HPE ProLiant DL360 G6 Server - Parts Support Guide

Part Number: External
Published: 2020
Edition: 1

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Abstract

This document will help you identify parts of the product and also gives a step-by-step instruction on how to remove and replace the components.

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Table of contents

Part Locator

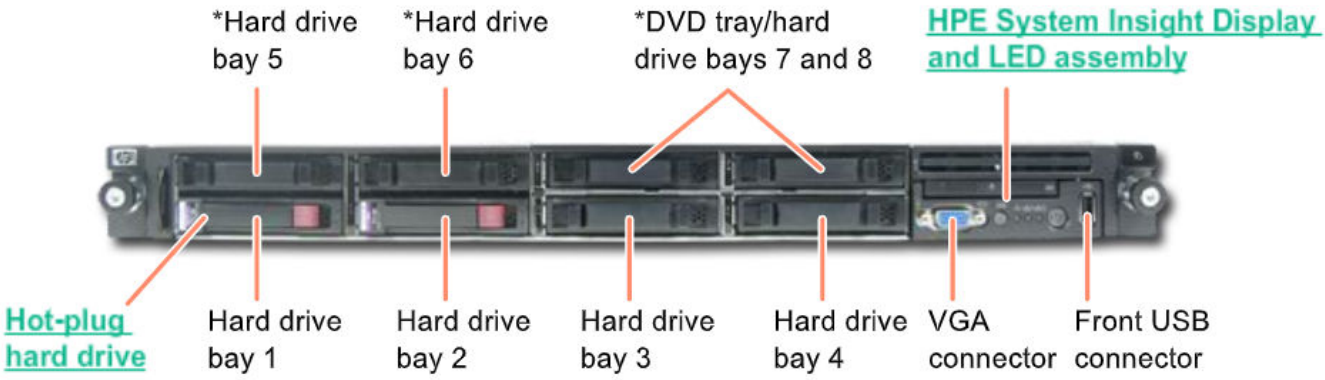
- Front view....5
  - HPE System Insight Display and LED assembly....6
  - Hot-Plug hard drive....7
- Back view....8
  - Power supply bay 1 (Populated)....9
  - Power supply bay 2....10
- Top view....11
- Internal view....12
  - PCI Riser board assembly....13
  - Battery-backed write cache module....14
  - Battery-backed write cache battery pack....15
  - Air baffle....16
  - Heatsink....17
  - Processor....18
  - Fan module....19
  - Hard drive cage....20
  - DVD tray and DVD ROM drive....21
  - Standard hard drive backplane assembly (Bottom)....22
  - Option hard drive backplane assembly (Top)....23
  - Fan blank....24
  - DIMM....25
  - System battery....26
  - System board....27
  - PCI-X Riser board....28
  - PCI-E Riser board....29
  - Expansion boards....30

Remove/Replace

- References
  - Required Tools....30
  - Preparation Procedures....30
  - Safety Considerations....32
- Procedures
  - Access Panel....33

Hot-Plug Hard Drive 34
Hot-Plug Power Supply 34
Hard Drive Cage 35
DVD Tray And DVD ROM Drive 35
Fan Module 36
Fan Blank 36
Battery-Backed Write Cache Battery Pack 37
Air Baffle 38
PCI Riser Board Assembly 38
Expansion Boards 39
PCIe Riser Board 39
PCI-X Riser Board 40
Battery-Backed Write Cache Module 41
Optional Hard Drive Backplane Assembly (Top) 41
Standard Hard Drive Backplane Assembly (Bottom) 42
HP Systems Insight Display And LED Assembly 43
DIMMs 43
Heat Sink 44
Processor 44
System Battery 46
System Board 47

