 7)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0167

User Response
No action; information only.

- **816f010f-2201ffff : The System [ComputerSystemElementName] has recovered from a firmware hang. (Firmware Error)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0187

User Response
No action; information only.

- **816f0207-0301ffff : [ProcessorElementName] has Recovered from FRB1/BIST condition. (CPU 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - CPU

SNMP Trap ID
40

CIM Information
Prefix: PLAT ID: 0045

User Response
No action; information only.

- **816f020d-0400ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 0)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT ID: 0169

User Response
No action; information only.

- **816f020d-0401ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Predicted Failure

SNMP Trap ID
27

CIM Information
Prefix: PLAT **ID:** 0169

User Response
No action; information only.

- **816f020d-0402ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 2)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Predicted Failure

  SNMP Trap ID
  27

  CIM Information
  Prefix: PLAT **ID:** 0169

  User Response
  No action; information only.

- **816f020d-0403ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 3)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Predicted Failure

SNMP Trap ID
   27

CIM Information
   Prefix: PLAT **ID:** 0169

User Response
   No action; information only.

• **816f020d-0404ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 4)**

   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

Serviceable
   No

Automatically notify support
   No

Alert Category
   System - Predicted Failure

SNMP Trap ID
   27

CIM Information
   Prefix: PLAT **ID:** 0169

User Response
   No action; information only.

• **816f020d-0405ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 5)**

   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

Serviceable
   No

Automatically notify support
   No

Alert Category
   System - Predicted Failure

SNMP Trap ID
   27

CIM Information
   Prefix: PLAT **ID:** 0169

User Response
No action; information only.

- **816f020d-0406ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 6)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Predicted Failure

  SNMP Trap ID
  27

  CIM Information
  Prefix: PLAT **ID:** 0169

  User Response
  No action; information only.

- **816f020d-0407ffff : Failure no longer Predicted on drive [StorageVolumeElementName] for array [ComputerSystemElementName]. (Drive 7)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Predicted Failure

  SNMP Trap ID
  27

  CIM Information
  Prefix: PLAT **ID:** 0169

  User Response
  No action; information only.

- **816f0308-0a01ffff : [PowerSupplyElementName] has returned to a Normal Input State. (Power Supply 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0099

User Response
    No action; information only.

- **816f0308-0a02ffff : [PowerSupplyElementName] has returned to a Normal Input State. (Power Supply 2)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0099

User Response
    No action; information only.

- **816f030c-2001ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0137

User Response
No action; information only.

- **816f030c-2002ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 2)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Memory

  SNMP Trap ID
  41

  CIM Information
  Prefix: PLAT **ID:** 0137

  User Response
  No action; information only.

- **816f030c-2003ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 3)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0137

User Response
    No action; information only.

- **816f030c-2004ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (DIMM 4)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0137

User Response
    No action; information only.

- **816f030c-2581ffff : Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has recovered. (All DIMMS)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0137

User Response
    No action; information only. One of the DIMMs :

- **816f0313-1701ffff : System [ComputerSystemElementName] has recovered from an NMI. (NMI State)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > Critical - Other

  SNMP Trap ID
  > 50

  CIM Information
  > **Prefix:** PLAT **ID:** 0230

  User Response
  > No action; information only.

- **816f040c-2001ffff : [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 1)**

  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

  Serviceable
  > No

  Automatically notify support
  > No

  Alert Category
  > System - Other

  SNMP Trap ID

  CIM Information
  > **Prefix:** PLAT **ID:** 0130

  User Response
  > No action; information only.

- **816f040c-2002ffff : [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 2)**

  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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0130

User Response
No action; information only.

- **816f040c-2003ffff : [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0130

User Response
No action; information only.

- **816f040c-2004ffff : [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
  System - Other

SNMP Trap ID

CIM Information
  Prefix: PLAT **ID:** 0130

User Response
  No action; information only.

- **816f040c-2581ffff : [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName]. (All DIMMS)**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    System - Other

  SNMP Trap ID

  CIM Information
    Prefix: PLAT **ID:** 0130

  User Response
    No action; information only. One of the DIMMs :

- **816f0413-2582ffff : A PCI PERR recovery has occurred on system [ComputerSystemElementName]. (PCIs)**

  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

  Serviceable
    No

  Automatically notify support
    No

  Alert Category
    Critical - Other

  SNMP Trap ID
    50

  CIM Information
    Prefix: PLAT **ID:** 0233

User Response
No action; information only.

- **816f050c-2001ffff : Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0145

User Response
No action; information only.

- **816f050c-2002ffff : Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0145

User Response
No action; information only.

- **816f050c-2003ffff : Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0145

User Response
No action; information only.

- **816f050c-2004ffff : Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Warning - Memory

SNMP Trap ID
43

CIM Information
Prefix: PLAT **ID:** 0145

User Response
No action; information only.

- **816f050c-2581ffff : Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (All DIMMS)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - Memory

SNMP Trap ID
    43

CIM Information
    Prefix: PLAT **ID:** 0145

User Response
    No action; information only. One of the DIMMs :

- **816f050d-0400ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 0)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0175

User Response
    No action; information only.

- **816f050d-0401ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 1)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0175

User Response
No action; information only.

- **816f050d-0402ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0175

User Response
No action; information only.

- **816f050d-0403ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0175

User Response
No action; information only.

- **816f050d-0404ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0175

User Response
No action; information only.

- **816f050d-0405ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 5)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0175

User Response
No action; information only.

- **816f050d-0406ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 6)**

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

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Hard Disk drive

SNMP Trap ID
   5

CIM Information
   Prefix: PLAT **ID:** 0175

User Response
   No action; information only.

- **816f050d-0407ffff : Critical Array [ComputerSystemElementName] has deasserted. (Drive 7)**

   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

Serviceable
   No

Automatically notify support
   No

Alert Category
   Critical - Hard Disk drive

SNMP Trap ID
   5

CIM Information
   Prefix: PLAT **ID:** 0175

User Response
   No action; information only.

- **816f0607-0301ffff : An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted. (CPU 1)**

   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

Serviceable
   No

Automatically notify support
No

Alert Category
Critical - CPU

SNMP Trap ID
40

CIM Information
Prefix: PLAT **ID:** 0817

User Response
No action; information only.

- **816f060d-0400ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 0)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0177

User Response
No action; information only.

- **816f060d-0401ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0177

User Response
No action; information only.

- **816f060d-0402ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0177

User Response
No action; information only.

- **816f060d-0403ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Hard Disk drive

SNMP Trap ID
5

CIM Information
Prefix: PLAT **ID:** 0177

User Response
No action; information only.

- **816f060d-0404ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 4)**

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

Serviceable
　　No

Automatically notify support
　　No

Alert Category
　　Critical - Hard Disk drive

SNMP Trap ID
　　5

CIM Information
　　Prefix: PLAT **ID:** 0177

User Response
　　No action; information only.

- **816f060d-0405ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 5)**

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

Serviceable
　　No

Automatically notify support
　　No

Alert Category
　　Critical - Hard Disk drive

SNMP Trap ID
　　5

CIM Information
　　Prefix: PLAT **ID:** 0177

User Response
　　No action; information only.

- **816f060d-0406ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 6)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0177

User Response
    No action; information only.

- **816f060d-0407ffff : Array in system [ComputerSystemElementName] has been restored. (Drive 7)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Hard Disk drive

SNMP Trap ID
    5

CIM Information
    Prefix: PLAT **ID:** 0177

User Response
    No action; information only.

- **816f070c-2001ffff : Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category

Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0127

User Response
    No action; information only.

- **816f070c-2002ffff : Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 2)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information
    Prefix: PLAT **ID:** 0127

User Response
    No action; information only.

- **816f070c-2003ffff : Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 3)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Memory

SNMP Trap ID
    41

CIM Information

Prefix: PLAT **ID:** 0127

User Response
No action; information only.

- **816f070c-2004ffff : Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (DIMM 4)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0127

User Response
No action; information only.

- **816f070c-2581ffff : Configuration error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName]has deasserted. (All DIMMS)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Memory

SNMP Trap ID
41

CIM Information
Prefix: PLAT **ID:** 0127

User Response
No action; information only. One of the DIMMs :

- **816f070d-0400ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 0)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0179

  User Response
  No action; information only.

- **816f070d-0401ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 1)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0179

  User Response
  No action; information only.

- **816f070d-0402ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 2)**

  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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0179

User Response
    No action; information only.

- **816f070d-0403ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 3)**

    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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0179

User Response
    No action; information only.

- **816f070d-0404ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 4)**

    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

Serviceable

No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0179

User Response
No action; information only.

- **816f070d-0405ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 5)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category
  System - Other

  SNMP Trap ID

  CIM Information
  Prefix: PLAT **ID:** 0179

  User Response
  No action; information only.

- **816f070d-0406ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 6)**

  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

  Serviceable
  No

  Automatically notify support
  No

  Alert Category

System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0179

User Response
    No action; information only.

- **816f070d-0407ffff : Rebuild completed for Array in system [ComputerSystemElementName]. (Drive 7)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0179

User Response
    No action; information only.

- **816f0807-0301ffff : [ProcessorElementName] has been Enabled. (CPU 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0060

User Response

No action; information only.

- **816f0813-2581ffff : System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (DIMMs)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      Critical - Other

  SNMP Trap ID
      50

  CIM Information
      Prefix: PLAT **ID:** 0241

  User Response
      No action; information only.

- **816f0813-2582ffff : System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (PCIs)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      Critical - Other

  SNMP Trap ID
      50

  CIM Information
      Prefix: PLAT **ID:** 0241

  User Response
      No action; information only.

