Maintaining the Avaya S8800 Server for Avaya Aura® Communication Manager

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Chapter 1: Introduction

This document describes the maintenance procedures for the Communication Manager S8800 1U Server with a simplex and duplex configuration. The document has two main sections:

- Replace the Avaya S8800 Server and its components
- Troubleshoot the Avaya S8800 Server

The document does not provide information about the Communication Manager commands and server alarms. For information about the Communication Manager commands and server alarms, see *Maintenance Commands for Avaya Aura® Communication Manager, Branch Gateways and Servers* (03-300431) and *Avaya Aura® Communication Manager Server Alarms* (03-602798).

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Chapter 2: Replace the Avaya S8800 Server and its components

This chapter describes the procedure to replace the Communication Manager S8800 1U Server and its hardware components.

The procedure to replace the Avaya S8800 Server with a simplex configuration is similar to the procedure to replace the Avaya S8800 Server with a duplex configuration. However, if you are replacing the Avaya S8800 Server with a duplex configuration, make sure that the good server is in the active mode and the defective server is in the stand by mode. If necessary, interchange the servers. For more information, see Interchanging and busying out the server on page 12.

You must carefully read the safety information before replacing the Avaya S8800 server and its components. For details about the safety information, see the following section.

Safety information

General safety information

Follow these rules to ensure general safety:

- Observe good housekeeping in the area of the system units during and after maintenance.
  - Place removed covers and other parts in a safe place, away from all personnel, while you service the system unit.
  - Keep your tool case away from walk areas so that people do not trip over the tool case.
- When lifting any heavy object:
  a. Verify that you can stand safely without slipping.
  b. Distribute the weight of the object equally between your feet.
  c. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
  d. Lift by standing or by pushing up with your leg muscles. This action removes the strain from the muscles in your back. Do not attempt to lift any objects that weigh more than 16 kg (35 lb.) or objects that you think are too heavy for you.

- Do not perform any action that causes hazards to the customer or that makes the equipment unsafe.
- Before you start the system unit, ensure that other technical support staff and customer personnel are not in a hazardous position.
- Do not wear loose clothing that can be trapped in moving parts. Ensure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten the necktie or scarf with a nonconductive clip, approximately 8 cm (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing. Metal objects are good electrical conductors.
- Remove items from your shirt pocket, such as pens and pencils, that could fall into the server as you lean over it.
- Wear safety glasses when you are working in any conditions that might be hazardous to your eyes.
- Avoid dropping any metallic objects, such as paper clips, hairpins, and screws into the server.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the server to service.

⚠ Warning:

To prevent access to electrical hazards by unauthorized personnel and to ensure continued compliance with international radiated emissions requirements, tighten all captive screws securely so they cannot be loosened without the use of a tool.

Safety Inspection

Use this list to identify potentially unsafe conditions related to the server. When the server was designed and built, the required safety items were installed on each server to protect users and technical support staff from injury. If any unsafe conditions are present, determine how serious the apparent hazard is and whether you can safely continue without first correcting the problem.

Consider these conditions and the safety hazards 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 monitor face or bulging capacitor.
- Mechanical hazards, such as loose or missing hardware.

Perform the following safety checks when servicing this unit:

1. Check exterior covers for damage such as loose, broken, or sharp edges.
2. Shutdown the system and unplug the AC power cords.

3. Check the power cord:
    - Verify that the third-ground connector is in good condition. Use an ohmmeter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and frame ground.
    - Verify that the power cord is the appropriate type.
    - Verify that insulation is not frayed or worn.
4. Check inside the server for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
5. Check for worn, frayed, or pinched cables.
6. Verify that the power-supply cover fasteners, such as screws or rivets, have not been removed or tampered with.
7. If you notice any damage, replace the appropriate system components.

Electrical safety rules

Electrical current from power, telephone, and communication cables can be hazardous. To avoid any shock hazard, you must disconnect all power cords and cables.

Observe the following rules when working on electrical equipment.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
- Disconnect all power before:
    - Doing a mechanical inspection
    - Working near power supplies
    - Removing or installing servers
- Before you start to work on the server, unplug the power cord. If you cannot unplug it, ask the customer to switch off the wall box that supplies power to the server. Afterwards, lock the wall box in the off position.
- If you must work on a server that has exposed electrical circuits, observe the following precautions:
    - Ensure that another person, familiar with the power-off controls, is near you. Another person must be there to switch off the power if necessary.
    - Stand on suitable rubber mats to insulate you from grounds such as metal floor strips and system unit frames. Obtain the mats locally, if necessary.
    - When using testers, set the controls correctly and use the approved probe leads and accessories for the tester.

- Use only one hand when working with powered-on electrical equipment. Keep the other hand in your pocket or behind your back. This precaution can prevent current from passing through your body.

- Regularly inspect and maintain your electrical hand tools for safe operational condition. Do not use worn or broken tools and testers.
- Never assume that power was disconnected from a circuit. First, verify that the unit is turned off.
- Always look carefully for possible hazards in your work area. Examples of hazards are moist floors, non-grounded power extension cables, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive. Touching a live circuit can cause personal injury and damage to the server.
- Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.
- Many customers place rubber floor mats that contain small conductive fibers to decrease electrostatic discharges near the equipment. Do *not* use this type of mat to protect yourself from electrical shock.

If an electrical accident occurs:

- Use caution. Do not become a victim yourself.
- Turn off power.
- Send another person to get medical aid.

Protecting against ESD damage

Any system component that contains transistors or integrated circuits is sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge. The server, the part, the work mat, and the person handling the part must all be at the same charge.

Packaging materials that contain ESD-sensitive components are usually marked with a yellow and black warning symbol.

Caution:

You must observe proper grounding techniques to prevent the discharge of static electricity from your body into ESD-sensitive components.

To avoid damaging ESD-sensitive components:

- Limit your movement. Movement can cause static electricity to build up around you.
- Keep the parts in protective packages until you are ready to install them into the server. If it is necessary to set down a part, put it back into its static-protective package. Do not place the part on the server cover or on a metal surface.
- Place parts on a grounded surface before removing them from their containers.

- Handle the components only after attaching a wrist strap to your bare wrist. Attach the other end of the wrist strap to a ground that terminates at the system ground, such as any unpainted metallic chassis surface.
- Handle a circuit board by the faceplate or side edges only. Avoid touching pins, leads, or circuitry. Hold devices such as a hard disk drive in the same manner. The ESD-sensitive area of these components is located on the bottom surface.

  Caution:

  Make sure that the unprotected part of your hand is not in contact with the non-component side of the board.
- Keep components away from plastics and other synthetic materials such as polyester clothing. Most clothing is insulative and retains a charge even when you wear a wrist strap.
- Do not hand components to another person unless that person is grounded at the same potential level. In general, avoid contact with other people.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Take additional care when handling devices during cold weather. Heating reduces indoor humidity and increases static electricity.
- Verify that the ESD protective devices you use are ISO 9000 certified as fully effective.

Material codes for replaceable components

Component	Material code
Avaya S8800 1U Server (1U Base Config 1CPU-Lo Hi-R 10K)	700478522
2GB DIMMs 1333 Mhz	700478274
146 GB SAS 2.5” 10K RPM hard disk drive	700478316
2-port Ethernet card (PCIe card)	700478290
675 watt power supply	700478308
RAID battery	700478753

Replace the Avaya S8800 Server

Reuse of hardware components in replacement servers

When you replace the Avaya S8800 Server, you must reuse the following components:

- DIMMs (4 GB capacity)
- Redundant power supply if used
- PCIe card (dual NIC populated in slot 1 of the server)
- Two hard disk drives

Required equipment and tools

The requirements are as follows:

- Replacement Avaya S8800 Server

  The comcode of the replacement Communication Manager S8800 1U Server is 700478522.
- #2 cross-point (Phillips) screwdriver or 3/8 inch flathead screwdriver
- USB keyboard, USB mouse, and monitor
- Electrostatic wrist ground strap and mat

Important:

The replacement server is not shipped with the dual NIC PCI board and redundant power supply (if used). When you replace the Avaya S8800 Server, you must reuse these components in the replacement server. If any of these components are not functional in the failed server, you must order for them as separate items.

Interchanging and busying out the server

About this task

Important:

You must interchange and busy out the server only if you are replacing the Avaya S8800 Server with a duplex configuration. If you are replacing the Avaya S8800 Server with a simplex configuration, skip this task.

Procedure

1. Interchange the servers from the System Management Interface (SMI) by one of the following methods:
   - If the `Standby Refreshed?` value is `yes (for update/upgrade)`:
     i. Select **Server** > **Interchange Servers**.
     ii. Click **Interchange**.
   - If the `Standby Refreshed?` value is `no`:
     i. Select **Server** > **Interchange Servers**.
     ii. Select the **Force interchange regardless of server status** check box.

     Important:

     Selecting **Force interchange regardless of server status** results in a cold interchange and connections are not preserved.

     iii. Click **Interchange**.
2. Busy out the Off Line (standby) server by performing one of the following methods:
   - On the System Management Interface, click **Busy-out Server**.
   - At the command line interface type `server -b` and press **Enter**.

Tasks to replace an Avaya S8800 Server

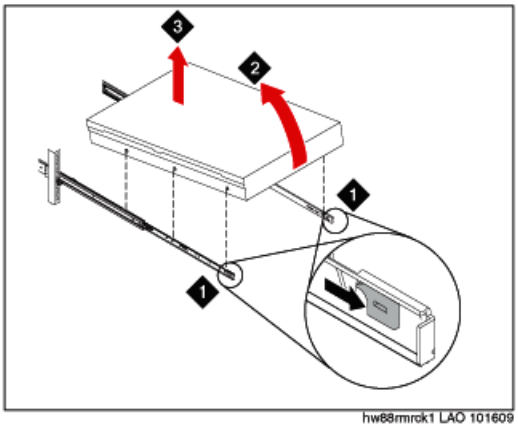
#	Task	Description	Notes	✔
1	Shut down the server.	If you can shut down the server from the software, do so. Otherwise, press the power button for several seconds to shut down the server.		
2	Disconnect all power cords and external cables.	**Important:** Be sure to label the cables for easy reconnecting.		