Front view

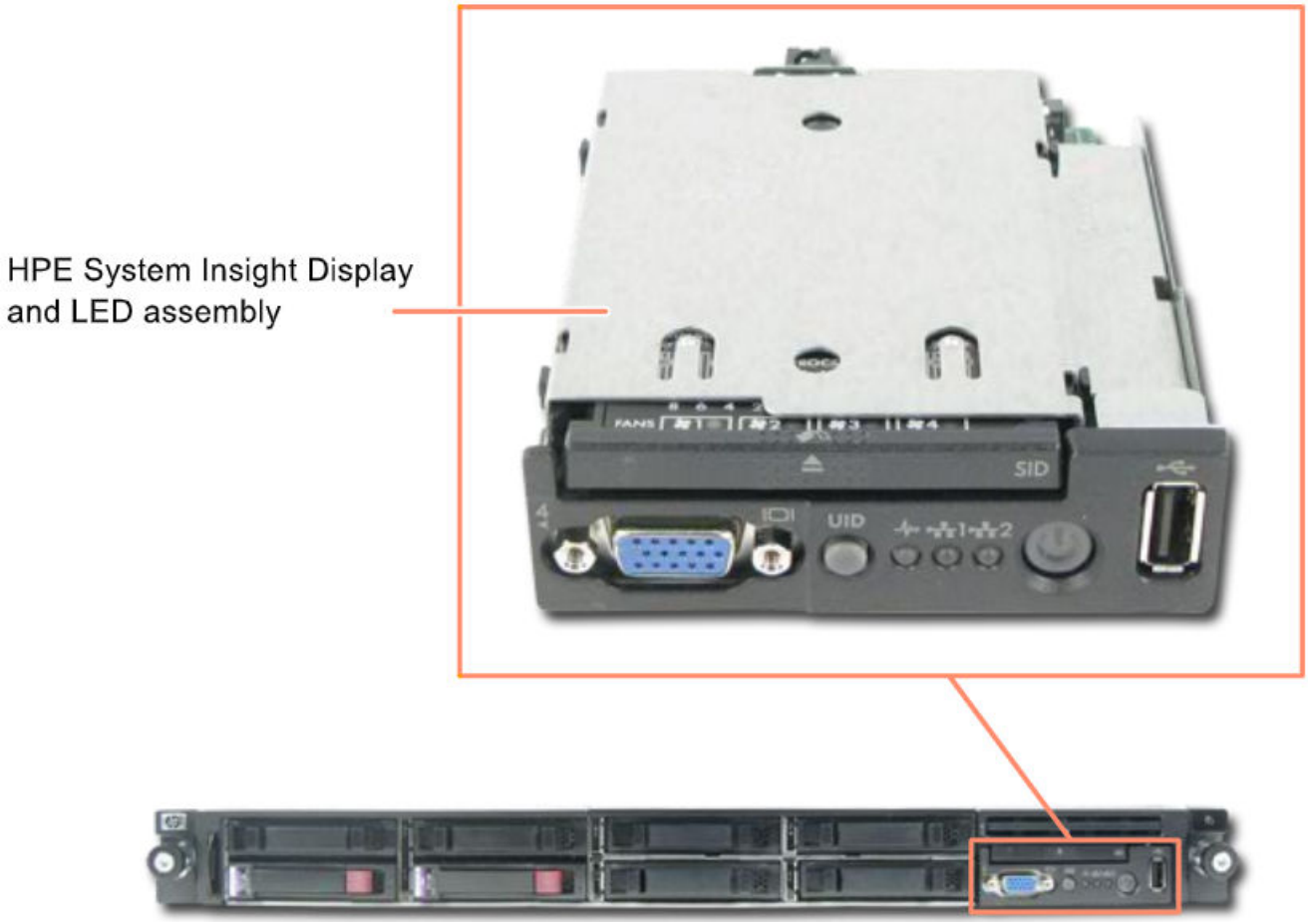


Subtopics

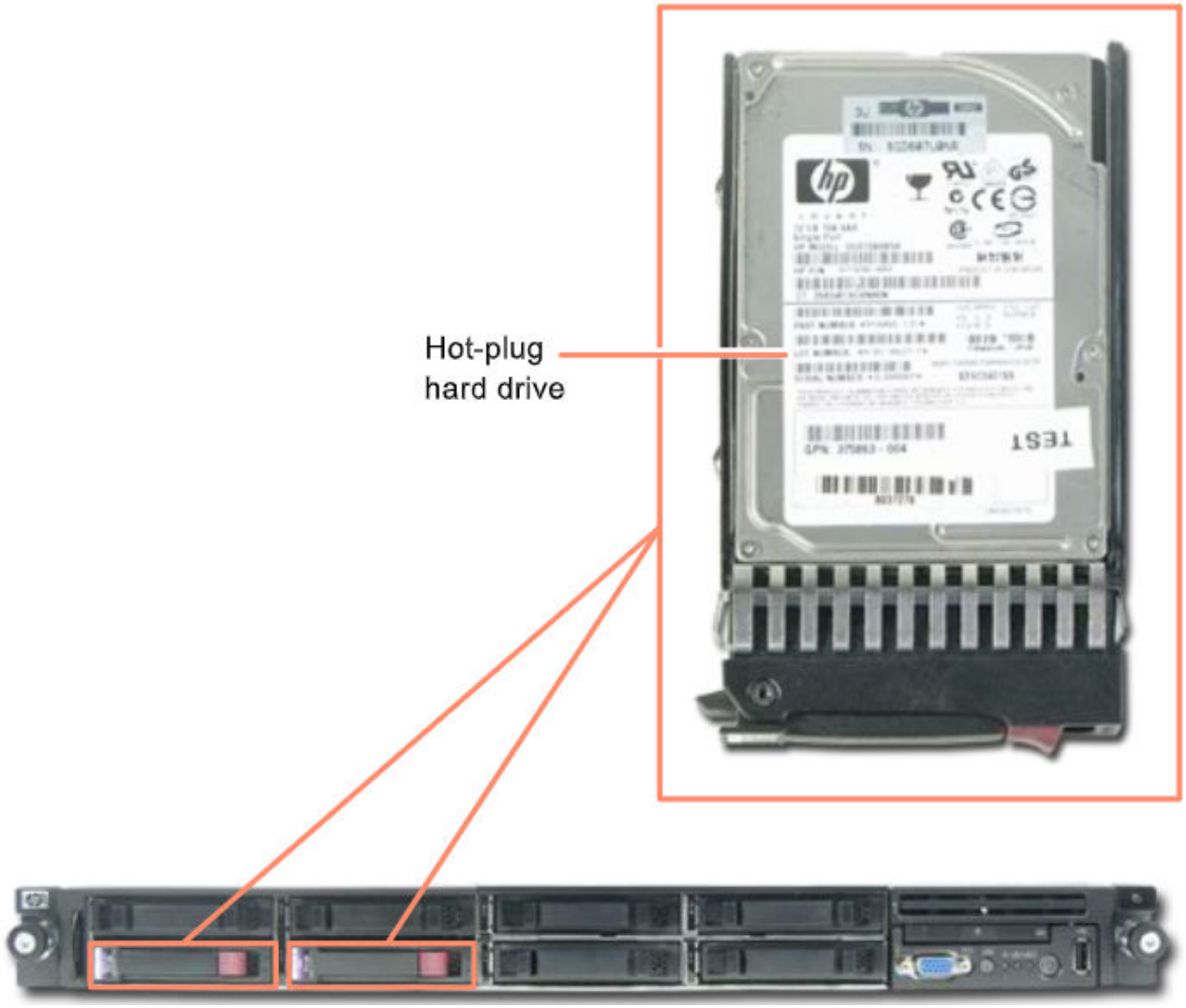
HPE System Insight Display and LED assembly