- **816f0813-2584ffff : System [ComputerSystemElementName]has recovered from an Uncorrectable Bus Error. (CPUs)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Other

SNMP Trap ID
50

CIM Information
Prefix: PLAT **ID:** 0241

User Response
No action; information only.

- **816f090c-2001ffff : [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 1)**

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

Serviceable
No

Automatically notify support
No

Alert Category
System - Other

SNMP Trap ID

CIM Information
Prefix: PLAT **ID:** 0143

User Response
No action; information only.

- **816f090c-2002ffff : [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 2)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0143

User Response
    No action; information only.

- **816f090c-2003ffff : [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 3)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      System - Other

  SNMP Trap ID

  CIM Information
      Prefix: PLAT **ID:** 0143

  User Response
      No action; information only.

- **816f090c-2004ffff : [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled. (DIMM 4)**

  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

  Serviceable
      No

  Automatically notify support
      No

  Alert Category
      System - Other

SNMP Trap ID

CIM Information
    Prefix: PLAT **ID:** 0143

User Response
    No action; information only.

- **816f0a07-0301ffff : The Processor [ProcessorElementName] is no longer operating in a Degraded State. (CPU 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Warning - CPU

SNMP Trap ID
    42

CIM Information
    Prefix: PLAT **ID:** 0039

User Response
    No action; information only.

- **816f0a0c-2001ffff : An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 1)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0147

User Response
No action; information only.

- **816f0a0c-2002ffff : An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 2)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0147

User Response
No action; information only.

- **816f0a0c-2003ffff : An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 3)**

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

Serviceable
No

Automatically notify support
No

Alert Category
Critical - Temperature

SNMP Trap ID
0

CIM Information
Prefix: PLAT **ID:** 0147

User Response
No action; information only.

- **816f0a0c-2004ffff : An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName]. (DIMM 4)**

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

Serviceable
    No

Automatically notify support
    No

Alert Category
    Critical - Temperature

SNMP Trap ID
    0

CIM Information
    Prefix: PLAT **ID:** 0147

User Response
    No action; information only.

IMM Events that automatically notify Support

You can configure the IBM Flex System Manager or the CMM 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 36. 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.	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
806f0021-2582ffff	Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName]. (All 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
806f0108-0a01ffff	[PowerSupplyElementName] has Failed. (Power Supply 1)	Yes
806f0108-0a02ffff	[PowerSupplyElementName] has Failed. (Power Supply 2)	Yes

Table 36. Events that automatically notify Support (continued)

Event ID	Message String	Automatically Notify Support
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)	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
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

Table 36. Events that automatically notify Support (continued)

Event ID	Message String	Automatically Notify Support
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
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)	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

Appendix B.   UEFI (POST) error codes

This section details the UEFI (POST) error codes.

UEFI (POST) diagnostic error codes can be generated when the server starts up or while the server is running. UEFI (POST) codes are logged in the IMM2 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 37. 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
>   Indicate the actions that you should take to resolve 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.

The following is the list of the UEFI (POST) error codes and suggested actions to correct the detected problems.

List of UEFI events

This section lists all messages that can be sent from UEFI.

* **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 %.**

  [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 %.

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.

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 %.**

[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 %.

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.**

[I.3048005] UEFI has booted from the backup flash bank.

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.**

[I.3808004] The IMM System Event log (SEL) 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.**

  [I.3818001] The firmware image capsule signature for the currently booted flash bank is 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.**

  [I.3818002] The firmware image capsule signature for the non-booted flash bank is 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.**

  [I.3818003] The CRTM flash driver could not lock the 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.**

  [I.580A4] Memory 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 %.**

  [S.2011001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.

  > 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 %.**

[S.2018001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.

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.**

[S.3020007] A firmware fault has been detected in the UEFI image.

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.**

[S.3028002] Boot permission timeout detected.

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.**

    [S.3030007] A firmware fault has been detected in the UEFI image.

    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.**

    [S.3040007] A firmware fault has been detected in the UEFI image.

    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.**

    [S.3050007] A firmware fault has been detected in the UEFI image.

    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.**

    [S.3058004] A Three Strike boot failure has occurred. The system has booted with default UEFI 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.**

[S.3060007] A firmware fault has been detected in the UEFI image.

    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.**

[S.3070007] A firmware fault has been detected in the UEFI image.

    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.**

[S.3108007] The default system settings have been restored.

    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.**

[S.3818004] The CRTM flash driver could not successfully flash the staging area. A failure occurred.

    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.**

  [S.3818007] The firmware image capsules for both flash banks 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 %.**

  [S.51003] An uncorrectable memory error was detected in DIMM slot % on rank %.

    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.**

  [S.51006] A memory mismatch has been detected. Please verify that the memory configuration is valid.

    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.**

[S.51009] No system memory has been 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.**

[S.58008] A DIMM has failed the POST 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.**

  [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.

  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.**

  [W.11004] A processor within the system has failed the BIST.

  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.**

  [W.3048006] UEFI has booted from the backup flash bank due to an Automatic Boot Recovery (ABR) event.

  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.**

  [W.305000A] An invalid date and time have been detected.

  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.**

[W.3058009] DRIVER HEALTH PROTOCOL: Missing Configuraiton. 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.**

[W.305800A] 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.**

[W.305800B] 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.**

[W.305800C] 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'.**

[W.305800D] 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.**

[W.305800E] 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.**

[W.3808000] An IMM communication failure has occurred.

    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.**

[W.3808002] An error occurred while saving UEFI settings to the 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.**

  .[W.3808003] Unable to retrieve the system configuration from the 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**

  [W.3818005] The CRTM flash driver could not successfully flash the staging area. The update was 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**

  [W.381800D] 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.**

  [W.3938002] A boot configuration error has been detected.

    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.**

  [W.50001] A DIMM has been disabled due to an error detected during POST.

  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 %.**

  [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 %.

  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**

  [W.68002] A CMOS battery error has been detected

  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.

Test results for the DSA Broadcom network test

The following messages can result when you run the DSA Broadcom network test.

- **405-000-000 : BRCM:TestControlRegisters Test Passed**

  The test passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA
- **405-001-000 : BRCM:TestMIIRegisters Test Passed**

  The test passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA
- **405-002-000 : BRCM:TestEEPROM Test Passed**

  The test passed.

  Recoverable
  > No

  Severity

Event

Serviceable
No

Automatically notify support
No

Related links
- – Lenovo Support website
- – Latest level of DSA

- **405-003-000 : BRCM:TestInternalMemory Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – Lenovo Support website
  - – Latest level of DSA

- **405-004-000 : BRCM:TestInterrupt Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – Lenovo Support website
  - – Latest level of DSA

- **405-005-000 : BRCM:TestLoopbackMAC Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support

No

Related links
– Lenovo Support website
– Latest level of DSA

• **405-006-000 : BRCM:TestLoopbackPhysical Test Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **405-007-000 : BRCM:TestLEDs Test Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **405-800-000 : BRCM:TestControlRegisters Test Aborted**

The control registers test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **405-801-000 : BRCM:TestMIIRegisters Test Aborted**

The MII register test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **405-802-000 : BRCM:TestEEPROM Test Aborted**

The EEPROM test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **405-803-000 : BRCM:TestInternalMemory Test Aborted**

The internal memory test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **405-804-000 : BRCM:TestInterrupt Test Aborted**

The interrupt test was canceled.

Recoverable
No

Severity

Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **405-805-000 : BRCM:TestLoopbackMAC Test Aborted**

  Loopback testing at the MAC layer was canceled.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – Lenovo Support website
  – Latest level of DSA

- **405-806-000 : BRCM:TestLoopbackPhysical Test Aborted**

  Loopback testing at the physical layer was canceled.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – Lenovo Support website
  – Latest level of DSA

- **405-807-000 : BRCM:TestLEDs Test Aborted**

  Verification of status LEDs was canceled.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  No

  Automatically notify support

No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **405-900-000 : BRCM:TestControlRegisters Test Failed**

A failure was detected while testing internal MAC registers

Recoverable
No

Severity
Error

Serviceable
Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **405-901-000 : BRCM:TestMIIRegisters Test Failed**

A failure was detected while testing internal PHY registers.

Recoverable
No

Severity
Error

Serviceable
Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **405-902-000 : BRCM:TestEEPROM Test Failed**

  A failure was detected while testing non-volatile RAM.

  Recoverable
  > No

  Severity
  > Error

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA

- **405-903-000 : BRCM:TestInternalMemory Test Failed**

  A failure was detected while testing internal memory.

  Recoverable
  > No

  Severity
  > Error

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA

- **405-904-000 : BRCM:TestInterrupt Test Failed**

  A failure was detected while testing interrupts.

  Recoverable

No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **405-905-000 : BRCM:TestLoopbackMAC Test Failed**

BRCM:TestLoopbackMAC Test Failed.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **405-906-000 : BRCM:TestLoopbackPhysical Test Failed**

A failure was detected during the loopback test at the physical layer.

Recoverable
No

Severity
Error

Serviceable

Yes

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
    – Lenovo Support website
    – Latest level of DSA

- **405-907-000 : BRCM:TestLEDs Test Failed**

    A failure was detected while verifying operation of the status LEDs.

    Recoverable
        No

    Severity
        Error

    Serviceable
        Yes

    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
        – Lenovo Support website
        – Latest level of DSA

DSA Brocade test results

The following messages can result when you run the Brocade test.