#	Task	Description	Notes	✔
3	Remove the server from the rack.	See Removing the server from the rack on page 14.		
4	Remove the reusable components from the failed server.	See Reuse of hardware components in replacement servers on page 12		
5	Install the reusable components in the new server.	See Reuse of hardware components in replacement servers on page 12		
6	Install the new server in the rack.	See Installing the server in the rack on page 15.		
7	Reconnect the external cables and power cords.			
8	Turn on the server.	See Turning on the server on page 16.		

Removing the server from the rack

Procedure

1. Turn off the server and all attached devices.
2. Label and disconnect all power cords and external cables.
3. Push the locking levers (1) forward. See the following figure.

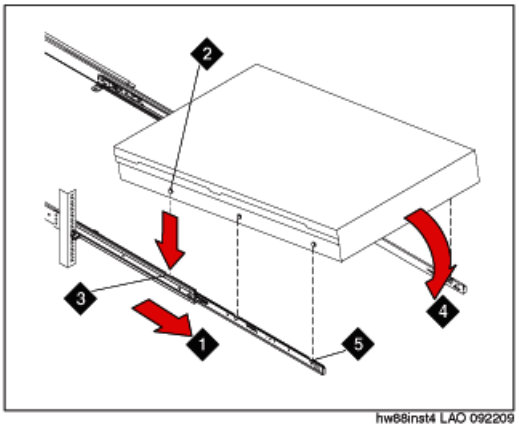


4. Lift up the front of the server (2). See the preceding figure.
5. Pull the server out of the rack (3). See the preceding figure.

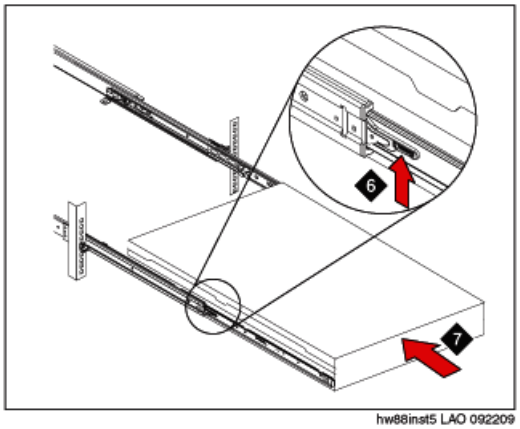
Installing the server in the rack

Procedure

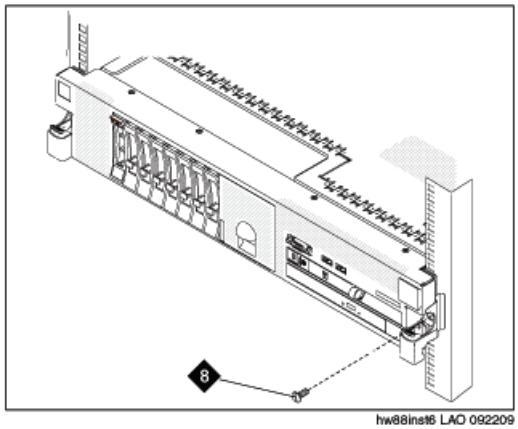
1. Pull the slide rails forward until they click, two times, into place. See 1 in Figure 1.



2. Carefully lift the server and tilt it into position over the slide rails so that the rear nail heads on the server line up with the rear slots on the slide rails. See 2 and 3 in Figure 1.
3. Slide the server down until the rear nail heads slip into the two rear slots.
4. Slowly lower the front of the server until the other nail heads slip into the other slots on the slide rails. See 4 in Figure 1.
5. Make sure that the front latch slides over the nail heads. See 5 in Figure 1.
6. Lift the locking levers on the slide rails. See 6 in Figure 2.



7. Push the server all the way into the rack until it clicks into place. See 7 in Figure 2.
8. Insert the optional M6 screws in the front of the server when you move the rack cabinet or if you install the rack cabinet in a vibration-prone area. See Figure 3.



Turning on the server

About this task

After the server is installed in the rack, turn it on to make sure that it works.

Important:

You must wait for the power-on LED to blink slowly (one flash per second) before pressing the power button. If you press the power button while the power-on LED is blinking quickly (three flashes per second), the server will not turn on.

Procedure

1. Plug one end of the power cord into the server power supply and the other end into a UPS or nonswitched outlet.
   Approximately 5 seconds after the server is connected to power, one or more fans might start running to provide cooling, and the power-on LED will blink quickly (three flashes per second). Approximately 3 minutes after the server is connected to power, the power-on LED will blink slowly (one flash per second), and one or more fans might start running.
2. Once the power-on LED begins to blink slowly, press the power button on the front of the server.
   The power-on LED will stop blinking and stay lit. After you press the power button, the server takes approximately 5 minutes to initialize.

Testing the system using the System Management Interface

About this task

Note:

You can test the system using the System Management Interface (SMI) only if you have Communication Manager installed on the server. If you have replaced both the hard drives of the server or if the server does not have Communication Manager installed, it is not possible to run this test. In this scenario, you must install Communication Manager first to test the system using SMI.

Procedure

1. On the SMI, click **Administration > Server (Maintenance)**.
2. Under **Server** click **Status Summary**. Verify that the `Server Hardware` and the `Processes` fields say `okay`.
3. Under **Diagnostics** select **Ping**.
4. Under **Endpoints to Ping**, select **All IPSI's, UPS's**.
5. Click **Execute Ping**.
   If the ping is successful, the Execute Ping results page displays a brief summary that shows the number of packets sent and received. The summary also shows the minimum, average, and maximum of the round-trip times.
6. From a computer on the customer LAN, use Internet Explorer to connect to the server.
7. Log in as **craft**.

This action verifies that connectivity exists and the customer can log in to perform administration or other tasks.

Returning defective equipment

Procedure

1. Place the defective equipment in the protective packaging that accompanied the replacement equipment.
2. Return the defective equipment to Avaya using the procedures established for your region.

Replace the hardware components

Removing and installing the server cover

Removing the server cover

Before you begin

Before you disconnect the server from the power source, make a note of which LEDs light up, including the LEDs that light up on the operation information panel, on the light path diagnostics panel, and LEDs inside the server on the system board. Once you disconnect the server from the power source, you lose the ability to view the LEDs because the LEDs do not light up when the power source is removed.

About this task

Remove the server cover to access the server's internal components.

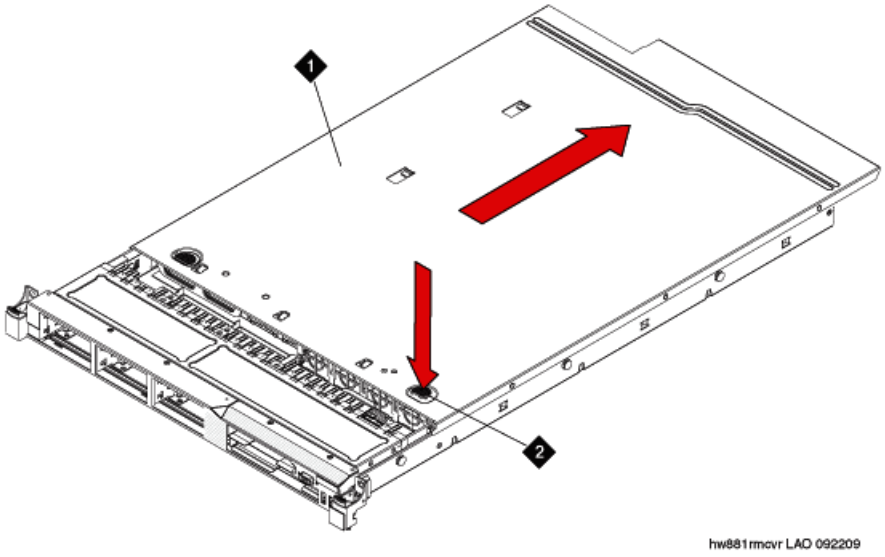
Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. If you are planning to view the error LEDs that are on the system board and components, leave the server connected to power.

2. If you are planning to install or remove a DIMM, PCI card, battery, or other non-hot swap device:
   a. Turn off the server and all attached devices.
   b. Label and disconnect all power cords and external cables.
3. If the server has been installed in a rack, slide the server out from the rack enclosure.
4. Press down firmly on the blue tab on the top (near the front of the server) of the cover and slide the cover toward the back of the server until the cover has disengaged from the chassis. See the following figure.



1	Cover
2	Tab

5. Lift the server cover off the server and set it aside.

Important:

For proper cooling and airflow, replace the cover before you turn on the server. Operating the server for extended periods of time (over 30 minutes) with the cover removed might damage server components.