Hot-Plug hard drive

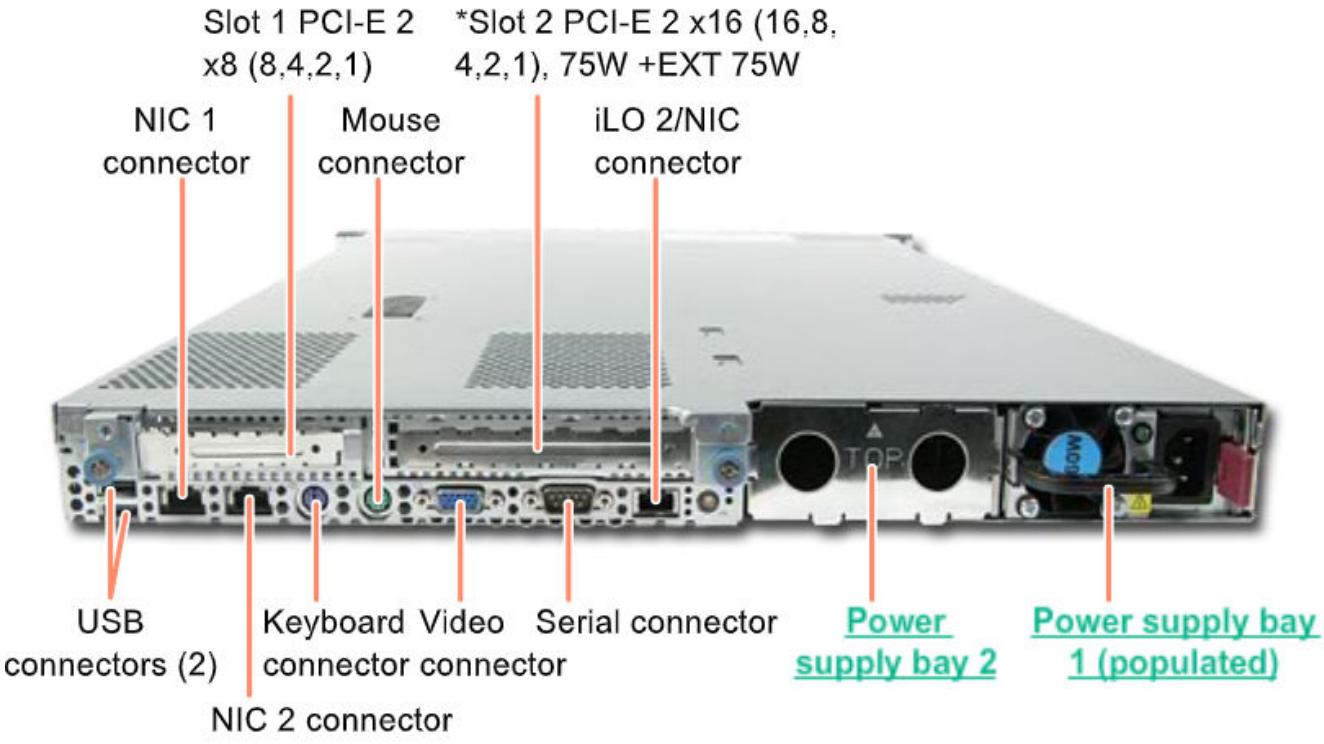
HPE System Insight Display and LED assembly