Test results for the DSA Brocade test

The following messages can result when you run the DSA Brocade test.

- **218-000-000 : Brocade:MemoryTest Passed**

    The test passed.

    Recoverable
        No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **218-001-000 : Brocade:ExternalLoopbackTest Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **218-002-000 : Brocade:SerdesLoopbackTest Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **218-003-000 : Brocade:PCILoopbackTest Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support

No

Related links

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- • **218-004-000 : Brocade:ExternalEthLoopbackTest Passed**

The test passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- • **218-005-000 : Brocade:SerdesEthLoopbackTest Passed**

The test passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- • **218-006-000 : Brocade:InternalLoopbackTest Passed**

The test passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **218-800-000 : Brocade:MemoryTest Aborted**

  The test was canceled.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **218-801-000 : Brocade:ExternalLoopbackTest Aborted**

  The test was canceled.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **218-802-000 : Brocade:SerdesLoopbackTest Aborted**

  The test was canceled.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **218-803-000 : Brocade:PCILoopbackTest Aborted**

  The test was canceled.

  Recoverable
  > No

Severity

Warning

Serviceable

No

Automatically notify support

No

Related links

- – Lenovo Support website
- – Latest level of DSA

- **218-804-000 : Brocade:ExternalEthLoopbackTest Aborted**

The test was canceled.

Recoverable

No

Severity

Warning

Serviceable

No

Automatically notify support

No

Related links

- – Lenovo Support website
- – Latest level of DSA

- **218-805-000 : Brocade:SerdesEthLoopbackTest Aborted**

The test was canceled.

Recoverable

No

Severity

Warning

Serviceable

No

Automatically notify support

No

Related links

- – Lenovo Support website
- – Latest level of DSA

- **218-806-000 : Brocade:InternalLoopbackTest Aborted**

The test was canceled.

Recoverable

No

Severity

Warning

Serviceable

No

Automatically notify support

No

Related links
- – Lenovo Support website
- – Latest level of DSA

- **218-900-000 : Brocade:MemoryTest Failed**

  A failure was detected while testing the adapter memory.

  Recoverable

  No

  Severity

  Error

  Serviceable

  Yes

  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
  - – Lenovo Support website
  - – Latest level of DSA

- **218-901-000 : Brocade:ExternalLoopbackTest Failed**

  A failure was detected during the Loopback test.

  Recoverable

  No

  Severity

  Error

  Serviceable

  Yes

  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
  - – Lenovo Support website

       – Latest level of DSA
- **218-902-000 : Brocade:SerdesLoopbackTest Failed**

  A failure was detected during the Loopback test.

  Recoverable
  > No

  Severity
  > Error

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA
- **218-903-000 : Brocade:PCILoopbackTest Failed**

  A failure was detected during the Loopback test.

  Recoverable
  > No

  Severity
  > Error

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA
- **218-904-000 : Brocade:ExternalEthLoopbackTest Failed**

  A failure was detected during the Loopback test.

  Recoverable

No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

• **218-905-000 : Brocade:SerdesEthLoopbackTest Failed**

A failure was detected during the Loopback test.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

• **218-906-000 : Brocade:InternalLoopbackTest Failed**

A failure was detected during the Loopback test.

Recoverable
No

Severity
Error

Serviceable

Yes

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
– Lenovo Support website
– Latest level of DSA

DSA checkpoint panel test results

The following messages can result when you run the checkpoint panel test.

Test results for the DSA checkpoint panel test

The following messages can result when you run the DSA checkpoint panel test.

- **180-000-000 : Check-point Panel Test Passed**

  Check-point Panel Test Passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – Lenovo Support website
  – Latest level of DSA
- **180-801-000 : Check-point Panel Test Aborted**

  Check-point Panel Test Aborted. BMC is unable to verify that the operator information panel cable is connected.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  Yes

  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
> – Lenovo Support website
> – Latest level of DSA

- **180-901-000 : Check-point Panel Test Failed**

Check-point Panel Test Failed. Operator reported incorrect display.

Recoverable
> No

Severity
> Error

Serviceable
> Yes

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
> – Lenovo Support website
> – Latest level of DSA

DSA CPU stress test results

The following messages can result when you run the CPU stress test.

Test results for the DSA CPU stress test

The following messages can result when you run the DSA CPU stress test.

- **089-000-000 : CPU Stress Test Passed**

CPU Stress Test Passed.

Recoverable

No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– [Lenovo Support website](#)
– [Latest level of DSA](#)

- **089-801-000 : CPU Stress Test Aborted**

CPU Stress Test Aborted. Internal Program Error.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

- **089-802-000 : CPU Stress Test Aborted**

CPU Stress Test Aborted. System resource unavailability error.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
    – Lenovo Support website
    – Latest level of DSA

- **089-803-000 : CPU Stress Test Aborted**

    CPU Stress Test Aborted. Memory size is insufficient to run the test. At least 1GB is required.

    Recoverable
        No

    Severity
        Warning

    Serviceable
        Yes

    Automatically notify support
        No

    Related links
        – Lenovo Support website
        – Latest level of DSA

- **089-804-000 : CPU Stress Test Aborted**

    CPU Stress Test Aborted. User pressed Ctrl-C.

    Recoverable
        No

    Severity
        Warning

    Serviceable
        Yes

    Automatically notify support
        No

    Related links
        – Lenovo Support website
        – Latest level of DSA

- **089-901-000 : CPU Stress Test Failed**

    CPU Stress Test Failed.

Recoverable
    No

Severity
    Error

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

DSA Emulex adapter test results

The following messages can result when you run the Emulex adapter test.

Test results for the DSA Emulex adapter test

The following messages can result when you run the DSA Emulex adapter test.

- **516-000-000 : ELXUCNA: NIC MAC LoopBackTest Passed**

    The test passed.

    Recoverable
        No

    Severity
        Event

    Serviceable
        No

    Automatically notify support
        No

    Related links
        – Lenovo Support website
        – Latest level of DSA

- **516-001-000 : ELXUCNA: NIC PHY LoopBackTest Passed**

    The test passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links

– Lenovo Support website
– Latest level of DSA

- **516-002-000 : ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Passed**

The test passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links

– Lenovo Support website
– Latest level of DSA

- **516-800-000 : ELXUCNA: NIC MAC LoopBackTest Aborted**

Loopback testing at the MAC layer was canceled.

Recoverable

No

Severity

Warning

Serviceable

No

Automatically notify support

No

Related links

– Lenovo Support website
– Latest level of DSA

- **516-801-000 : ELXUCNA: NIC PHY LoopBackTest Aborted**

Loopback testing at the physical layer was canceled.

Recoverable

No

Severity

Warning

Serviceable
>   No

Automatically notify support
>   No

Related links
>   –   Lenovo Support website
>   –   Latest level of DSA

- **516-802-000 : ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Aborted**

Verification of status LEDs was canceled.

Recoverable
>   No

Severity
>   Warning

Serviceable
>   No

Automatically notify support
>   No

Related links
>   –   Lenovo Support website
>   –   Latest level of DSA

- **516-900-000 : ELXUCNA: NIC MAC LoopBackTest Failed**

A failure was detected during the loopback test at the MAC layer.

Recoverable
>   No

Severity
>   Error

Serviceable
>   Yes

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
>   –   Lenovo Support website
>   –   Latest level of DSA

- **516-901-000 : ELXUCNA: NIC PHY LoopBackTest Failed**

A failure was detected during the loopback test at the physical layer.

Recoverable
>   No

Severity
    Error

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

• **516-902-000 : ELXUCNA: ELXUCNA: NIC LED(Beacon)Test Failed**

A failure was detected while verifying operation of the status LEDs.

Recoverable
    No

Severity
    Error

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

DSA EXA port ping test results

The following messages can result when you run the EXA port ping test.

Test results for the DSA EXA port ping test

The following messages can result when you run the DSA EXA port ping test.

• **401-000-000 : EXA Port Ping Test Passed**

EXA Port Ping Test Passed.

Recoverable
    No

Severity
    Event

Serviceable
    No

Automatically notify support
    No

Related links
    – Lenovo Support website
    – Latest level of DSA

- **401-801-000 : EXA Port Ping Test Aborted**

EXA Port Ping Test Aborted. Unable to get device base address.

Recoverable
    No

Severity
    Warning

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

- **401-802-000 : EXA Port Ping Test Aborted**

EXA Port Ping Test Aborted. Port connections may not be correct.

Recoverable
    No

Severity
    Warning

Serviceable
    Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **401-901-001 : EXA Port Ping Test Failed**

EXA Port Ping Test Failed.

Recoverable
   No

Severity
   Error

Serviceable
   Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

DSA hard drive test results

The following messages can result when you run the hard drive test.

Test results for the DSA hard drive test

The following messages can result when you run the DSA hard drive test.

- **217-000-000 : HDD Test Passed**

HDD Stress Test Passed.

Recoverable
   No

Severity
   Event

Serviceable
   No

Automatically notify support

No

Related links

– [Lenovo Support website](#)
– [Latest level of DSA](#)

• **217-800-000 : HDD Test Aborted**

HDD Test Aborted. The test was canceled.

Recoverable

No

Severity

Warning

Serviceable

Yes

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

– [Lenovo Support website](#)
– [Latest level of DSA](#)

• **217-900-000 : HDD Test Failed**

HDD Test Failed. The hard drive self-test detected a failure.