Installing the server cover

About this task

Important:

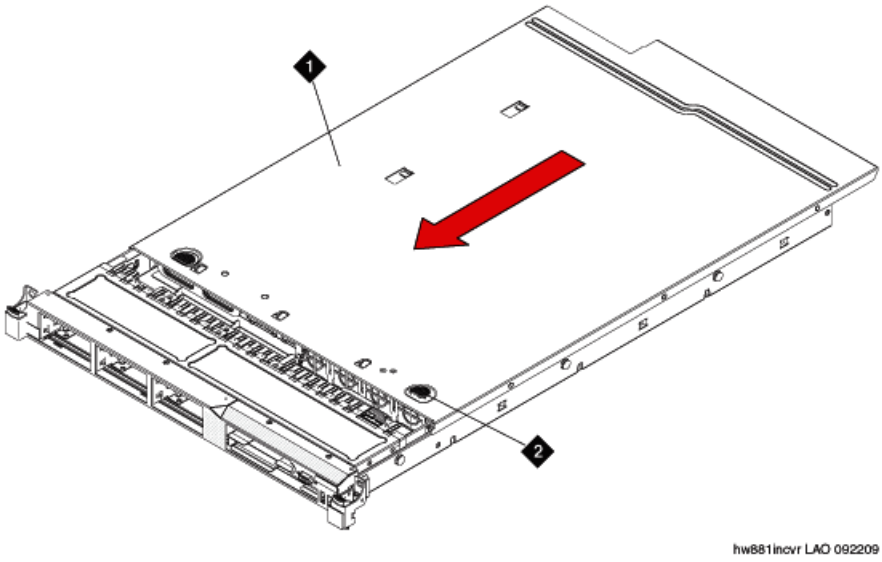
Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Make sure that all internal cables, PCIe cards, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
2. Position the cover on top of the server. See the following figure.

   Important:

   Before you slide the cover forward, make sure that all the tabs on both the front, back, 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.



1	Cover
2	Tab

3. Slide the cover toward the front of the server.
4. Make sure that the cover correctly engages all the inset tabs on the server.
5. Slide the server all the way into the rack until it latches.
6. Reconnect the external cables and power cords.

Replacing memory modules

Sequence for populating DIMM connectors

To optimize system performance, install dual in-line memory modules (DIMMs) in the sequence that is shown in the following table.

Installed microprocessors	DIMM connector population sequence
Microprocessor 1	3, 6, 8, 2, 5, 7, 1, 4
Microprocessor 2	11, 14, 16, 10, 13, 15, 9, 12

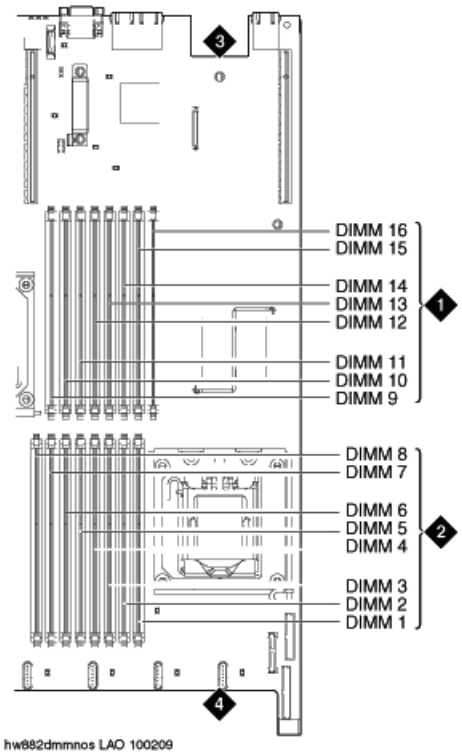
Note:

The server for Communication Manager 5.2.1 has only one microprocessor installed.

Note:

Dual microprocessors require equal distribution of DIMMs between the processors. For example, a 12GB DIMM would have connectors 3,6,8 and 11,14,16 populated.

The following figure shows the numbering sequence of the DIMMs.



1	DIMMs for microprocessor 2
2	DIMMs for microprocessor 1
3	Back of server
4	Front of server

Removing the DIMM air baffle

About this task

You must remove the DIMM air baffle to replace or install a memory module.

Caution:

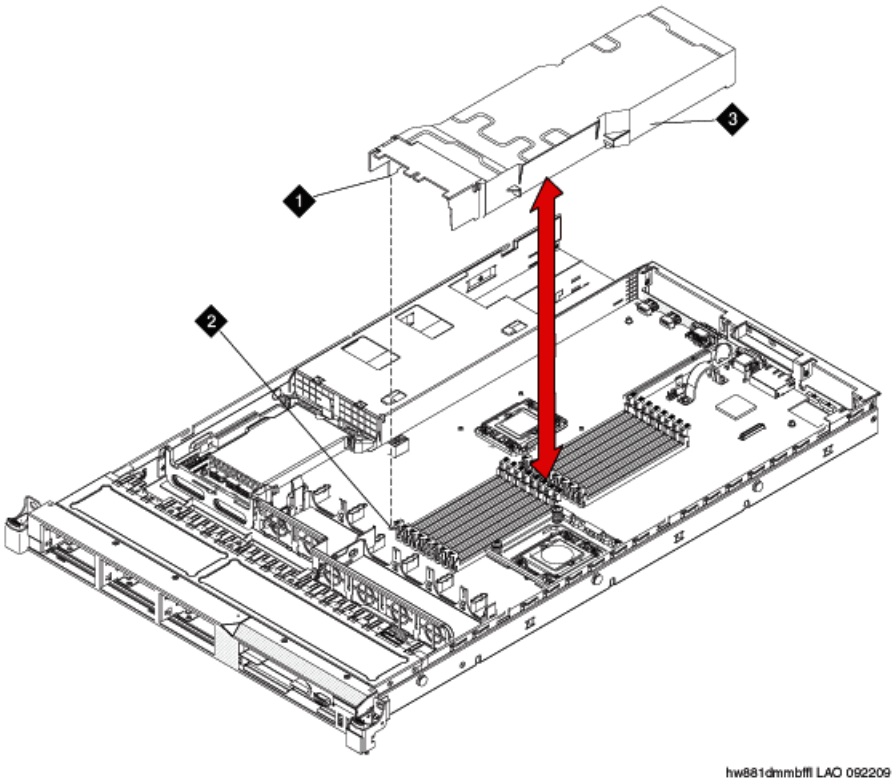
For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with a missing air baffle might damage server components.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Turn off the server and all attached devices.
2. Label and disconnect all power cords and external cables.
3. Remove the cover.
4. Lift the DIMM air baffle out of the server. Make sure that the pin comes out of the pin hole on the system board to the left of DIMM connector 8. See the following figure.



1	Baffle pin
2	Baffle pin hole
3	DIMM air baffle

Removing a memory module

Before you begin

Remove the DIMM air baffle.

About this task

Important:

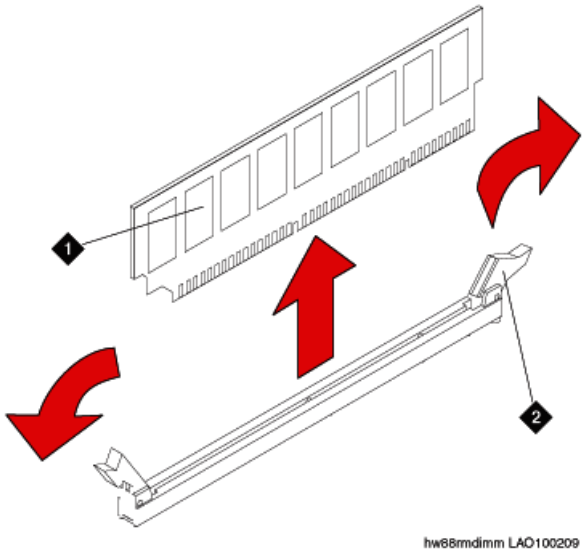
Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

Carefully open the retaining clips on each end of the memory module connector and remove the memory module. See the following figure.

Important:

Open and close the clips gently to avoid breaking the retaining clips or damaging the memory module connectors.



1	Memory module
2	Retaining clip

When you install or remove memory modules, the server configuration information changes. When you restart the server, the system displays a message that indicates that the memory configuration has changed.

Next steps

Install a memory module.

Installing a memory module

Before you begin

Remove the DIMM air baffle.

About this task

Important:

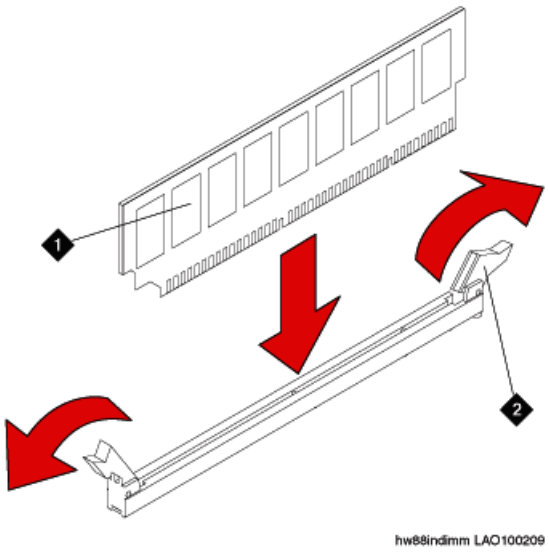
Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Carefully open the retaining clips on each end of the memory module connector. See the following figure.

   Important:

   Open and close the clips gently to avoid breaking the retaining clips or damaging the memory module connectors.



1	Memory module
2	Retaining clip

2. Touch the static-protective package that contains the memory module to any unpainted metal surface on the server.
3. Remove the memory module from the package.
4. Turn the memory module so that the memory module keys align correctly with the connector.
5. Insert the memory module into the connector by aligning the edges of the memory module with the slots at the ends of the memory module connector.
6. Firmly press the memory module straight down into the connector by applying pressure on both ends of the memory module simultaneously.
   The retaining clips snap into the locked position when the memory module is firmly seated in the connector.

   Important:

   If there is a gap between the memory module and the retaining clips, the memory module has not been correctly inserted. Open the retaining clips, remove the memory module, and then reinsert it.

7. Replace the air baffle over the memory modules. Make sure all cables are out of the way.
8. Install the cover.
9. Reconnect the external cables and power cords.
10. Turn on the attached devices and the server.
    When you install or remove memory modules, the server configuration information changes. When you restart the server, if a monitor and keyboard are connected, the system displays a message that indicates that the memory configuration has changed.