Hot-Plug hard drive



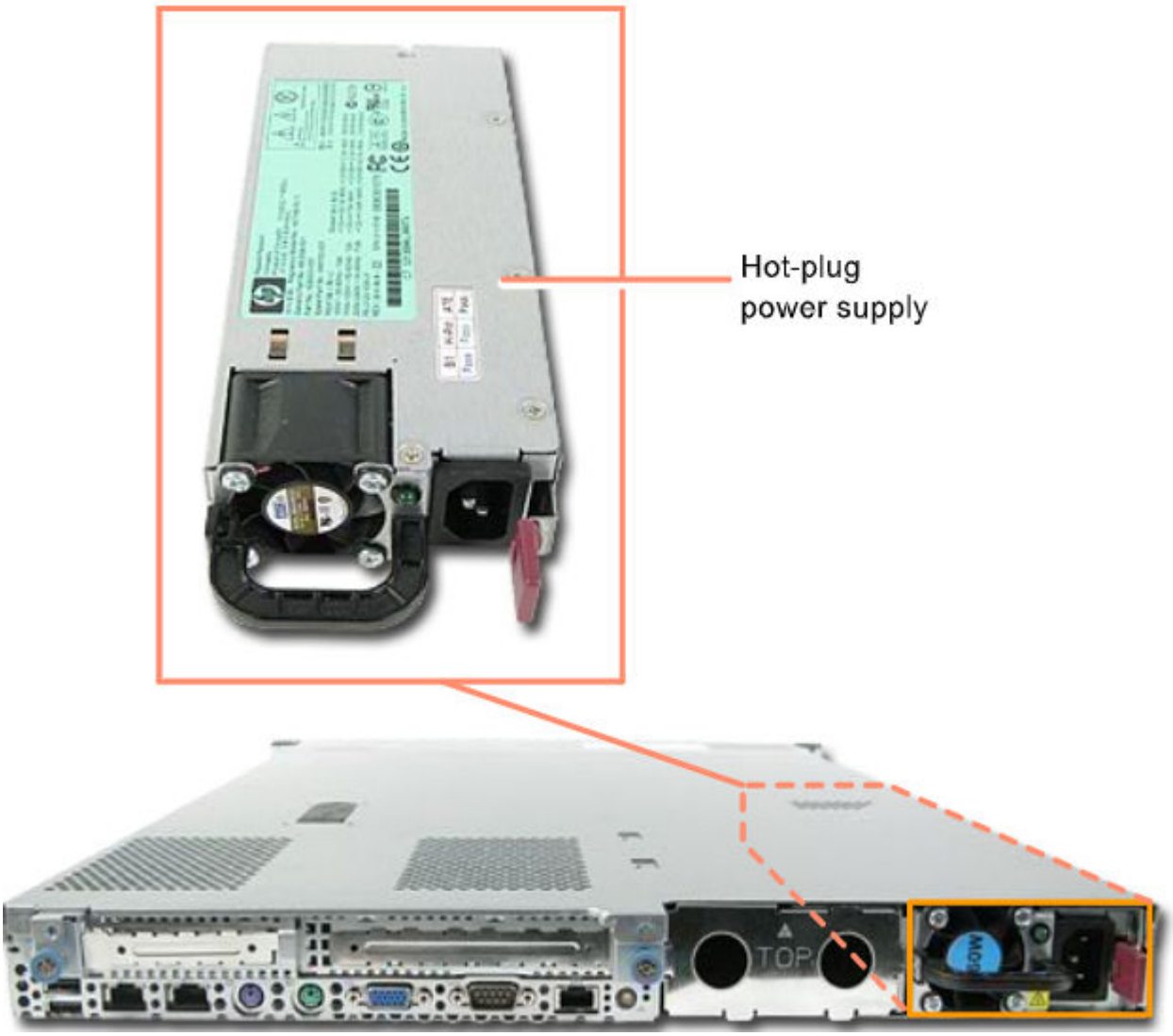
Back view



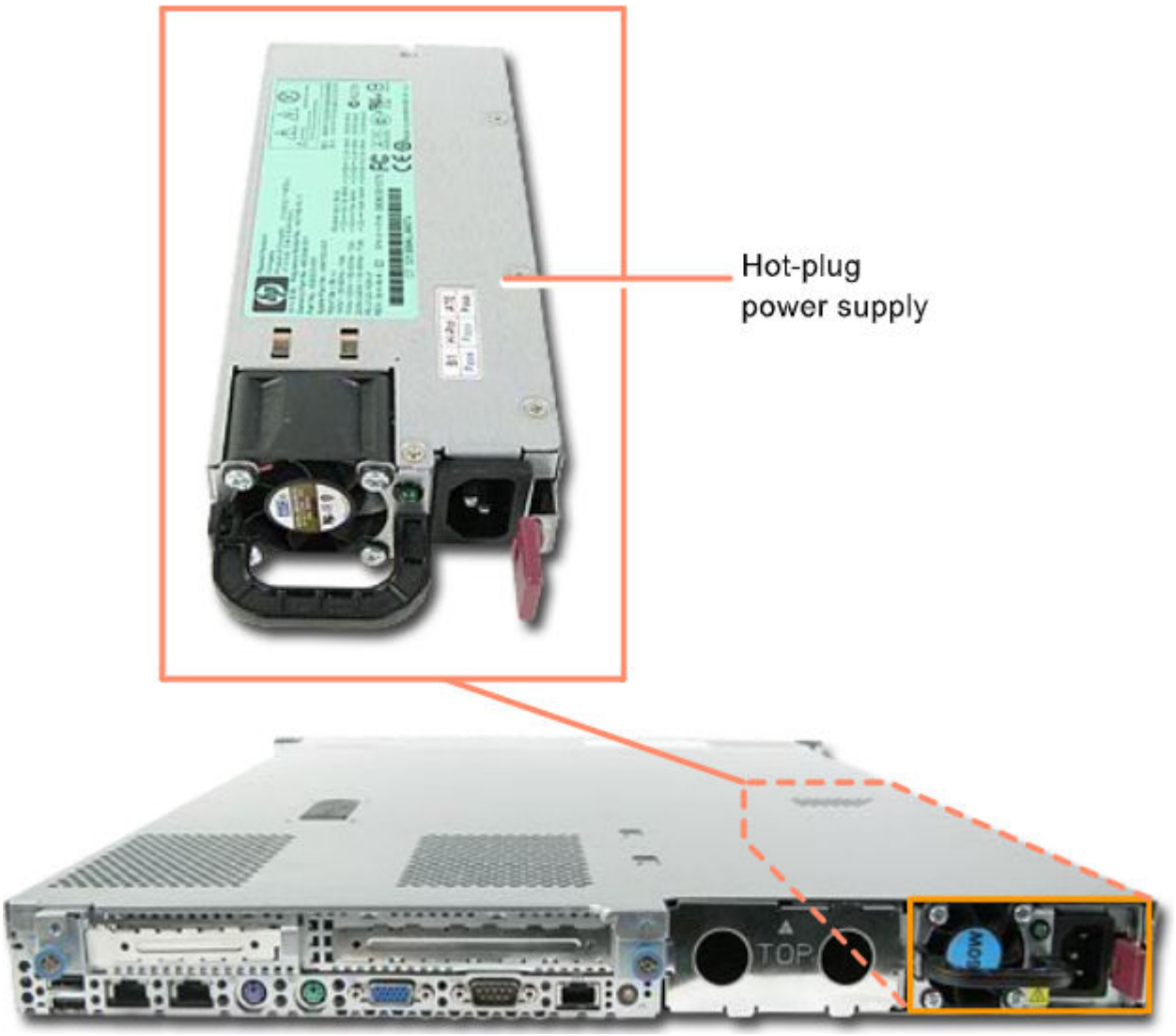
Subtopics

Power supply bay 1 (Populated)
Power supply bay 2

Power supply bay 1 (Populated)