Recoverable

No

Severity

Error

Serviceable

Yes

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

– [Lenovo Support website](#)

– [Latest level of DSA](#)

DSA Intel network test results

The following messages can result when you run the Intel network test.

Test results for the DSA Intel network test

The following messages can result when you run the DSA Intel network test.

- **406-000-000 : IANet:Registers Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – [Lenovo Support website](#)
  – [Latest level of DSA](#)

- **406-001-000 : IANet:EEPROM Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – [Lenovo Support website](#)
  – [Latest level of DSA](#)

- **406-002-000 : IANet:FIFO Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support

No

Related links
- – Lenovo Support website
- – Latest level of DSA

- **406-003-000 : IANet:Interrupts Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – Lenovo Support website
  - – Latest level of DSA

- **406-004-000 : IANet:Loopback Test Passed**

  The test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – Lenovo Support website
  - – Latest level of DSA

- **406-800-000 : IANet:Registers Test Aborted**

  Registers test was canceled.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – Lenovo Support website
  - – Latest level of DSA

- **406-801-000 : IANet:EEPROM Test Aborted**

EEPROM test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **406-802-000 : IANet:FIFO Test Aborted**

FIFO test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **406-803-000 : IANet:Interrupts Test Aborted**

Interrupt test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **406-804-000 : IANet:Loopback Test Aborted**

Loopback test was canceled.

Recoverable
No

Severity

Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **406-900-000 : IANet:Registers Test Failed**

A failure was detected during the Registers test.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **406-901-000 : IANet:EEPROM Test Failed**

A failure was detected during the EEPROM test.

Recoverable
No

Severity
Error

Serviceable
Yes

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
   – Lenovo Support website
   – Latest level of DSA

• **406-902-000 : IANet:FIFO Test Failed**

A failure was detected during the FIFO test.

Recoverable
   No

Severity
   Error

Serviceable
   Yes

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
   – Lenovo Support website
   – Latest level of DSA

• **406-903-000 : IANet:Interrupts Test Failed**

A failure was detected during the Interrupt test.

Recoverable
   No

Severity
   Error

Serviceable
   Yes

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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

• **406-904-000 : IANet:Loopback Test Failed**

A failure was detected during the Loopback test.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

DSA LSI hard drive test results

The following messages can result when you run the LSI hard drive test.

Test results for the DSA LSI hard drive test

The following messages can result when you run the DSA LSI hard drive test.

• **407-000-000 : LSIESG:DiskDefaultDiagnostic Test Passed**

The test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **407-800-000 : LSIESG:DiskDefaultDiagnostic Test Aborted**

  The test was canceled.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  No

  Automatically notify support
  No

  Related links
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **407-900-000 : LSIESG:DiskDefaultDiagnostic Test Failed**

  The hard drive self-test detected a failure.

  Recoverable
  No

  Severity
  Error

  Serviceable
  Yes

  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
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

DSA Mellanox adapter test results

The following messages can result when you run the Mellanox adapter test.

Test results for the DSA Mellanox adapter test

The following messages can result when you run the DSA Mellanox adapter test.

- **408-000-000 : MLNX:MLNX_DiagnosticTestEthernetPort Test Passed**

  Port Test Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **408-001-000 : MLNX:MLNX_DiagnosticTestIBPort Test Passed**

  Port Test Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **408-800-000 : MLNX:MLNX_DiagnosticTestEthernetPort Test Aborted**

  Port Test was canceled.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **408-801-000 : MLNX:MLNX_DiagnosticTestIBPort Test Aborted**

  Port Test was canceled.

  Recoverable
  > No

Severity
>Warning

Serviceable
>No

Automatically notify support
>No

Related links
>– Lenovo Support website
>– Latest level of DSA

- **408-900-000 : MLNX:MLNX_DiagnosticTestEthernetPort Test Failed**

Port Test Failed.

Recoverable
>No

Severity
>Error

Serviceable
>Yes

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
>– Lenovo Support website
>– Latest level of DSA

- **408-901-000 : MLNX:MLNX_DiagnosticTestIBPort Test Failed**

Port Test Failed.

Recoverable
>No

Severity
>Error

Serviceable
>Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

DSA memory isolation test results

The following messages can result when you run the memory isolation test.

Test results for the DSA memory isolation test

The following messages can result when you run the DSA memory isolation test.

- **201-000-000 : Standalone Memory Test Passed**

  Quick/Full Memory Test All CPUs Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-000-001 : Standalone Memory Test Passed**

  Quick/Full Memory Test CPU 1 Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-000-002 : Standalone Memory Test Passed**

  Quick/Full Memory Test CPU 2 Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable

No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **201-000-003 : Standalone Memory Test Passed**

   Quick/Full Memory Test CPU 3 Passed.

   Recoverable
   No

   Severity
   Event

   Serviceable
   No

   Automatically notify support
   No

   Related links
   – Lenovo Support website
   – Latest level of DSA

- **201-000-004 : Standalone Memory Test Passed**

   Quick/Full Memory Test CPU 4 Passed.

   Recoverable
   No

   Severity
   Event

   Serviceable
   No

   Automatically notify support
   No

   Related links
   – Lenovo Support website
   – Latest level of DSA

- **201-811-000 : Standalone Memory Test Aborted**

   Unable to Locate SMBIOS key "_SM_".

   Recoverable
   No

   Severity
   Warning

   Serviceable
   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
– Lenovo Support website
– Latest level of DSA

- **201-811-001 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-811-002 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-811-003 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-812-000 : Standalone Memory Test Aborted**

Memory test is not supported for this system.

Recoverable
No

Severity
Warning

Serviceable
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

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-812-001 : Standalone Memory Test Aborted**

Memory test is not supported for this system.

Recoverable
    No

Severity
    Warning

Serviceable
    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

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-812-002 : Standalone Memory Test Aborted**

Memory test is not supported for this system.

Recoverable
    No

Severity
    Warning

Serviceable
    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

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-812-003 : Standalone Memory Test Aborted**

Memory test is not supported for this system.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-813-000 : Standalone Memory Test Aborted**

Chipset Error: Can not turn OFF ECC error reporting in CPU.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-813-001 : Standalone Memory Test Aborted**

Chipset Error: Can not turn OFF ECC error reporting in CPU.

Recoverable
No

Severity

    Warning

Serviceable

    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

    – Lenovo Support website
    – Latest level of DSA

- **201-813-002 : Standalone Memory Test Aborted**

    Chipset Error: Can not turn OFF ECC error reporting in CPU.

Recoverable

    No

Severity

    Warning

Serviceable

    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

    – Lenovo Support website
    – Latest level of DSA

- **201-813-003 : Standalone Memory Test Aborted**

    Chipset Error: Can not turn OFF ECC error reporting in CPU.

Recoverable

    No

Severity

    Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-814-000 : Standalone Memory Test Aborted**

  Chipset Error: Can not disable Scubbing feature for CPU.

  Recoverable

  No

  Severity

  Warning

  Serviceable

  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

  – Lenovo Support website
  – Latest level of DSA

- **201-814-001 : Standalone Memory Test Aborted**

  Chipset Error: Can not disable Scubbing feature for CPU.

  Recoverable

  No

  Severity

  Warning

  Serviceable

  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
– Lenovo Support website
– Latest level of DSA

- **201-814-002 : Standalone Memory Test Aborted**

Chipset Error: Can not disable Scubbing feature for CPU.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-814-003 : Standalone Memory Test Aborted**

Chipset Error: Can not disable Scubbing feature for CPU.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-815-000 : Standalone Memory Test Aborted**

Program Error with Quick Memory Menu Option Selection.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-815-001 : Standalone Memory Test Aborted**

Program Error with Quick Memory Menu Option Selection.

Recoverable
No

Severity
Warning

Serviceable
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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-815-002 : Standalone Memory Test Aborted**

    Program Error with Quick Memory Menu Option Selection.

    Recoverable
    No

    Severity
    Warning

    Serviceable
    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
    - – [Lenovo Support website](#)
    - – [Latest level of DSA](#)

- **201-815-003 : Standalone Memory Test Aborted**

    Program Error with Quick Memory Menu Option Selection.

    Recoverable
    No

    Severity
    Warning

    Serviceable
    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
    - – [Lenovo Support website](#)

- – Latest level of DSA
- **201-816-000 : Standalone Memory Test Aborted**

  Program Error with Full Memory Menu Option Selection.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-816-001 : Standalone Memory Test Aborted**

  Program Error with Full Memory Menu Option Selection.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-816-002 : Standalone Memory Test Aborted**

  Program Error with Full Memory Menu Option Selection.

Recoverable

No

Severity

Warning

Serviceable

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

- Lenovo Support website
- Latest level of DSA

- **201-816-003 : Standalone Memory Test Aborted**

Program Error with Full Memory Menu Option Selection.

Recoverable

No

Severity

Warning

Serviceable

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

- Lenovo Support website
- Latest level of DSA

- **201-818-000 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable

No

Severity

Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-818-001 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-818-002 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable
No

Severity
Warning

Serviceable
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

– Lenovo Support website
– Latest level of DSA

- **201-818-003 : Standalone Memory Test Aborted**

Unable to Locate SMBIOS key "_SM_".

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-819-000 : Standalone Memory Test Aborted**

The start-end address ranges in the restricted area of the memory.