Installing the DIMM air baffle

About this task

You must install the DIMM air baffle after you install a memory module.

Caution:

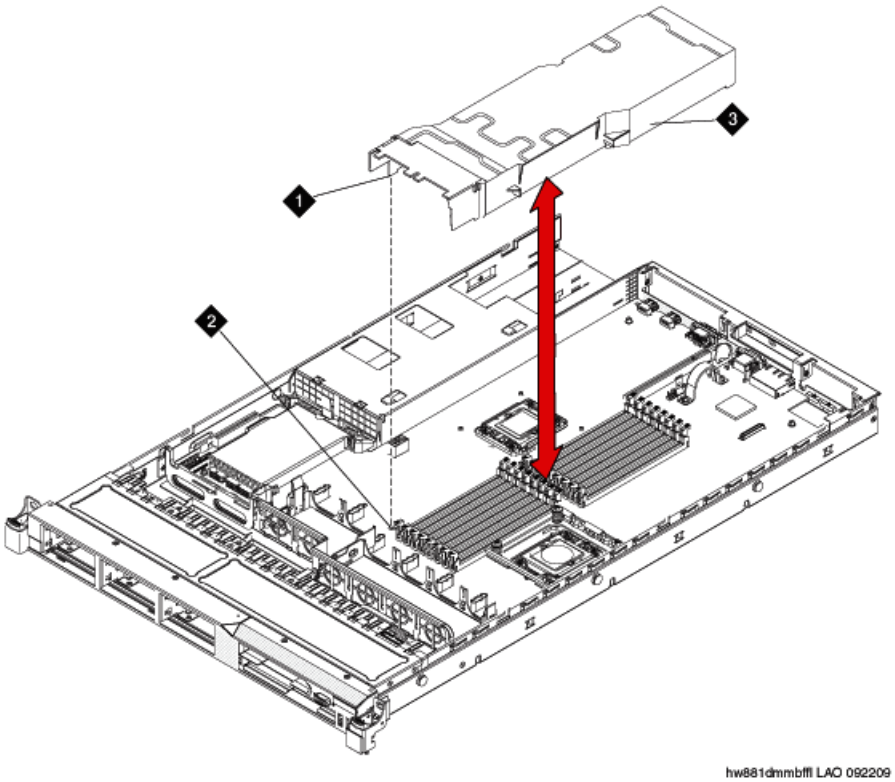
For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with a missing air baffle might damage server components.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Align the DIMM air baffle over the DIMMs so that the baffle pin on the left side of the air baffle aligns with the pin hole next to the DIMM connector on the system board. See the following figure.



1	Baffle pin
2	Baffle pin hole
3	DIMM air baffle

2. Lower the air baffle into place. Make sure that all cables are out of the way.
3. Install the cover.
4. Reconnect the external cables and power cords.
5. Turn on the attached devices and the server.

Removing and installing a PCI riser-card assembly

Removing a PCI riser-card assembly

About this task

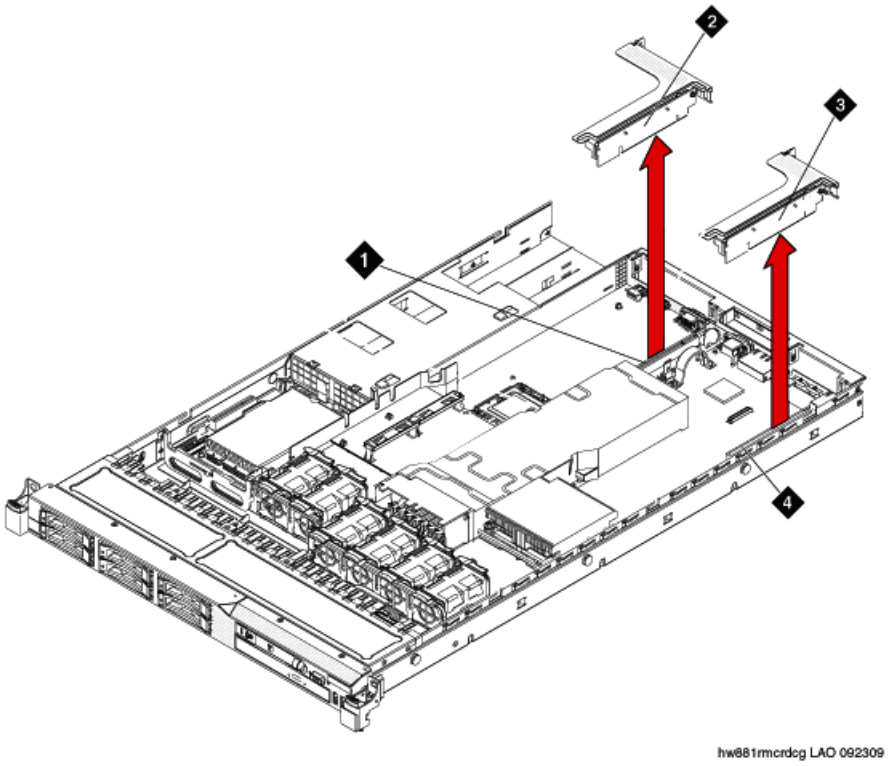
You must remove the PCI riser-card assembly to replace the PCIe card.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Turn off the server and all attached devices.
2. Label and disconnect all power cords and external cables.
3. Remove the cover.
4. If a card is installed in the PCI riser-card assembly, disconnect any cables that are connected to the card.
5. Grasp the blue tab near the rear of the PCI riser-card assembly from the rear and lift it out of the PCI riser-card slot on the system board. See the following figure.



1	PCI riser connector 2
2	PCI riser-card assembly (full-height, half-length PCIe cards)
3	PCI riser-card assembly (low profile PCIe cards)
4	PCI riser connector 1

6. Place the riser-card assembly on a flat, static-protective surface.

Next steps

Remove the PCIe card.

Installing a PCI riser-card assembly

Before you begin

Reinstall any PCIe cards and reconnect any internal cables that you removed.

About this task

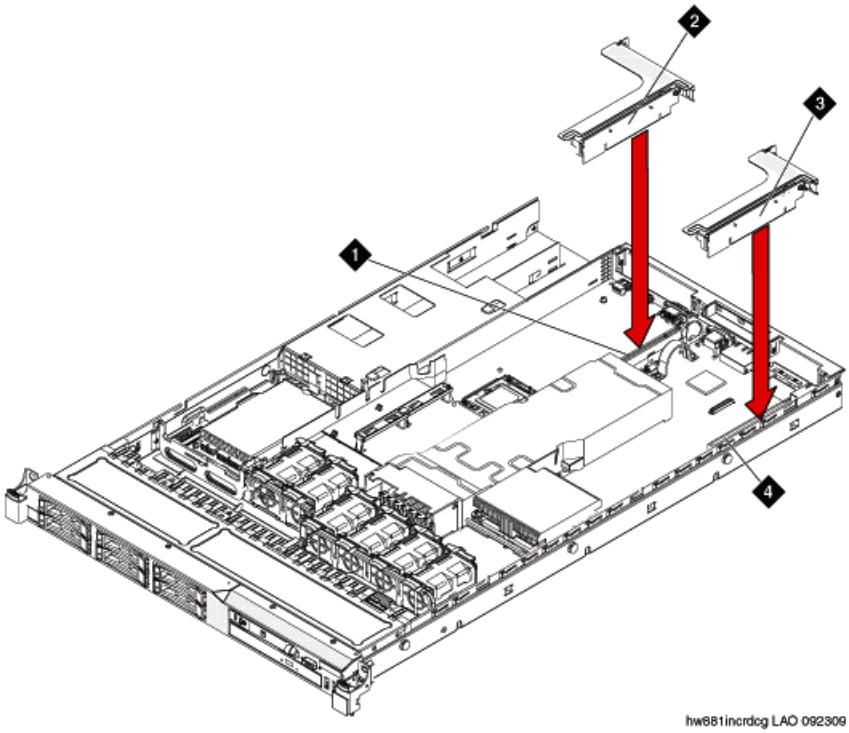
You must install the PCI riser-card assembly after you replace the PCIe card.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Align the PCI riser-card assembly with the PCI connector on the system board. See the following figure.



1	PCI riser connector 2

2	PCI riser-card assembly (full-height, half-length PCIe cards)
3	PCI riser-card assembly (low profile PCIe cards)
4	PCI riser connector 1

2. Press down on the riser-card assembly. Make sure that the assembly is fully seated in the riser-card connector on the system board.
3. Install the cover.
4. Reconnect the external cables and power cords.
5. Turn on the attached devices and the server.

Replacing a PCIe card

Removing a PCIe card

Before you begin

Remove the PCI riser-card assembly.