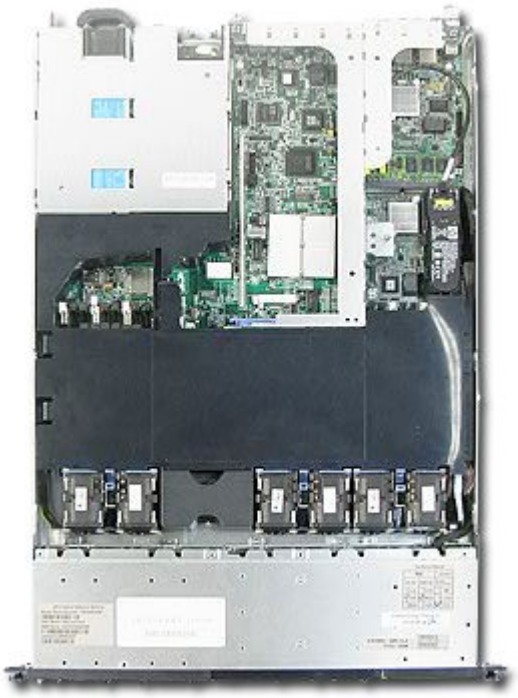
Power supply bay 2



Top view



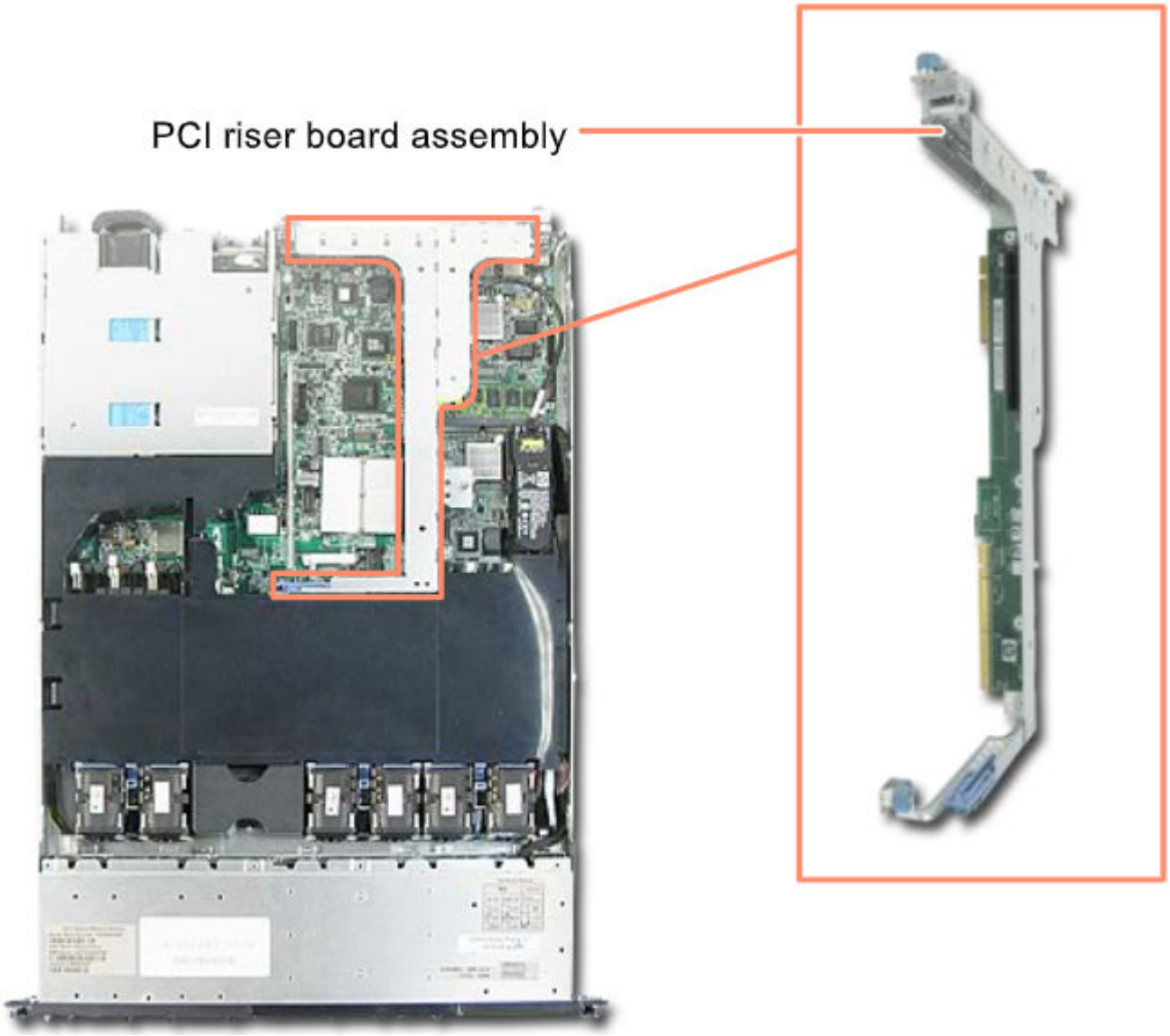
Internal view



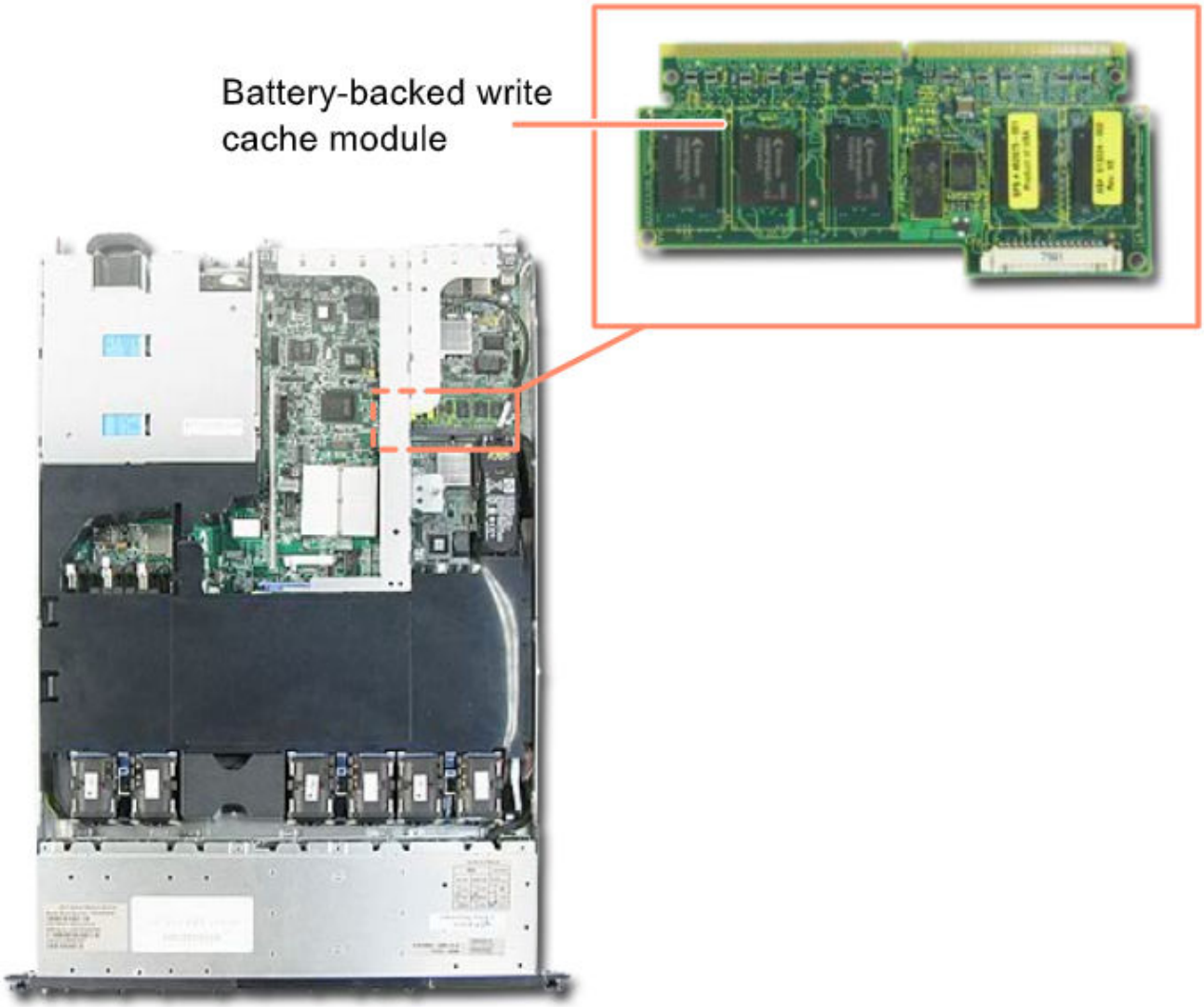
Subtopics

- PCI Riser board assembly
- Battery-backed write cache module
- Battery-backed write cache battery pack
- Air baffle
- Heatsink
- Processor
- Fan module
- Hard drive cage
- DVD tray and DVD ROM drive
- Standard hard drive backplane assembly (Bottom)
- Option hard drive backplane assembly (Top)
- Fan blank
- DIMM
- System battery
- System board
- PCI-X Riser board
- PCI-E Riser board
- Expansion boards