Recoverable

No

Severity

Warning

Serviceable

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
– Lenovo Support website
– Latest level of DSA

- **201-819-001 : Standalone Memory Test Aborted**

The start-end address ranges in the restricted area of the memory.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-819-002 : Standalone Memory Test Aborted**

The start-end address ranges in the restricted area of the memory.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-819-003 : Standalone Memory Test Aborted**

  The start-end address ranges in the restricted area of the memory.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
  - – Lenovo Support website
  - – Latest level of DSA

- **201-820-000 : Standalone Memory Test Aborted**

  Memory Upper limit is less than 16 Mbytes.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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

– [Lenovo Support website](#)
– [Latest level of DSA](#)

- **201-820-001 : Standalone Memory Test Aborted**

  Memory Upper limit is less than 16 Mbytes.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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

  – [Lenovo Support website](#)
  – [Latest level of DSA](#)

- **201-820-002 : Standalone Memory Test Aborted**

  Memory Upper limit is less than 16 Mbytes.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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

  – [Lenovo Support website](#)
  – [Latest level of DSA](#)

- **201-820-003 : Standalone Memory Test Aborted**

Memory Upper limit is less than 16 Mbytes.

Recoverable
> No

Severity
> Warning

Serviceable
> 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
> – Lenovo Support website
> – Latest level of DSA

- **201-821-000 : Standalone Memory Test Aborted**

  Variable range MTRR registers are larger than fixed range MTRR registers.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-821-001 : Standalone Memory Test Aborted**

  Variable range MTRR registers are larger than fixed range MTRR registers.

  Recoverable
  > No

Severity
> Warning

Serviceable
> 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
> – Lenovo Support website
> – Latest level of DSA

- **201-821-002 : Standalone Memory Test Aborted**

  Variable range MTRR registers are larger than fixed range MTRR registers.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-821-003 : Standalone Memory Test Aborted**

  Variable range MTRR registers are larger than fixed range MTRR registers.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-822-000 : Standalone Memory Test Aborted**

Invalid MTRR service request.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-822-001 : Standalone Memory Test Aborted**

Invalid MTRR service request.

Recoverable

No

Severity

Warning

Serviceable

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
  – [Lenovo Support website](#)
  – [Latest level of DSA](#)

- **201-822-002 : Standalone Memory Test Aborted**

  Invalid MTRR service request.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
    – [Lenovo Support website](#)
    – [Latest level of DSA](#)

- **201-822-003 : Standalone Memory Test Aborted**

  Invalid MTRR service request.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-824-000 : Standalone Memory Test Aborted**

  Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-824-001 : Standalone Memory Test Aborted**

  Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

• **201-824-002 : Standalone Memory Test Aborted**

Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Recoverable
No

Severity
Warning

Serviceable
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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

• **201-824-003 : Standalone Memory Test Aborted**

Node Interleave feature must be OFF. Go to Setup and disable Node Interleave option and then re-run the test.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-826-000 : Standalone Memory Test Aborted**

BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Recoverable
    No

Severity
    Warning

Serviceable
    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
- – Lenovo Support website
- – Latest level of DSA

- **201-826-001 : Standalone Memory Test Aborted**

BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

Recoverable
    No

Severity
    Warning

Serviceable
    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
- – Lenovo Support website

–
- **201-826-002 : Standalone Memory Test Aborted**

  BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
- **201-826-003 : Standalone Memory Test Aborted**

  BIOS: Memory Controller has been disabled. Go to Setup and Enable Memory Controller.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
- **201-827-000 : Standalone Memory Test Aborted**

  BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-827-001 : Standalone Memory Test Aborted**

BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-827-002 : Standalone Memory Test Aborted**

BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

Recoverable

No

Severity

Warning

Serviceable
>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
>– Lenovo Support website
>– Latest level of DSA

- **201-827-003 : Standalone Memory Test Aborted**

  BIOS: ECC function has been disabled by BIOS. Go to Setup and enable ECC generation.

  Recoverable
  >No

  Severity
  >Warning

  Serviceable
  >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
  >– Lenovo Support website
  >– Latest level of DSA

- **201-844-000 : Standalone Memory Test Aborted**

  Chipset Error: Problem in masking MSR machine check control MASK registers.

  Recoverable
  >No

  Severity
  >Warning

  Serviceable
  >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

– Lenovo Support website
– Latest level of DSA

- **201-844-001 : Standalone Memory Test Aborted**

Chipset Error: Problem in masking MSR machine check control MASK registers.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-844-002 : Standalone Memory Test Aborted**

Chipset Error: Problem in masking MSR machine check control MASK registers.

Recoverable

No

Severity

Warning

Serviceable

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-844-003 : Standalone Memory Test Aborted**

Chipset Error: Problem in masking MSR machine check control MASK registers.

Recoverable
    No

Severity
    Warning

Serviceable
    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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-845-000 : Standalone Memory Test Aborted**

Chipset Error: Problem clearing MSR machine check control registers.

Recoverable
    No

Severity
    Warning

Serviceable
    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
– Lenovo Support website
– Latest level of DSA

- **201-845-001 : Standalone Memory Test Aborted**

Chipset Error: Problem clearing MSR machine check control registers.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-845-002 : Standalone Memory Test Aborted**

Chipset Error: Problem clearing MSR machine check control registers.

Recoverable
No

Severity
Warning

Serviceable
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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

• **201-845-003 : Standalone Memory Test Aborted**

Chipset Error: Problem clearing MSR machine check control registers.

Recoverable
No

Severity
Warning

Serviceable
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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

• **201-859-000 : Standalone Memory Test Aborted**

INVALID XSECSRAT type.

Recoverable
No

Severity
Warning

Serviceable
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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

• **201-859-001 : Standalone Memory Test Aborted**

INVALID XSECSRAT type.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-859-002 : Standalone Memory Test Aborted**

INVALID XSECSRAT type.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-859-003 : Standalone Memory Test Aborted**

INVALID XSECSRAT type.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-860-000 : Standalone Memory Test Aborted**

No OEM0 type 1 found.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-860-001 : Standalone Memory Test Aborted**

No OEM0 type 1 found.

Recoverable
No

Severity
Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-860-002 : Standalone Memory Test Aborted**

No OEM0 type 1 found.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-860-003 : Standalone Memory Test Aborted**

No OEM0 type 1 found.

Recoverable

No

Severity

Warning

Serviceable

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
>   – Lenovo Support website
>   – Latest level of DSA

- **201-861-000 : Standalone Memory Test Aborted**

   No SRAT type 1 found.

   Recoverable
   >   No

   Severity
   >   Warning

   Serviceable
   >   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
   >   – Lenovo Support website
   >   – Latest level of DSA

- **201-861-001 : Standalone Memory Test Aborted**

   No SRAT type 1 found.

   Recoverable
   >   No

   Severity
   >   Warning

   Serviceable
   >   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
– Lenovo Support website
– Latest level of DSA

- **201-861-002 : Standalone Memory Test Aborted**

No SRAT type 1 found.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-861-003 : Standalone Memory Test Aborted**

No SRAT type 1 found.

Recoverable
No

Severity
Warning

Serviceable
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
- Lenovo Support website
- Latest level of DSA

• **201-862-000 : Standalone Memory Test Aborted**

No OEM1 structure found.

Recoverable
No

Severity
Warning

Serviceable
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
- Lenovo Support website
- Latest level of DSA

• **201-862-001 : Standalone Memory Test Aborted**

No OEM1 structure found.

Recoverable
No

Severity
Warning

Serviceable
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
- Lenovo Support website

- **201-862-002 : Standalone Memory Test Aborted**

  No OEM1 structure found.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-862-003 : Standalone Memory Test Aborted**

  No OEM1 structure found.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-863-000 : Standalone Memory Test Aborted**

  No IBMERROR key in OEM1 structure.

Recoverable

No

Severity

Warning

Serviceable

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

– Lenovo Support website
– Latest level of DSA

- **201-863-001 : Standalone Memory Test Aborted**

  No IBMERROR key in OEM1 structure.

  Recoverable

  No

  Severity

  Warning

  Serviceable

  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

  – Lenovo Support website
  – Latest level of DSA

- **201-863-002 : Standalone Memory Test Aborted**

  No IBMERROR key in OEM1 structure.

  Recoverable

  No

  Severity

Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-863-003 : Standalone Memory Test Aborted**

No IBMERROR key in OEM1 structure.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-864-000 : Standalone Memory Test Aborted**

No GAS located in OEM1.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-864-001 : Standalone Memory Test Aborted**

No GAS located in OEM1.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-864-002 : Standalone Memory Test Aborted**

No GAS located in OEM1.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-864-003 : Standalone Memory Test Aborted**

No GAS located in OEM1.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

- **201-865-000 : Standalone Memory Test Aborted**

No XSECSRAT key in OEM0 structure.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

• **201-865-001 : Standalone Memory Test Aborted**

No XSECSRAT key in OEM0 structure.

Recoverable
   No

Severity
   Warning

Serviceable
   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
- – Lenovo Support website
- – Latest level of DSA

• **201-865-002 : Standalone Memory Test Aborted**

No XSECSRAT key in OEM0 structure.

Recoverable
   No

Severity
   Warning

Serviceable
   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

- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-865-003 : Standalone Memory Test Aborted**

  No XSECSRAT key in OEM0 structure.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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

  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-866-000 : Standalone Memory Test Aborted**

  EFI-SAL Invalid parameter from GetMemoryMap function.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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

  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-866-001 : Standalone Memory Test Aborted**

EFI-SAL Invalid parameter from GetMemoryMap function.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-866-002 : Standalone Memory Test Aborted**

EFI-SAL Invalid parameter from GetMemoryMap function.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-866-003 : Standalone Memory Test Aborted**

EFI-SAL Invalid parameter from GetMemoryMap function.