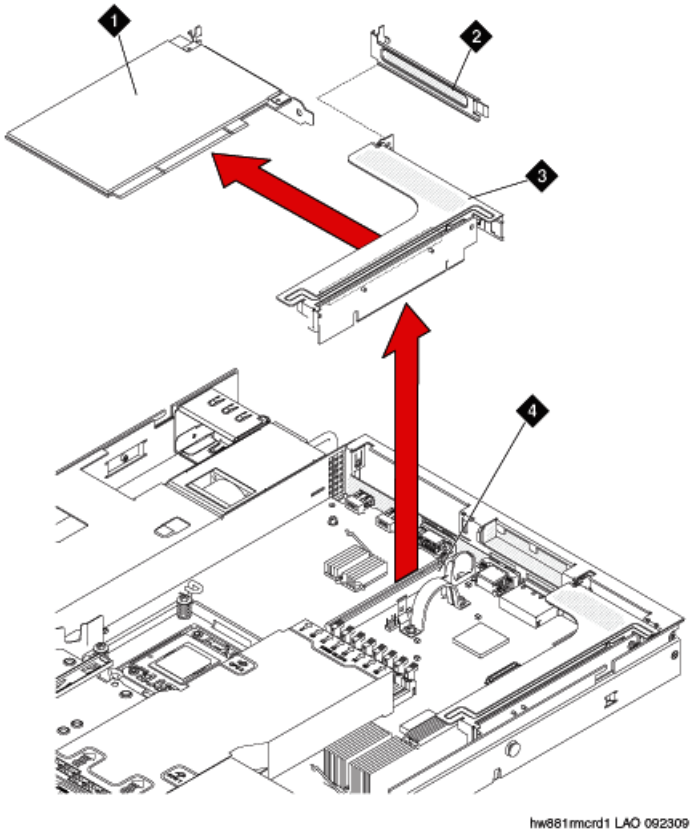
About this task

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

Carefully grasp the card by its top edge or upper corners, and pull the card from the PCI expansion slot. See the following figure.



1	PCIe card
2	Expansion slot cover
3	PCI riser-card assembly
4	PCI riser-card connector

Next steps

Install a PCIe card.

Installing a PCIe card

Before you begin

Remove the PCIe card.

About this task

Caution:

When you install a PCIe card, make sure that the card is correctly seated in the riser-card assembly and that the riser-card assembly is securely seated in the riser-card connector on

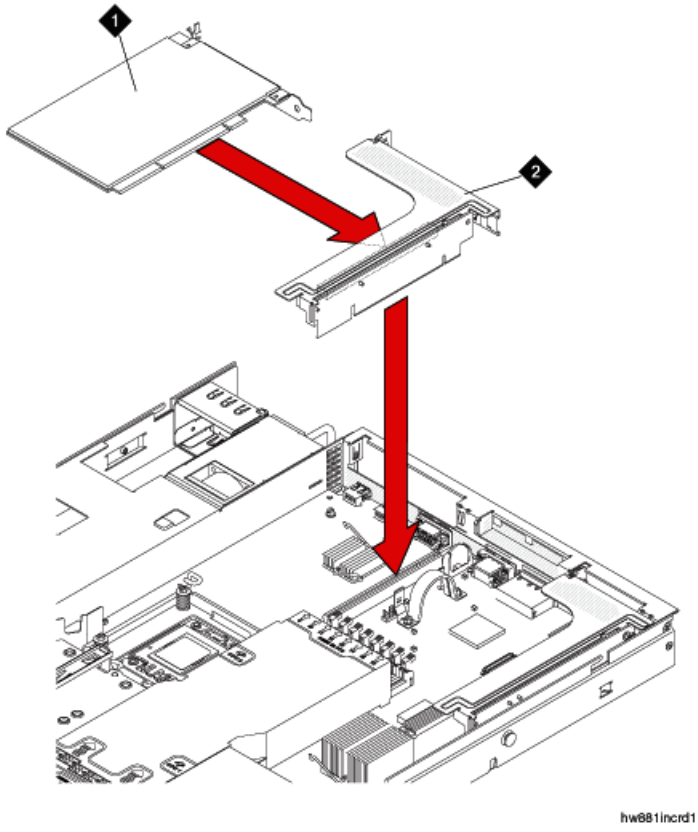
the system board before you turn on the server. An incorrectly seated PCIe card might cause damage to the system board, the riser-card assembly, or the PCIe card.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Connect any required cables to the PCIe card. Follow the cabling instructions that came with the PCIe card. Route the card cables before you install the card.
2. Insert the PCIe card into the riser-card assembly, aligning the edge connector on the card with the connector on the riser-card assembly. Press the edge of the connector firmly into the riser-card assembly. Make sure that the PCIe card snaps into the riser-card assembly securely. See the following figure.



1	PCIe card
2	PCI riser-card assembly

3. Install the riser-card assembly in the server.
4. Perform any configuration tasks that are required for the PCIe card.

5. Install the cover.
6. Reconnect the external cables and power cords.
7. Turn on the attached devices and the server.

Replacing a hard disk drive

Removing a hard disk drive

About this task

Important:

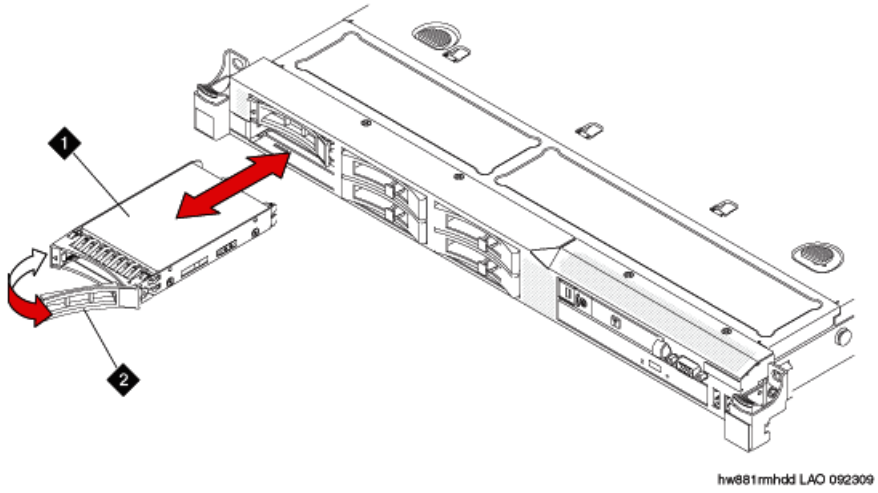
To ensure adequate system cooling, do not operate the server for more than 2 minutes without either a hard disk drive or a filler panel installed in each bay.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Slide the release latch (orange) gently to the left to unlock the drive handle. See the following figure.



1	Drive tray assembly
2	Drive handle

2. Grasp the handle and slide the drive out of the drive bay approximately 25 mm (1 inch). Wait until the drive stops spinning before you remove the drive completely from the bay.

Next steps

Install a hard disk drive.

Installing a hard disk drive

Before you begin

If replacing an existing hard drive, remove the hard drive that you want to replace.

About this task

Important:

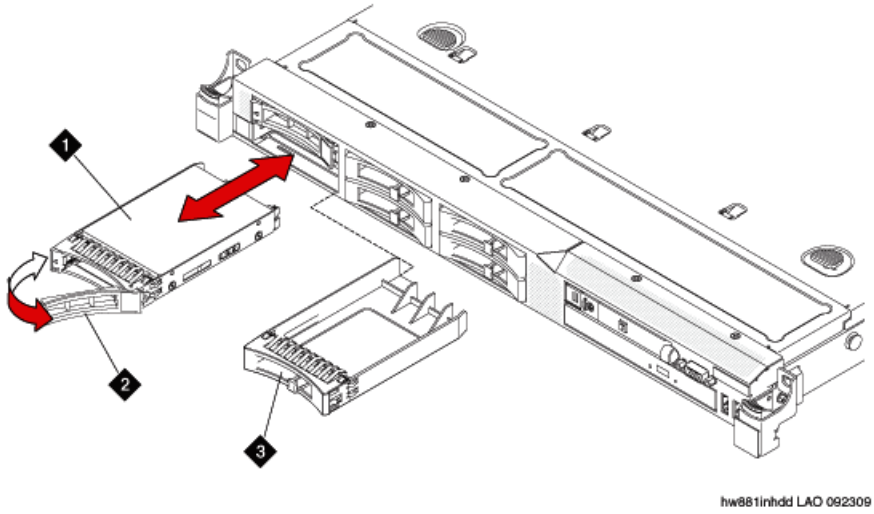
To ensure adequate system cooling, do not operate the server for more than 2 minutes without either a hard disk drive or a filler panel installed in each bay.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Touch the static-protective package that contains the drive to any unpainted metal surface on the server.
2. Remove the drive from the package and place it on a static-protective surface.
3. Make sure that the tray handle is in the open (unlocked) position.
4. Align the drive assembly with the guide rails in the bay. See the following figure.



1	Drive-tray assembly
2	Drive handle
3	Filler panel

5. Gently push the drive assembly into the bay until the drive stops.
6. Push the tray handle to the closed (locked) position.
7. If the drive was hot-swapped, check the hard disk drive status LED to verify that the hard disk drive is operating correctly.

   After you replace a failed hard disk drive, the green activity LED flashes as the disk is accessed. When the new drive starts to rebuild, the amber LED flashes slowly, and the green activity LED remains lit during the rebuild process. The rebuild process takes approximately 30 minutes. An amber LED that remains lit indicates a faulty drive that you must replace.

Confirming installation of the hard drive

About this task

Verify RAID HDD status:

1. On the SMI, click **Server** > **Status Summary**.
2. On the Status Summary page, verify that the **RAID HDD Status** field shows **2**.

Verify the details of two hard drives:

1. On the SMI, click **Server Configuration** > **Display Configuration**.
2. On the Display Configuration page, verify that **Disk devices** shows the details of two hard drives.

Verify RAID status:

1. On the SMI, click **Diagnostics** > **RAID Status**.
2. On the RAID Status page, verify that the status of the two hard drives is reported. To do so:
   - In the **Device Present**>**Physical Devices** section of the RAID Status page, verify the following values:

     ```
     Disks : 2

     Failed Disks : 0
     ```

     Note:

     Make sure that the entries indicate that both the hard drives are physically installed in the server and are not in a failed status.
   - At the bottom of the RAID Status page, verify that the RAID Status page displays entries for the two hard drives similar to the following:

     ```
     Device (Encl-252 Slot-0) is not in rebuild process

     Device (Encl-252 Slot-1) is not in rebuild process
     ```

     Note:

     The entries for the two hard drives can also indicate that one of the drives is in the rebuild process.