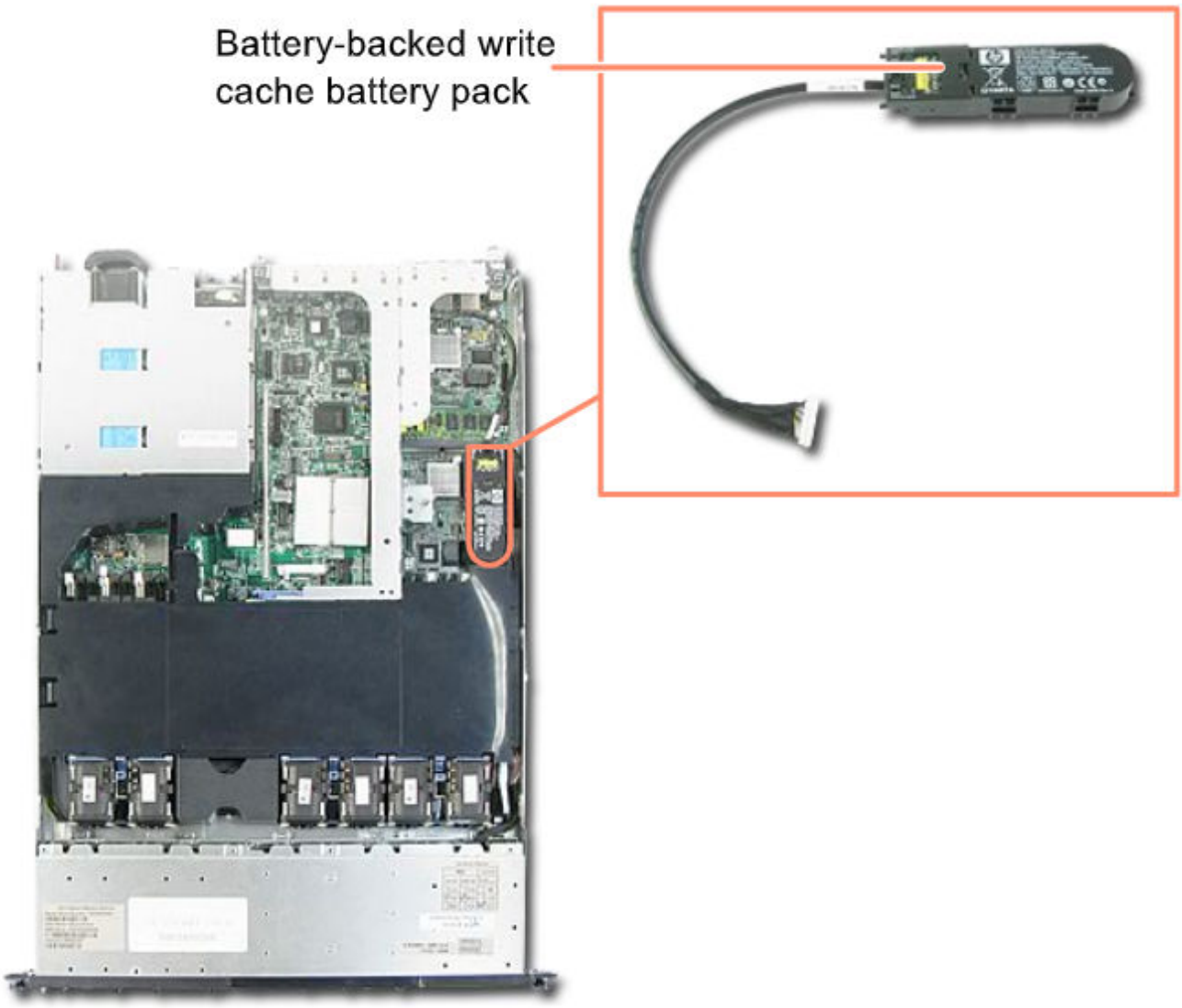
PCI Riser board assembly



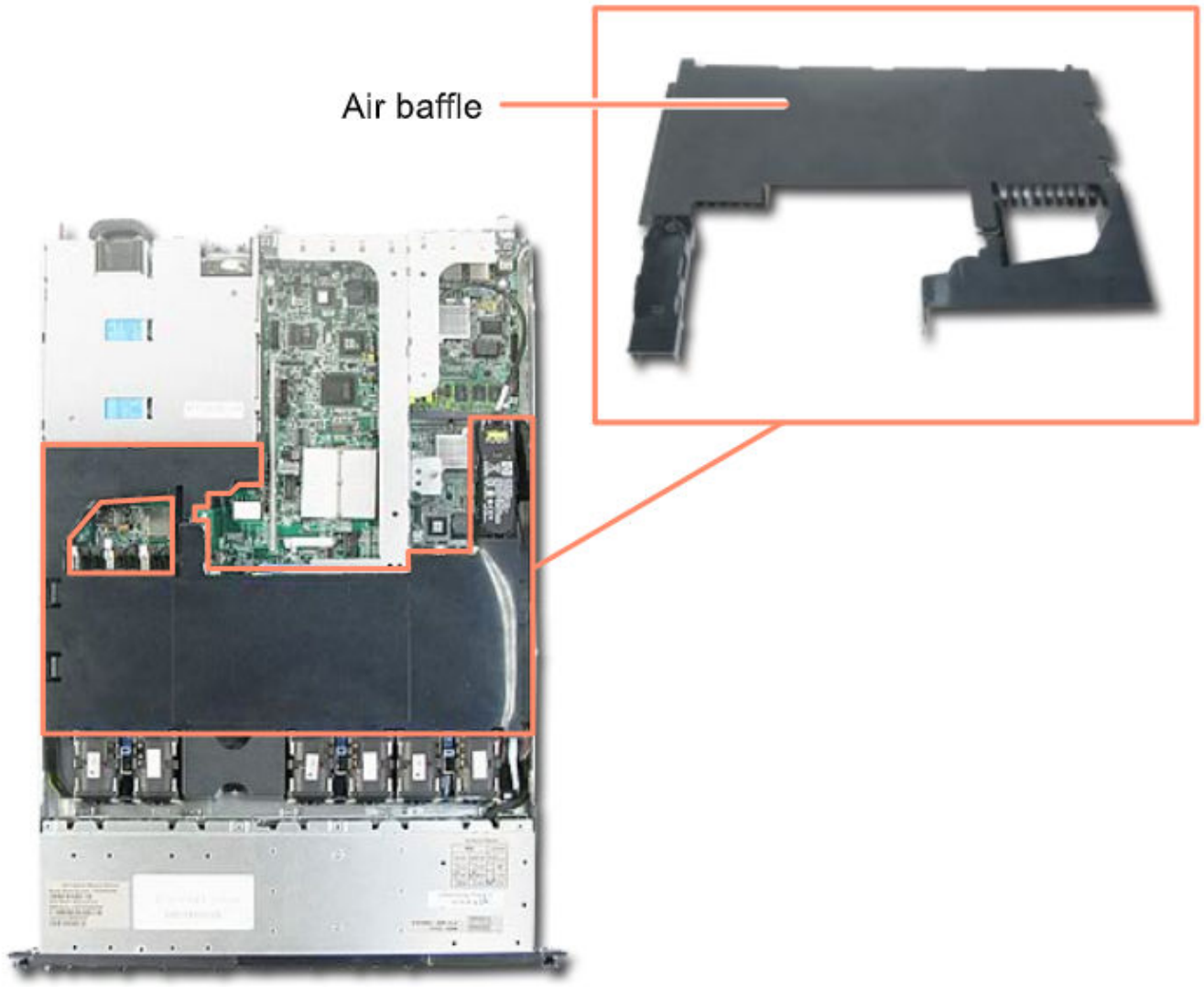