Recoverable
No

Severity
> Warning

Serviceable
> 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
> – Lenovo Support website
> – Latest level of DSA

- **201-867-000 : Standalone Memory Test Aborted**

  EFI/SAL: Buffer not allocated.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-867-001 : Standalone Memory Test Aborted**

  EFI/SAL: Buffer not allocated.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable

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
– Lenovo Support website
– Latest level of DSA

• **201-867-002 : Standalone Memory Test Aborted**

EFI/SAL: Buffer not allocated.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-867-003 : Standalone Memory Test Aborted**

EFI/SAL: Buffer not allocated.

Recoverable
No

Severity
Warning

Serviceable
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
>   – Lenovo Support website
>   – Latest level of DSA

- **201-868-000 : Standalone Memory Test Aborted**

    EFI/SAL: Buffer allocated in GetMemoryMap too small.

    Recoverable
    >   No

    Severity
    >   Warning

    Serviceable
    >   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
    >   – Lenovo Support website
    >   – Latest level of DSA

- **201-868-001 : Standalone Memory Test Aborted**

    EFI/SAL: Buffer allocated in GetMemoryMap too small.

    Recoverable
    >   No

    Severity
    >   Warning

    Serviceable
    >   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
  – Lenovo Support website
  – Latest level of DSA

- **201-868-002 : Standalone Memory Test Aborted**

  EFI/SAL: Buffer allocated in GetMemoryMap too small.

  Recoverable
      No

  Severity
      Warning

  Serviceable
      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
    – Lenovo Support website
    – Latest level of DSA

- **201-868-003 : Standalone Memory Test Aborted**

  EFI/SAL: Buffer allocated in GetMemoryMap too small.

  Recoverable
      No

  Severity
      Warning

  Serviceable
      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
- – Lenovo Support website
- – Latest level of DSA

• **201-869-000 : Standalone Memory Test Aborted**

EFI/SAL Invalid parameter from GetMemoryMap function.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website
- – Latest level of DSA

• **201-869-001 : Standalone Memory Test Aborted**

EFI/SAL Invalid parameter from GetMemoryMap function.

Recoverable
No

Severity
Warning

Serviceable
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
- – Lenovo Support website

- **201-869-002 : Standalone Memory Test Aborted**

  EFI/SAL Invalid parameter from GetMemoryMap function.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA
- **201-869-003 : Standalone Memory Test Aborted**

  EFI/SAL Invalid parameter from GetMemoryMap function.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA
- **201-870-000 : Standalone Memory Test Aborted**

  CPU Doamin in ACPI not valid.

Recoverable

    No

Severity

    Warning

Serviceable

    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

    – Lenovo Support website
    – Latest level of DSA

- **201-870-001 : Standalone Memory Test Aborted**

CPU Doamin in ACPI not valid.

Recoverable

    No

Severity

    Warning

Serviceable

    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

    – Lenovo Support website
    – Latest level of DSA

- **201-870-002 : Standalone Memory Test Aborted**

CPU Doamin in ACPI not valid.

Recoverable

    No

Severity

Warning

Serviceable
>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
>– Lenovo Support website
>– Latest level of DSA

- **201-870-003 : Standalone Memory Test Aborted**

  CPU Doamin in ACPI not valid.

  Recoverable
  >No

  Severity
  >Warning

  Serviceable
  >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
  >– Lenovo Support website
  >– Latest level of DSA

- **201-871-000 : Standalone Memory Test Aborted**

  Data Mis-compare encountered.

  Recoverable
  >No

  Severity
  >Warning

  Serviceable
  >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
    – Lenovo Support website
    – Latest level of DSA

- **201-871-001 : Standalone Memory Test Aborted**

Data Mis-compare encountered.

Recoverable
    No

Severity
    Warning

Serviceable
    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
    – Lenovo Support website
    – Latest level of DSA

- **201-871-002 : Standalone Memory Test Aborted**

Data Mis-compare encountered.

Recoverable
    No

Severity
    Warning

Serviceable
    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
   – Lenovo Support website
   – Latest level of DSA

- **201-871-003 : Standalone Memory Test Aborted**

Data Mis-compare encountered.

Recoverable
   No

Severity
   Warning

Serviceable
   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
   – Lenovo Support website
   – Latest level of DSA

- **201-877-000 : Standalone Memory Test Aborted**

BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

Recoverable
   No

Severity
   Warning

Serviceable
   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
- – Lenovo Support website
- – Latest level of DSA

- **201-877-001 : Standalone Memory Test Aborted**

  BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
  - – Lenovo Support website
  - – Latest level of DSA

- **201-877-002 : Standalone Memory Test Aborted**

  BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **201-877-003 : Standalone Memory Test Aborted**

  BIOS: Sparing in Extended PCI reg. must be OFF. Go to setup and disable sparing.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-878-000 : Standalone Memory Test Aborted**

  Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  - – [Lenovo Support website](#)
  - – [Latest level of DSA](#)

- **201-878-001 : Standalone Memory Test Aborted**

Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Recoverable
    No

Severity
    Warning

Serviceable
    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
    – Lenovo Support website
    – Latest level of DSA

- **201-878-002 : Standalone Memory Test Aborted**

Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Recoverable
    No

Severity
    Warning

Serviceable
    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
    – Lenovo Support website
    – Latest level of DSA

- **201-878-003 : Standalone Memory Test Aborted**

Sparing feature must be turned OFF. Go to setup and turn the sparing feature OFF.

Recoverable
    No

Severity
> Warning

Serviceable
> 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
> – Lenovo Support website
> – Latest level of DSA

- **201-885-000 : Standalone Memory Test Aborted**

  Processor does not support MTRR register manipulation. Can not write to memory without cache.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > 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
  > – Lenovo Support website
  > – Latest level of DSA

- **201-885-001 : Standalone Memory Test Aborted**

  Processor does not support MTRR register manipulation. Can not write to memory without cache.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable

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
  – Lenovo Support website
  – Latest level of DSA

- **201-885-002 : Standalone Memory Test Aborted**

  Processor does not support MTRR register manipulation. Can not write to memory without cache.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
    – Lenovo Support website
    – Latest level of DSA

- **201-885-003 : Standalone Memory Test Aborted**

  Processor does not support MTRR register manipulation. Can not write to memory without cache.

  Recoverable
  No

  Severity
  Warning

  Serviceable
  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
> – [Lenovo Support website](#)
> – [Latest level of DSA](#)

- **201-886-000 : Standalone Memory Test Aborted**

   Memory Upper limit is less than 16 Mbytes.

   Recoverable
   > No

   Severity
   > Warning

   Serviceable
   > 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
   > – [Lenovo Support website](#)
   > – [Latest level of DSA](#)

- **201-886-001 : Standalone Memory Test Aborted**

   Memory Upper limit is less than 16 Mbytes.

   Recoverable
   > No

   Severity
   > Warning

   Serviceable
   > 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
– Lenovo Support website
– Latest level of DSA

- **201-886-002 : Standalone Memory Test Aborted**

Memory Upper limit is less than 16 Mbytes.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

- **201-886-003 : Standalone Memory Test Aborted**

Memory Upper limit is less than 16 Mbytes.

Recoverable
No

Severity
Warning

Serviceable
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
– Lenovo Support website
– Latest level of DSA

• **201-899-000 : Standalone Memory Test Aborted**

Memory Diagnostics Test Aborted by user.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **201-899-001 : Standalone Memory Test Aborted**

Memory Diagnostics Test Aborted by user.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **201-899-002 : Standalone Memory Test Aborted**

Memory Diagnostics Test Aborted by user.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

• **201-899-003 : Standalone Memory Test Aborted**

Memory Diagnostics Test Aborted by user.

Recoverable
    No

Severity
    Warning

Serviceable
    No

Automatically notify support
    No

Related links
- Lenovo Support website
- Latest level of DSA

- **201-901-000 : Standalone Memory Test Failed**

Memory Diagnostics Test Failed.

Recoverable
    No

Severity
    Error

Serviceable
    Yes

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
- Lenovo Support website
- Latest level of DSA

- **201-901-001 : Standalone Memory Test Failed**

Memory Diagnostics Test Failed.

Recoverable
    No

Severity
    Error

Serviceable

Yes

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
– Lenovo Support website
– Latest level of DSA

- **201-901-002 : Standalone Memory Test Failed**

Memory Diagnostics Test Failed.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **201-901-003 : Standalone Memory Test Failed**

Memory Diagnostics Test Failed.

Recoverable
        No

Severity
        Error

Serviceable
        Yes

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
   – Lenovo Support website
   – Latest level of DSA

DSA memory stress test results

The following messages can result when you run the memory stress test.

Test results for the DSA memory stress test

The following messages can result when you run the DSA memory stress test.

- **202-000-000 : MemStr Test Passed**

   Test Passed.

   Recoverable
           No

   Severity
           Event

   Serviceable
           No

   Automatically notify support
           No

   Related links
      – Lenovo Support website
      – Latest level of DSA

- **202-801-000 : MemStr Test Aborted**

   Internal program error.

Recoverable

No

Severity

Warning

Serviceable

Yes

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

– [Lenovo Support website](#)
– [Latest level of DSA](#)

- **202-802-000 : MemStr Test Aborted**

Memory size is insufficient to run the test. At least 1 GB is required.