Replacing a power supply

Removing a power supply

About this task

Caution:

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

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. These components do not contain any serviceable parts. If you suspect a problem with one of these parts, replace the power supply.

Important:

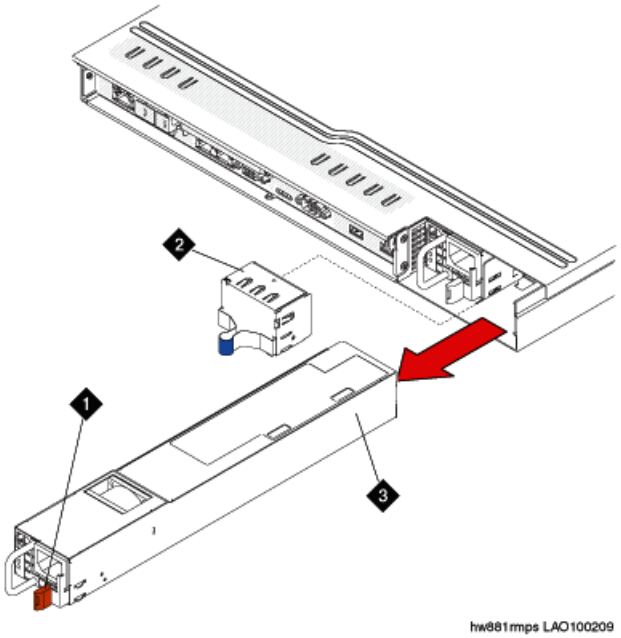
During normal operation, each power supply bay must contain either a power supply or power supply filler for proper cooling.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. If the server has only one power supply, turn off the server and peripheral devices and disconnect all power cords. If the server has two power supplies, you can replace one power supply while the server is running.
2. 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.
3. Press and hold the orange release tab to the left. See the following figure.



1	Power supply release tab
2	Power supply filler
3	Power supply

4. Pull the power supply part of the way out of the bay, and then release the latch and support the power supply as you pull the power supply the rest of the way out of the bay.

Next steps

Install a power supply.

Installing a power supply

About this task

Caution:

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

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. These components do not contain any serviceable parts. If you suspect a problem with one of these parts, replace the power supply.

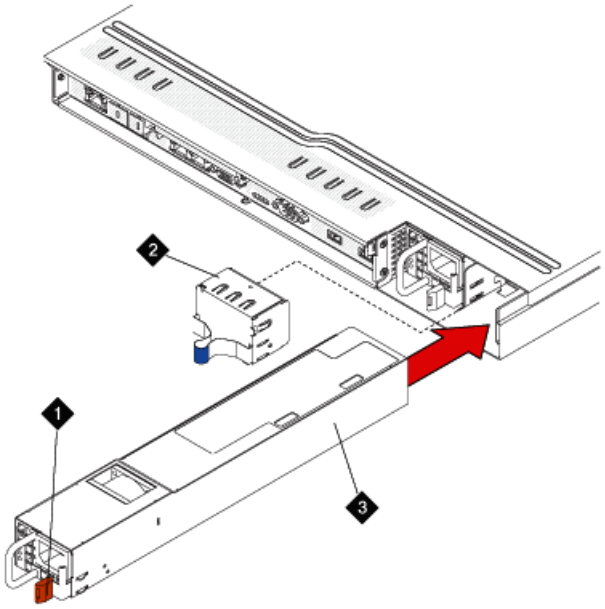
Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Touch the static-protective package that contains the power supply to any unpainted metal surface on the server.

2. Remove the power supply from the package and place the power supply on a static-protective surface.
3. If you are installing a power supply into an empty bay, remove the power-supply filler panel from the power-supply bay.
4. Grasp the handle on the back of the power supply and slide the power supply into the power-supply bay until it clicks. Make sure that the power supply connects firmly into the power supply connector. See the following figure.



1	Power supply release tab
2	Power supply filler
3	Power supply

5. Route the power cord through the handle so that the power cord does not accidentally become unplugged.
6. Connect the power cord for the new power supply to the power-cord connector on the power supply.
7. Connect the other end of the power cord to a properly grounded electrical outlet.
8. Make sure that both the AC LED and the DC LED on the power supply light up.

   Both LEDs light up when the power supply is operating correctly.

Replacing the RAID battery

Removing the RAID battery

Before you begin

The RAID battery is located on top of the RAID controller card.

The RAID configuration data is preserved when you replace the battery.

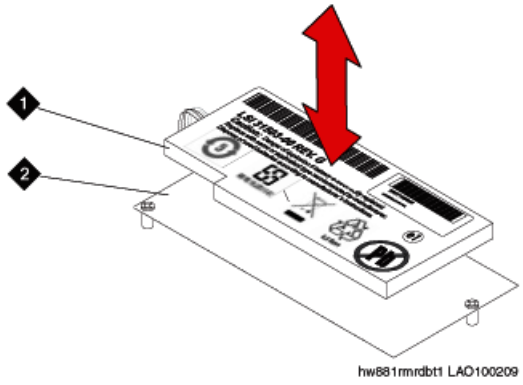
About this task

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Turn off the server and all attached devices.
2. Label and disconnect all power cords and external cables.
3. Remove the cover.
4. Disconnect the cable from the connector on the battery. Leave the other end of the cable connected to the battery carrier.
5. Squeeze the clip on the side of the battery to remove the battery from the battery carrier. See the following figure.



1	Battery
2	Battery carrier

6. Put the old battery aside.

Next steps

Install a new RAID battery.

Installing the RAID battery

Before you begin

Remove the existing RAID battery.

About this task

The RAID battery is located on top of the RAID controller card.

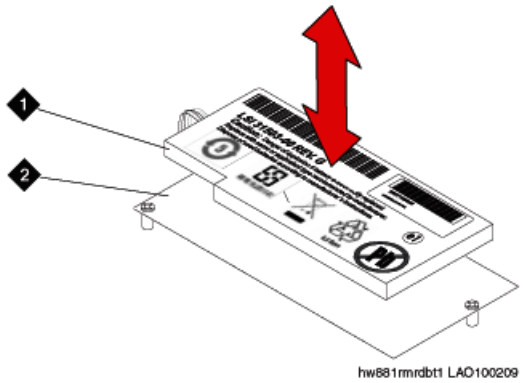
The RAID configuration data is preserved when you replace the battery.

Important:

Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see Protecting against ESD damage on page 10.

Procedure

1. Connect the battery cable to the connector on the battery.
2. Press the new battery onto the battery carrier until the clip on the side of the battery snaps into place. See the following figure.



1	Battery
2	Battery carrier

3. Install the cover.
4. Reconnect the external cables and power cords.
5. Turn on the attached devices and the server.

Replacing the USB modem

Replace the USB modem

Important:

Perform this task only if you are using a USB modem to report alarms. If you are using SAL to report alarms, skip this task.

Avaya recommends to use SAL to report alarms. In using a modem to report alarms, it is not possible to achieve 99.99% availability on an S8800 server in simplex mode since it cannot detect and report when the server is down. With SAL to report alarms, the server down condition is detected and it sends out an alarm to notify that the server is down.

For more information about configuring SAL, see Secure Access Link 1.8 SAL Gateway Implementation Guide, available as part of the software download from the Product Licensing and Delivery System (PLDS) Web site http://plds.avaya.com.

Verify that you have the following replacement USB modem on site:

- USB Modem USR 5637-OEM (Material ID 700464506)

Remove the old modem

To remove the old or defective modem, remove the USB cable and phone line.

Install the replacement modem

To install the replacement USB modem, reconnect the USB cable, the phone lines, and power to their respective connectors on the rear of the modem.

Configuring the USB modem

Procedure

1. On the System Management Interface, from the **Installation** menu, click **Configure Server**.
2. Click **Continue** until you get to the Specify how you want to use this wizard page.
3. Select **Configure individual services** and click **Continue**.
4. On the menu on the left, click **Set Modem Interface**.
5. Select **Change Modem Setting** and click **Continue**.
6. In the Extra Modem Initialization Commands window, type the initialization commands that are appropriate for your modem and the country of operation. Click **Help** for help on what to enter.

   For example, to change the country code to Japan, type `AT%T19,0,10`.
7. Click **Change**.

The system displays a message that indicates that a modem route was added successfully.

Testing the USB modem

Procedure

1. Log on to the System Management Interface.
2. From the **Administration** menu, click **Server (Maintenance)**.
3. On the left navigation menu, under the Diagnostic section, click **Modem Test**.

   For more information about testing and troubleshooting the modem, click the **Help** button on the Modem Test page.

Returning defective equipment

Procedure

1. Place the defective equipment in the protective packaging that accompanied the replacement equipment.
2. Return the defective equipment to Avaya using the procedures established for your region.

Chapter 3: Troubleshoot the Avaya S8800 Server

This chapter describes the procedures to diagnose and troubleshoot the following server problems:

- Hard disk drive problems
- Power problems
- Memory problems

Troubleshooting

Customer-provided equipment

The customer must provide the services personnel with the following equipment for the troubleshooting procedures that are described in this section:

- USB keyboard
- USB mouse
- Monitor

Diagnosing server problems

About this task

Use this sequence of tasks to diagnose a problem in the server.

Procedure

1. Check the system-error LED on the operator information panel. If this LED lights up or flashes, check the light diagnostic panel.

   Important:

   When you slide the light path diagnostics panel out of the server to check the LEDs, do not run the server continuously with the light path diagnostics panel outside of the server. The panel should be outside of the server for only a short

time. The light path diagnostics panel must remain in the server when the server is running to ensure proper cooling.

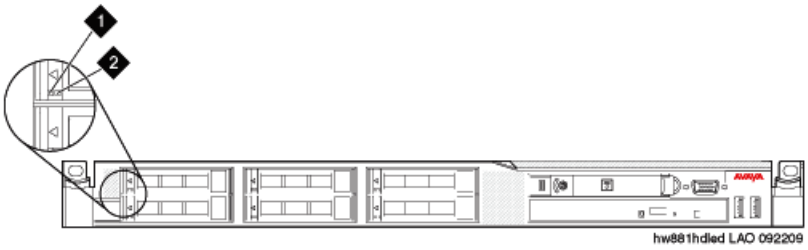
2. Check the power supply LEDs and hard disk drive LEDs.
3. If the LED lights up for a component that can be hot swapped, such as a hard disk drive or power supply, reseat the component and see if the alarm clears. If the alarm does not clear, replace the component.

   Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped. (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.

   Important:

   Do not remove a component with blue touch points while the server is running. Blue touch points indicate that the component cannot be hot swapped.
4. Check all cables and power cords.
5. If the LED lights up for a component that cannot be hot swapped or if the sever is already turned off, connect a customer-provided keyboard, mouse, and monitor to the server.
6. Perform the appropriate shut down procedure for the application that is running on the server.
7. If the LED was lit for a component that cannot be hot swapped, reseat or replace the component. See the procedure for replacing the component. Replaceable components that cannot be hot swapped are:
   - DIMMs
   - 2-port Ethernet card (PCIe card)
   - RAID battery
8. Check for successful completion of power-on self-test (POST). POST error messages are displayed on the system monitor.

Hard disk drive LEDs



1	Hard disk drive activity LED (green)
2	Hard disk drive status LED (amber)

Troubleshooting hard disk drives

Failed hard disk drive

A hard disk drive has failed, and the associated amber hard disk drive status LED lights up.

Troubleshooting steps

- Replace the hard disk drive.

  Important:

  Before replacing the hard disk drive, check the documentation for the application that is running on the server. You may need to execute specific commands before replacing a hard disk drive.

After you replace a hard disk drive, the rebuild process takes a minimum of 30 minutes.

Troubleshooting steps

Procedure

1. Check the amber status LED for the hard disk drive.
2. If the LED lights up, remove the drive from the bay, wait 45 seconds, and reinsert the drive. Make sure that the drive assembly connects to the hard disk drive backplane.
3. Check the green activity LED and the amber status LED for the hard disk drive:

- If the green activity LED flashes and the amber status LED does not light up, the drive is recognized by the RAID controller and is working correctly.
- If the green activity LED flashes and the amber status LED flashes slowly, the drive is recognized by the RAID controller and is rebuilding.
- If neither LED lights up or flashes, check the hard disk drive backplane (go to next step).
- If the green activity LED flashes and the amber status LED lights up, replace the drive. If the activity of the LEDs remains the same, go to the next step. If the activity of the LEDs changes, return to step 1.

4. If the application provides information about the RAID status, access that information. For more details, see Confirming installation of the hard drive on page 35.
5. Connect a customer-provided keyboard, mouse, and monitor to the server and check the application syslog for errors.

Multiple hard disk drives fail

Troubleshooting steps

Procedure

Replace the server.

Multiple hard disk drives are offline

Troubleshooting steps

Procedure

Replace the server.

A replacement hard disk drive does not rebuild

Troubleshooting steps

Procedure

1. Make sure that the hard disk drive is recognized by the RAID controller card (the green hard disk drive activity LED is flashing).
2. Check the amber status LED for the hard disk drive.

3. If the LED lights up, remove the drive from the bay, wait 45 seconds, and reinsert the drive. Make sure that the drive assembly connects to the hard disk drive backplane.
4. Check the green activity LED and the amber status LED for the hard disk drive:
   - If the green activity LED flashes and the amber status LED does not light up, the drive is recognized by the RAID controller and is working correctly.
   - If the green activity LED flashes and the amber status LED flashes slowly, the drive is recognized by the RAID controller and is rebuilding.
   - If neither LED lights up or flashes, check the hard disk drive backplane (go to next step).
   - If the green activity LED flashes and the amber status LED lights up, replace the drive. If the activity of the LEDs remains the same, go to the next step. If the activity of the LEDs changes, return to step 1.
5. Connect a customer-provided keyboard, mouse, and monitor to the server and check the application syslog for errors.

Troubleshooting power problems

Power control button does not work

The power-control button does not work, and the reset button does work (the server does not start).

Note:

The power control button does not function until approximately three minutes after the server has been connected to AC power.

Approximately five seconds after the server is connected to power, the power-on LED will blink quickly (three flashes per second). Approximately three minutes after the server is connected to power, the power-on LED will blink slowly (one flash per second)

You must wait for the power-on LED to blink slowly (one flash per second) before pressing the power button. If you press the power button while the power-on LED is blinking quickly (three flashes per second), the server will not turn on.

Troubleshooting steps

Procedure

1. Disconnect the server power cords.
2. Connect a customer-provided keyboard, mouse, and monitor to the server.

3. Reconnect the power cords.
4. Check the LEDs on the system board. For some components, such as DIMMs and fans, these LEDs can help you identify the problem. For other components, these LEDs are not useful.
5. Make sure that:
   - The power cords are correctly connected to the server and to a working electrical outlet.
   - The type of memory that is installed is correct.
   - The DIMMs are fully seated and in the correct sequence for the application that is running on the server.
   - The LEDs on the power supply do not indicate a problem.
6. Reseat the DIMMs.
7. Reseat the power supplies.
8. Replace the DIMMs as needed. Restart the server after replacement.
9. Replace the power supplies, one at a time. Restart the server after each replacement.
10. 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.
11. Replace the server.

Server does not start

Troubleshooting steps

Procedure

1. Check the four 12-volt power LEDs (A, B, C, and D) on the system board.
2. If the Channel A power LED lights up:
   a. Remove all PCIe cards and riser cards.
   b. Try restarting the server.
   c. If the server starts, reinstall the PCIe cards and riser cards, one at a time, to isolate the defective card. Restart the server after reinstalling each PCI riser card.
3. If the Channel D power LED lights up:
   a. Remove all DIMMs and restart the server.

b. If the server restarts, reinstall the DIMMs, one pair at a time, to isolate the defective DIMM. Restart the server after installing each DIMM.

Server does not turn off

Troubleshooting steps

Procedure

1. Connect a customer-provided keyboard, mouse, and monitor to the server.
2. Press Ctrl+Alt+Delete.
3. Turn off the server by pressing the power-control button and hold it down for 5 seconds.
4. Restart the server.
5. If the server fails POST and the power control button does not work, disconnect the power cord for 20 seconds, and then reconnect the power cord and restart the server.
6. If the problem still exists, replace the server.

Troubleshooting memory problems

Memory displayed is less than memory installed

The amount of system memory that is displayed is less than the amount of installed physical memory.

Troubleshooting steps

Procedure

1. Make sure that:
   - No error LEDs light up on the operator information panel.
   - The DIMMs are seated correctly.
   - If you changed the memory, you updated the memory configuration in the Setup utility.
2. Shut down the server and remove the power cords.
3. Reseat the DIMMs.

4. Reconnect the power cords, and restart the server.
5. Check the amount of system memory.
6. If the problem still exists, replace the server.

Multiple rows of DIMMs in a branch are identified as failing

Troubleshooting steps

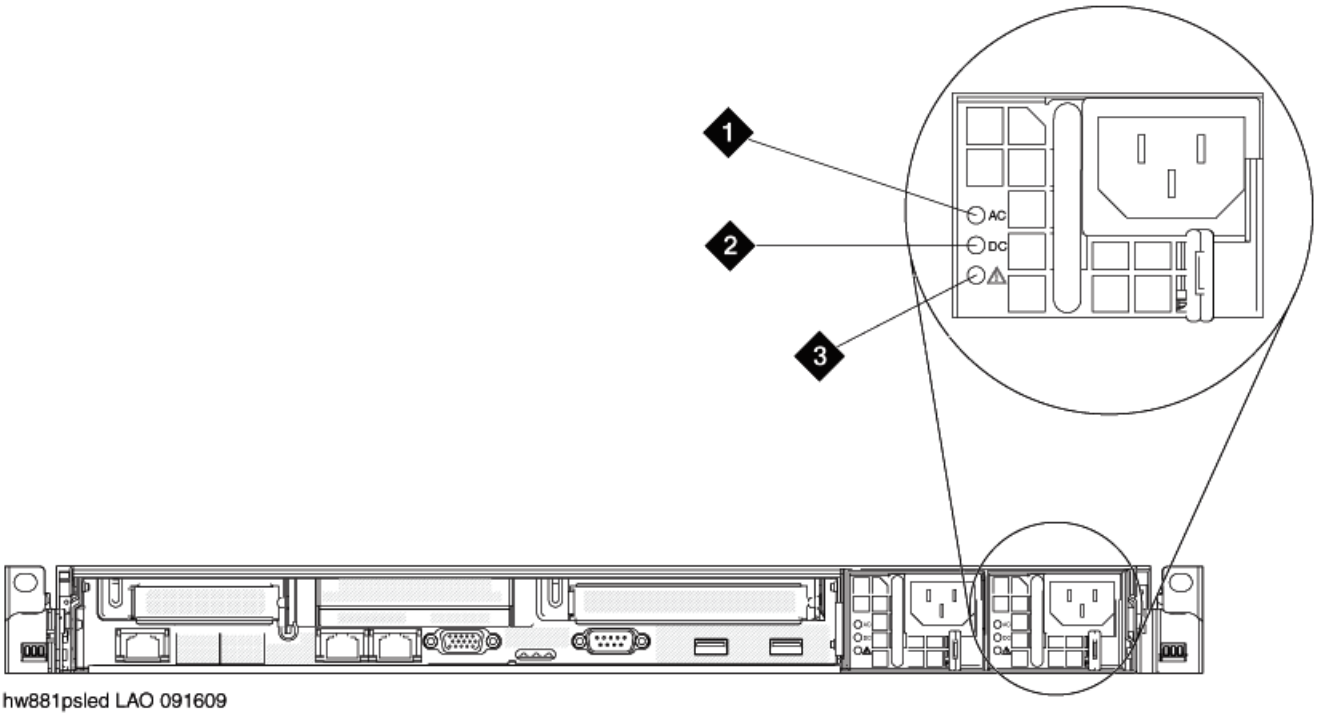
About this task

Procedure

1. Reseat the DIMMs.
2. Restart the server.
3. Remove the lowest numbered DIMM pair of those that are identified and replace it with an identical pair of known good DIMMs. Then, restart the server.
4. Repeat Step 3 as necessary. If the failures continue after all identified pairs are replaced, go to step 8.
5. Return the removed DIMMs, one pair at a time, to their original connectors. Restart the server after each pair, until a pair fails.
6. Replace each DIMM in the failed pair with an identical known good DIMM. Restart the server after each DIMM.
7. Replace the failed DIMM. Repeat steps 5 and 6 until you have tested all removed DIMMs.
8. Replace the lowest numbered DIMM pair of those identified. Then, restart the server.
9. Repeat Step 8 as necessary.