Recoverable

No

Severity

Warning

Serviceable

Yes

Automatically notify support

No

Related links

– [Lenovo Support website](#)
– [Latest level of DSA](#)

- **202-803-000 : MemStr Test Aborted**

User pressed Ctrl-C.

Recoverable

No

Severity

Warning

Serviceable

Yes

Automatically notify support

No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **202-901-000 : MemStr Test Failed**

Test Failed.

Recoverable
No

Severity
Error

Serviceable
Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **202-902-000 : MemStr Test Failed**

Memory size is insufficient to run the test.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– [Lenovo Support website](#)
– [Latest level of DSA](#)

DSA Nvidia GPU test results

The following messages can result when you run the Nvidia GPU test.

Test results for the DSA Nvidia GPU test

The following messages can result when you run the DSA Nvidia GPU test.

- **409-000-000 : NVIDIA User Diagnostic Test Passed**

  NVIDIA User Diagnostic test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – [Lenovo Support website](#)
  – [Latest level of DSA](#)
- **409-003-000 : Nvidia::DiagnosticServiceProvider::Bandwidth Test Passed**

  Nvidia GPU Bandwidth test passed.

  Recoverable
  No

  Severity
  Event

  Serviceable
  No

  Automatically notify support
  No

  Related links
  – [Lenovo Support website](#)
  – [Latest level of DSA](#)
- **409-004-000 : Nvidia::DiagnosticServiceProvider::Query Test Passed**

Nvidia GPU Query test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **409-005-000 : Nvidia::DiagnosticServiceProvider::Matrix Test Passed**

Nvidia GPU Matrix test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **409-006-000 : Nvidia::DiagnosticServiceProvider::Binomial Test Passed**

Nvidia GPU Binomial test passed.

Recoverable
No

Severity
Event

Serviceable
No

Automatically notify support
No

Related links
– Lenovo Support website
– Latest level of DSA

- **409-800-000 : NVIDIA User Diagnostic Test Aborted**

NVIDIA User Diagnostic test was canceled.

Recoverable
No

Severity

Event

Serviceable
No

Automatically notify support
No

Related links
- Lenovo Support website
- Latest level of DSA

- **409-803-000 : Nvidia::DiagnosticServiceProvider::Bandwidth Test Aborted**

Nvidia GPU Bandwidth test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- Lenovo Support website
- Latest level of DSA

- **409-804-000 : Nvidia::DiagnosticServiceProvider::Query Test Aborted**

Nvidia GPU Query test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- Lenovo Support website
- Latest level of DSA

- **409-805-000 : Nvidia::DiagnosticServiceProvider::Matrix Test Aborted**

Nvidia GPU Matrix test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support

No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **409-806-000 : Nvidia::DiagnosticServiceProvider::Binomial Test Aborted**

Nvidia GPU Binomial test was canceled.

Recoverable
No

Severity
Warning

Serviceable
No

Automatically notify support
No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **409-900-000 : NVIDIA User Diagnostic Test Failed**

NVIDIA User Diagnostic Test Failed.

Recoverable
No

Severity
Event

Serviceable
Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

- **409-903-000 : Nvidia::DiagnosticServiceProvider::Bandwidth Test Failed**

Nvidia GPU Bandwidth Test Failed.

Recoverable
No

Severity

Error

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **409-904-000 : Nvidia::DiagnosticServiceProvider::Query Test Failed**

Nvidia GPU Query Test Failed.

Recoverable

No

Severity

Error

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **409-905-000 : Nvidia::DiagnosticServiceProvider::Matrix Test Failed**

Nvidia GPU Matrix Test Failed.

Recoverable

No

Severity
> Error

Serviceable
> Yes

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
> – Lenovo Support website
> – Latest level of DSA

- **409-906-000 : Nvidia::DiagnosticServiceProvider::Binomial Test Failed**

Nvidia GPU Binomial Test Failed.

Recoverable
> No

Severity
> Error

Serviceable
> Yes

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
> – Lenovo Support website
> – Latest level of DSA

DSA optical drive test results

The following messages can result when you run the optical drive test.

Test results for the DSA optical drive test

The following messages can result when you run the DSA optical drive test.

- **215-000-000 : Optical Drive Test Passed**

  Optical Drive Test Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **215-801-000 : Optical Drive Test Aborted**

  Optical Drive Test Aborted. Unable to communicate with driver.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA

- **215-802-000 : Optical Drive Test Aborted**

  Optical Drive Test Aborted. A read error was encountered.

  Recoverable
  > No

Severity
   Warning

Serviceable
   Yes

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
   – [Lenovo Support website](#)
   – [Latest level of DSA](#)

• **215-803-000 : Optical Drive Test Failed**

Optical Drive Test Failed. Disk may be in use by the operating system.

Recoverable
   No

Severity
   Error

Serviceable
   Yes

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
   – [Lenovo Support website](#)
   – [Latest level of DSA](#)

• **215-804-000 : Optical Drive Test Aborted**

Optical Drive Test Aborted. The media tray is open.

Recoverable
   No

Severity
   Warning

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **215-901-000 : Optical Drive Test Aborted**

Optical Drive Test Aborted. Drive media is not detected.

Recoverable

No

Severity

Warning

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **215-902-000 : Optical Drive Test Failed**

Optical Drive Test Failed. Read miscompare.

Recoverable

No

Severity

Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **215-903-000 : Optical Drive Test Aborted**

Optical Drive Test Aborted. Could not access the device.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

DSA system management test results

The following messages can result when you run the system management test.

Test results for the DSA system management test

The following messages can result when you run the DSA system management test.

- **166-000-001 : IMM I2C Test Passed**

  IMM I2C Test Passed.

  Recoverable
  > No

  Severity
  > Event

  Serviceable
  > No

  Automatically notify support
  > No

  Related links
  > – Lenovo Support website
  > – Latest level of DSA

- **166-801-001 : IMM I2C Test Aborted**

  IMM returned incorrect response length.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > Yes

  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
  > – Lenovo Support website
  > – Latest level of DSA

- **166-802-001 : IMM I2C Test Aborted**

  Test cannot be completed for unknown reason.

  Recoverable
  > No

  Severity
  > Warning

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

- **166-803-001 : IMM I2C Test Aborted**

Node Busy. Try later.

Recoverable
    No

Severity
    Warning

Serviceable
    Yes

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
    – Lenovo Support website
    – Latest level of DSA

- **166-804-001 : IMM I2C Test Aborted**

Invalid Command.

Recoverable
    No

Severity
    Warning

Serviceable
    Yes

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

–
–

- **166-805-001 : IMM I2C Test Aborted**

Invalid Command for given LUN.

Recoverable
   No

Severity
   Warning

Serviceable
   Yes

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
   –
   –

- **166-806-001 : IMM I2C Test Aborted**

Timeout while processing command.

Recoverable
   No

Severity
   Warning

Serviceable
   Yes

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
   –
   –

- **166-807-001 : IMM I2C Test Aborted**

Out of space.

Recoverable
   No

Severity
   Warning

Serviceable

Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-808-001 : IMM I2C Test Aborted**

Reservation Canceled or Invalid Reservation ID.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-809-001 : IMM I2C Test Aborted**

Request data truncated.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website

- – [Latest level of DSA](#)
- **166-810-001 : IMM I2C Test Aborted**

  Request data length invalid.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > Yes

  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
  > - – [Lenovo Support website](#)
  > - – [Latest level of DSA](#)

- **166-811-001 : IMM I2C Test Aborted**

  Request data field length limit exceeded.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > Yes

  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
  > - – [Lenovo Support website](#)
  > - – [Latest level of DSA](#)

- **166-812-001 : IMM I2C Test Aborted**

  Parameter out of range.

  Recoverable
  > No

  Severity
  > Warning

  Serviceable
  > Yes

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
>   – Lenovo Support website
>   – Latest level of DSA

- **166-813-001 : IMM I2C Test Aborted**

    Cannot return number of requested data bytes.

    Recoverable
    >   No

    Severity
    >   Warning

    Serviceable
    >   Yes

    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
    >   – Lenovo Support website
    >   – Latest level of DSA

- **166-814-001 : IMM I2C Test Aborted**

    Requested Sensor, data, or record not present.

    Recoverable
    >   No

    Severity
    >   Warning

    Serviceable
    >   Yes

    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
    >   – Lenovo Support website
    >   – Latest level of DSA

- **166-815-001 : IMM I2C Test Aborted**

Invalid data field in Request.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-816-001 : IMM I2C Test Aborted**

Command illegal for specified sensor or record type.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-817-001 : IMM I2C Test Aborted**

Command response could not be provided.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-818-001 : IMM I2C Test Aborted**

Cannot execute duplicated request.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-819-001 : IMM I2C Test Aborted**

Command response could not be provided. SDR Repository in?update mode.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-820-001 : IMM I2C Test Aborted**

Command response could not be provided. Device in firmware update mode.

Recoverable
>   No

Severity
>   Warning

Serviceable
>   Yes

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
>   – Lenovo Support website
>   – Latest level of DSA

- **166-821-001 : IMM I2C Test Aborted**

Command response could not be provided. BMC initialization in progress.

Recoverable
>   No

Severity
>   Warning

Serviceable
>   Yes

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
>   – Lenovo Support website
>   – Latest level of DSA

- **166-822-001 : IMM I2C Test Aborted**

Destination unavailable.