Power supply LEDs

Power supply LEDs



hw881psled LAO 091609

1	AC LED (green)
2	DC LED (green)
3	Power supply error LED (amber)

Identifying power supply problems

Power supply LEDs			Description
AC	DC	Error	
Off	Off	Off	No AC power to the server or a problem with the AC power source. This is a normal condition when no AC power is present. See Server has no AC power on page 54

Power supply LEDs			Description
AC	DC	Error	
Off	Off	On	No AC power to the power supply, a problem with the AC power source, or a failed power supply. This condition occurs only when a second power supply is providing power to the server. See Error LED lights up for one power supply on page 55
Off	On	Off	Faulty power supply. See Faulty power supply on page 55
Off	On	On	Faulty power supply. See Faulty power supply on page 55
On	Off	Off	Power supply not fully seated (most typical), faulty power supply, or faulty system board. See Power supply AC LED lights up on page 55
On	Off or flashing	On	Faulty power supply. See Faulty power supply on page 55
On	On	Off	Normal operation
On	On	On	Power supply is faulty but still operational See Faulty power supply on page 55

Troubleshooting power supply problems

Server has no AC power

All power supply LEDs are off when the server has no AC power.

Troubleshooting steps

Procedure

1. Check the AC power to the server.
2. Make sure that the power cord is connected to a functioning power source.
3. Turn the server off and then turn the server back on.
4. Replace the power supply.

Error LED lights up for one power supply

If the power supply Error LED lights up and all other power supply LEDs are off, either the power supply has no AC power, a problem exists with the AC power source, or the power supply failed.

This condition occurs only when a second power supply is providing power to the server.

Troubleshooting steps

Procedure

1. Check the AC power to the server.
2. Make sure that the power cord is connected to a functioning power source.
3. Replace the power supply.

Power supply AC LED lights up

If the power supply AC LED lights up and all other power supply LEDs are off, one of three possible problems exists:

- The power supply is not fully seated (most typical).
- The power supply is faulty.
- The system board is faulty.

Troubleshooting steps

Procedure

1. Reseat the power supply.
2. If the 240 V failure LED on the system board does not light up, replace the power supply.
3. If the 240 V failure LED on the system board lights up, replace the server.

Faulty power supply

Several LEDs and combinations of LEDs can indicate that a power supply is faulty. The following table describes these LEDs and LED combinations.

AC	DC	Error
Off	On	Off

AC	DC	Error
Off	On	On
On	Off or flashing	On
On	On	On

Troubleshooting steps

Procedure

Replace the power supply.

Troubleshooting light path diagnostic LEDs

OVERSPEC LED lights up

The OVERSPEC LED on the light path diagnostics panel lights up when the power supplies are using more power than their maximum rating.

Troubleshooting steps

Procedure

1. Check the power-supply LEDs for an error indication. For example, AC LED and DC LED do not both light up, or the information LED lights up. Replace a failed power supply.
2. Replace the server.

LOG LED lights up

The LOG LED on the light path diagnostics panel lights up when an error occurs.

Troubleshooting steps

Procedure

1. If any replaceable components need to be replaced, replace them.
2. If a faulty component is not replaceable, replace the server.

LINK LED lights up

The LINK LED on the light path diagnostics panel is not used.

Troubleshooting steps

Procedure

Ignore unless directed otherwise by Avaya.

PS LED lights up

The PS LED on the light path diagnostics panel lights up when power supply 1 or power supply 2 fails.

Troubleshooting steps

Procedure

1. Check the power supply LEDs for an error indication. For example, AC LED and DC LED do not both light up.
2. Make sure that the power supplies are seated correctly.
3. Remove one of the power supplies to isolate the failed power supply.
4. Replace the failed power supply.

PCI LED lights up

The PCI LED on the light path diagnostics panel lights up when an error occurs on a PCI bus or on the system board. An additional LED lights up next to a failing PCI slot.

Troubleshooting steps

Procedure

1. Check the LEDs on the PCI slots to identify the component that caused the error.
2. If you have a monitor, check the system error log for information about the error.
3. If you cannot isolate the failing PCIe card by using the LEDs and the information in the system error log, remove one card at a time from the failing PCI bus. Restart the server after each card is removed.
4. Reseat the failing PCIe card.

5. Replace the server.

SP LED lights up

The SP LED on the light path diagnostics panel lights up when an error occurs on the service processor.

Troubleshooting steps

Procedure

1. Disconnect the server from the power source, and then reconnect the server to the power source and restart the server.
2. Report this error to your service provider for possible server replacement.

FAN LED lights up

The FAN LED on the light path diagnostics panel lights up when a fan fails, is operating too slowly, or has been removed. The TEMP LED might also light up.

Troubleshooting steps

Procedure

1. Reseat the failing fan, which is indicated by a lit LED near the fan connector on the system board.
2. Replace the server.

TEMP LED lights up

The TEMP LED on the light path diagnostics panel lights up when the system temperature exceeds a threshold level. A failing fan can cause the TEMP LED to light up.

Troubleshooting steps

Procedure

1. Make sure that the room temperature is not too high.
2. Make sure that the air vents are not blocked.
3. Determine whether a fan has failed. If it has, replace the server.

MEM LED lights up

The MEM LED on the light path diagnostics panel lights up when a memory configuration is invalid or a memory error occurs (both the MEM LED and CNFG LED might light up).

Troubleshooting steps when both MEM LED and CNFG LED light up

Procedure

1. Make sure that the DIMM configuration is supported.
2. Replace the DIMMs with a supported configuration.

Troubleshooting steps when only MEM LED lights up

- If the server did not boot and a failing DIMM LED lights up:
  a. If you have a monitor, check for a PFA log event in the system event log .
  b. Reseat the DIMM.
  c. If the problem still exists, move the DIMM to a different slot.
  d. Look at the DIMM LEDs on the system board:
     - If the DIMM LED that corresponds to the new DIMM socket lights up, replace the DIMM.
     - If the DIMM LED that corresponds to the original DIMM socket lights up, replace the server.
- If the server booted, the failing DIMM is disabled, and the DIMM LED lights up:
  a. If the LEDs light up by two DIMMs and you have a monitor, check the system event log for a PFA event for one of the DIMMs, and then replace that DIMM. Otherwise, replace both DIMMs
  b. If the LED lights up by only one DIMM, replace that DIMM.

NMI LED lights up

The NMI LED on the light path diagnostics panel lights up when a nonmaskable interruption occurs, or you press the NMI button.

Troubleshooting steps

Procedure

1. If you have a monitor, check the system event log for information about the error.
2. Shut down the server and remove the power cord.
3. Check that all plug-in cards and devices are firmly installed.
4. Turn on the server.

5. If the server does not boot, replace the server.

CNFG LED lights up

The CNFG LED on the light path diagnostics panel lights up when a hardware configuration error occurs. This LED is used with the MEM and CPU LEDs.

Troubleshooting steps

Procedure

1. Check that the memory modules are installed in the correct sequence.
2. Check that the memory modules are properly seated.
3. Replace the server.

CPU LED lights up

When only the CPU LED lights up, a microprocessor has failed.

When the CPU and CNFG LEDs light up, an invalid microprocessor configuration has occurred.

Troubleshooting steps

Procedure

1. Determine whether the CNFG LED also lights up.
   - If the CNFG LED does not light up, a microprocessor has failed.
   - If the CNFG LED lights up, then an invalid microprocessor configuration has occurred.
2. Replace the server if the microprocessor has failed.
3. Make sure that the microprocessors are compatible with each other if the microprocessor configuration is invalid.

   The microprocessors must match in speed and cache size. To compare the microprocessor information, run the Setup utility and select **System Information** > **System Summary** > **Processor Details**.

VRM LED lights up

The VRM LED on the light path diagnostics panel is not used.

Troubleshooting steps

Procedure

Ignore unless directed otherwise by Avaya.

DASD LED lights up

The DASD LED on the light path diagnostics panel lights up when a hard disk drive fails or is missing.

Troubleshooting steps

Procedure

1. Check the LEDs on the hard disk drives for the drive with a lit up status LED and reseat the hard disk drive.
2. If the error remains, replace the hard disk drive and then restart the server.

RAID LED lights up

The RAID LED on the light path diagnostics panel is not used.

Troubleshooting steps

Procedure

Ignore unless directed otherwise by Avaya.

BRD LED lights up

The BRD LED on the light path diagnostics panel lights up when an error occurs on the system board.

Troubleshooting steps

Procedure

Replace the server.

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