Recoverable
>   No

Severity
>   Warning

Serviceable
>   Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-823-001 : IMM I2C Test Aborted**

Cannot execute command. Insufficient privilege level.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-824-001 : IMM I2C Test Aborted**

Cannot execute command.

Recoverable
No

Severity
Warning

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **166-901-001 : IMM I2C Test Failed**

IMM Indicates failure in RTMM bus (BUS 0).

Recoverable

No

Severity

Error

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **166-904-001 : IMM I2C Test Failed**

IMM Indicates failure in PCA9543--2-Channel I2C Switch bus (BUS 3).

Recoverable

No

Severity

Error

Serviceable

Yes

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

– Lenovo Support website
– Latest level of DSA

- **166-907-001 : IMM I2C Test Failed**

IMM Indicates failure in the PCA9545 --failure in 4-Channel I2C Switch bus (BUS 6).

Recoverable

No

Severity

Error

Serviceable
>Yes

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
>– Lenovo Support website
>– Latest level of DSA

- **166-908-001 : IMM I2C Test Failed**

IMM Indicates failure in the PCA9557 bus (BUS 7).

Recoverable
>No

Severity
>Error

Serviceable
>Yes

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
>– Lenovo Support website
>– Latest level of DSA

DSA tape drive test results

The following messages can result when you run the tape drive test.

Test results for the DSA tape drive test

The following messages can result when you run the DSA tape drive test.

- **264-000-000 : Tape Test Passed**

Tape Test Passed.

Recoverable

No

Severity

Event

Serviceable

No

Automatically notify support

No

Related links
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

• **264-901-000 : Tape Test Failed**

An error was found in the tape alert log.

Recoverable

No

Severity

Error

Serviceable

Yes

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
- – [Lenovo Support website](#)
- – [Latest level of DSA](#)

• **264-902-000 : Tape Test Failed**

Tape Test Failed. Media is not detected.

Recoverable

No

Severity

Error

Serviceable

Yes

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
– Lenovo Support website
– Latest level of DSA

- **264-903-000 : Tape Test Failed**

Tape Test Failed. Media is not detected.

Recoverable
No

Severity
Error

Serviceable
Yes

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
– Lenovo Support website
– Latest level of DSA

- **264-904-000 : Tape Test Failed**

Tape Test Failed. Drive hardware error.

Recoverable
No

Severity
Error

Serviceable
Yes

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
>– Lenovo Support website
>– Latest level of DSA

- **264-905-000 : Tape Test Failed**

  Tape Test Failed. Software error: invalid request.

  Recoverable
  >No

  Severity
  >Error

  Serviceable
  >Yes

  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
  >– Lenovo Support website
  >– Latest level of DSA

- **264-906-000 : Tape Test Failed**

  Tape Test Failed. Unrecognized error.

  Recoverable
  >No

  Severity
  >Error

Serviceable

    Yes

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

– Lenovo Support website
– Latest level of DSA

- **264-907-000 : Tape Test Failed**

An error was found in the block address somewhere.

Recoverable

    No

Severity

    Error

Serviceable

    Yes

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

– Lenovo Support website
– Latest level of DSA

- **264-908-000 : Tape Test Failed**

An error was found in getting tape capacity.

Recoverable

    No

Severity

    Error

Serviceable

    Yes

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

- – Lenovo Support website
- – Latest level of DSA

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.lenovo.com/serverproven/ to make sure that the hardware and software is supported by your product.
- Go to http://www.lenovo.com/support 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 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.lenovo.com/support.

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.lenovo.com/support. The most current version of the product documentation is available in the following product-specific Information Centers:

- **Flex System products:**

  https://flexsystem.lenovofiles.com/help/index.jsp
- **System x products:**

  http://shop.lenovo.com/us/ en/systems/
- **NeXtScale System products:**

  https://nextscale.lenovofiles.com/help/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 product service for Taiwan.

委製商/進口商名稱: 荷蘭商聯想股份有限公司台灣分公司
進口商地址: 台北市內湖區堤頂大道2段89號5樓
進口商電話: 0800-000-702 (代表號)

Appendix E. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area.

Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

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Attention: Lenovo Director of Licensing

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Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

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.

Trademarks

Lenovo, the Lenovo logo, Flex System, NeXtScale, System x, ThinkServer, and x Architecture are trademarks of Lenovo in the United States, other countries, or both.

Intel and Xeon are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

Internet Explorer, Microsoft, and Windows are trademarks of the Microsoft group of companies.

Linux is a registered trademark of Linus Torvalds.

Other company, product, or service names may be trademarks or service marks of others.

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.

US & Canada Only

US & Canada Only

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 38. 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

[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 2014/30/EU 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 equipment according to European Standards harmonized in the Directives in compliance. 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

CE

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

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 2014/30/EU (früher 2004/108/EC) zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der Klasse A der Norm gemäß Richtlinie.

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:

Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Betriebsmittein Dieses Produkt entspricht dem „Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln" EMVG (früher „Gesetz über die elektromagnetische Verträglichkeit von Geräten"). Dies ist die Umsetzung der EU-Richtlinie 2014/30/EU (früher 2004/108/EC) in der Bundesrepublik Deutschland.

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 EU Richtlinie 2014/30/EU (früher 2004/108/EC), 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, Meitnerstr. 9, 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."

Nach dem EMVG: „Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind." (Auszug aus dem EMVG, Paragraph 3, Abs. 4). Dieses Genehmigungsverfahren ist nach Paragraph 9 EMVG in Verbindung mit der entsprechenden Kostenverordnung (Amtsblatt 14/93) kostenpflichtig.

Anmerkung: Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den Handbüchern angegeben, zu installieren und zu betreiben.

Japanese electromagnetic compatibility statements

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障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

Japanese Electrical Appliance and Material Safety Law statement (for detachable AC power cord)

本製品およびオプションに電源コード・セットが付属する場合は、
それぞれ専用のものになっていますので他の電気機器には使用しないでください。

JEITA harmonics guideline - Japanese Statement for AC power consumption (W)

定格入力電力表示
(社) 電子情報技術参照委員会 家電・汎用品高調波抑制対策ガイドライン
実行計画書に基づく定格入力電力値：　　　　　　W
お手持ちのユニットの定格入力電力値(W)はユニットの電源装置に貼付
されている電源仕様ラベルをご参照下さい

JEITA harmonics guideline - Japanese Statement of Compliance for Products Less than or Equal to 20A per phase

JEITA 高調波電流抑制対策適合品表示 (JEITA harmonics statements– Japan)
定格電流が 20A／相以下の機器 (For products where input current is less than or
equal to 20A per phase)

日本の定格電流が 20A/相 以下の機器に対する高調波電流規制高調波電流規格
JIS C 61000-3-2 適合品

JEITA harmonics guideline - Japanese Statement of Compliance for Products More than 20A

定格電流が 20A／相を超える機器 (For products where input current is less than
20A/Phase of one PSU, but total system power is over 20A/Phase)

本製品は、１相当たり20Aを超える機器ですが、個々のユニットが「高調波電流
規格 JIS C 61000-3-2適合品」であり、

本製品はその組み合わせであるため、「高調波電流規格 JIS C 61000-3-2適合品
」としています

Korea Communications Commission (KCC) statement

이 기기는 업무용(A급)으로 전자파적합기기로
서 판매자 또는 사용자는 이 점을 주의하시기
바라며, 가정외의 지역에서 사용하는 것을 목
적으로 합니다.

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 оборудованию класса А. При использовании в бытовой обстановке это оборудование может нарушать функционирование других технических средств в результате создаваемых индустриальных радиопомех. В этом случае от пользователя может потребоваться принятие адекватных мер.

People's Republic of China Class A electronic emission statement

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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

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這是甲類的資訊產品，在
居住的環境中使用時，可
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種情況下，使用者會被要
求採取某些適當的對策。

Taiwan BSMI RoHS declaration

單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機架	○	○	○	○	○	○
外部蓋板	○	○	○	○	○	○
機械組合件	－	○	○	○	○	○
空氣傳動設備	－	○	○	○	○	○
冷卻組合件	－	○	○	○	○	○
內存模塊	－	○	○	○	○	○
處理器模塊	－	○	○	○	○	○
鍵盤	－	○	○	○	○	○
調製解調器	－	○	○	○	○	○
監視器	－	○	○	○	○	○
滑鼠	－	○	○	○	○	○
電纜組合件	－	○	○	○	○	○
電源	－	○	○	○	○	○
儲備設備	－	○	○	○	○	○
電池匣組合件	－	○	○	○	○	○
電池	－	○	○	○	○	○
有mech的電路卡	－	○	○	○	○	○
無mech的電路卡	－	○	○	○	○	○
雷射器	－	○	○	○	○	○

備考1. ˇ超出0.1 wt％˝ 及 ˇ超出0.01 wt％˝ 係指限用物質之百分比含量超出百分比含量基準值。

Note1 : "exceeding 0.1wt%" and "exceeding 0.01 wt%" indicate that the percentage content
of the restricted substance exceeds the reference percentage value of presence condition.

備考2. ˇ○˝ 係指該項限用物質之百分比含量未超出百分比含量基準值。

Note2 : " ○ "indicates that the percentage content of the restricted substance does not exceed the
percentage of reference value of presence.

備考3. ˇ－˝ 係指該項限用物質為排除項目。

Note3 : The "-" indicates that the restricted substance corresponds to the exemption.

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