Battery-backed write cache module



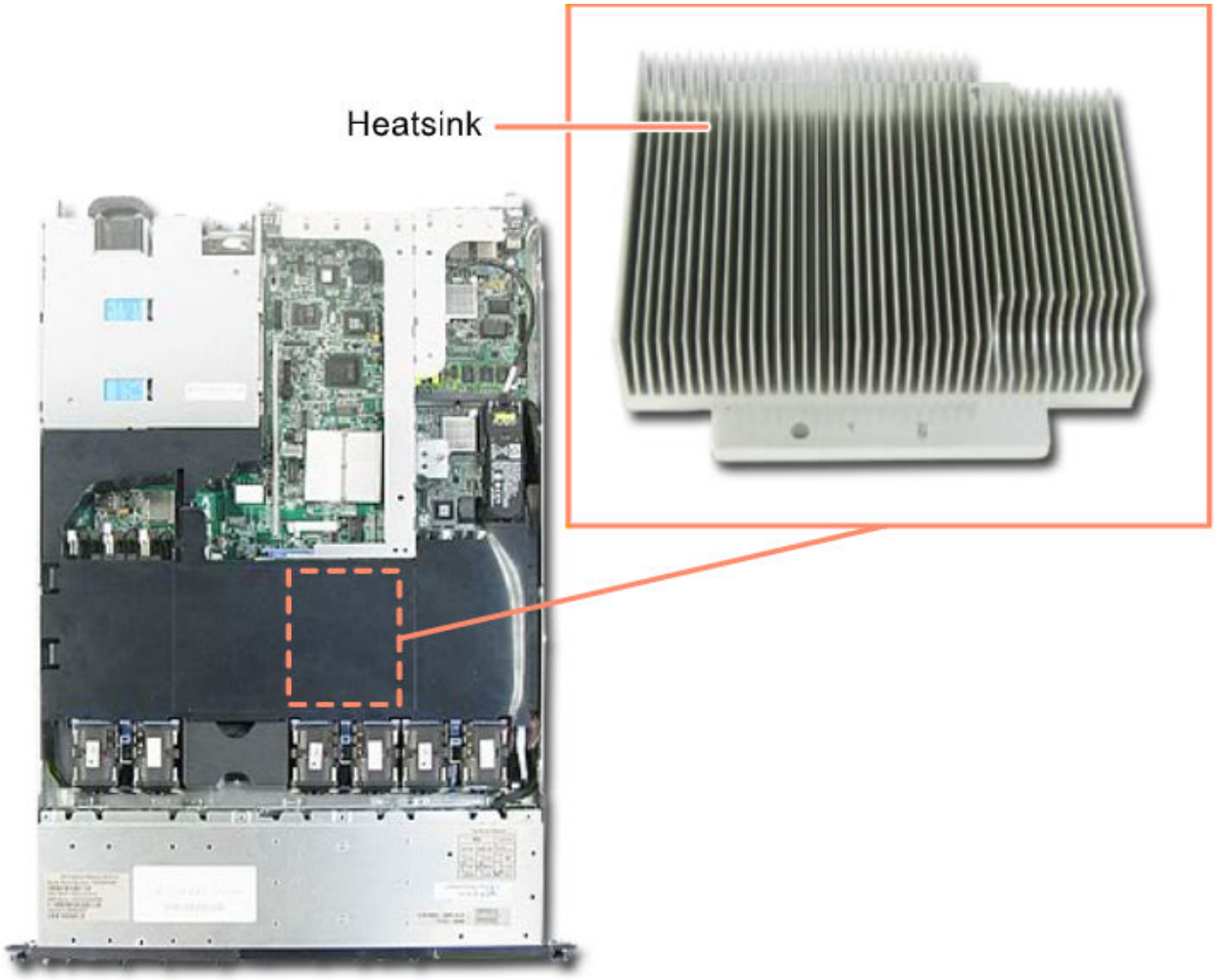
Battery-backed write cache battery pack



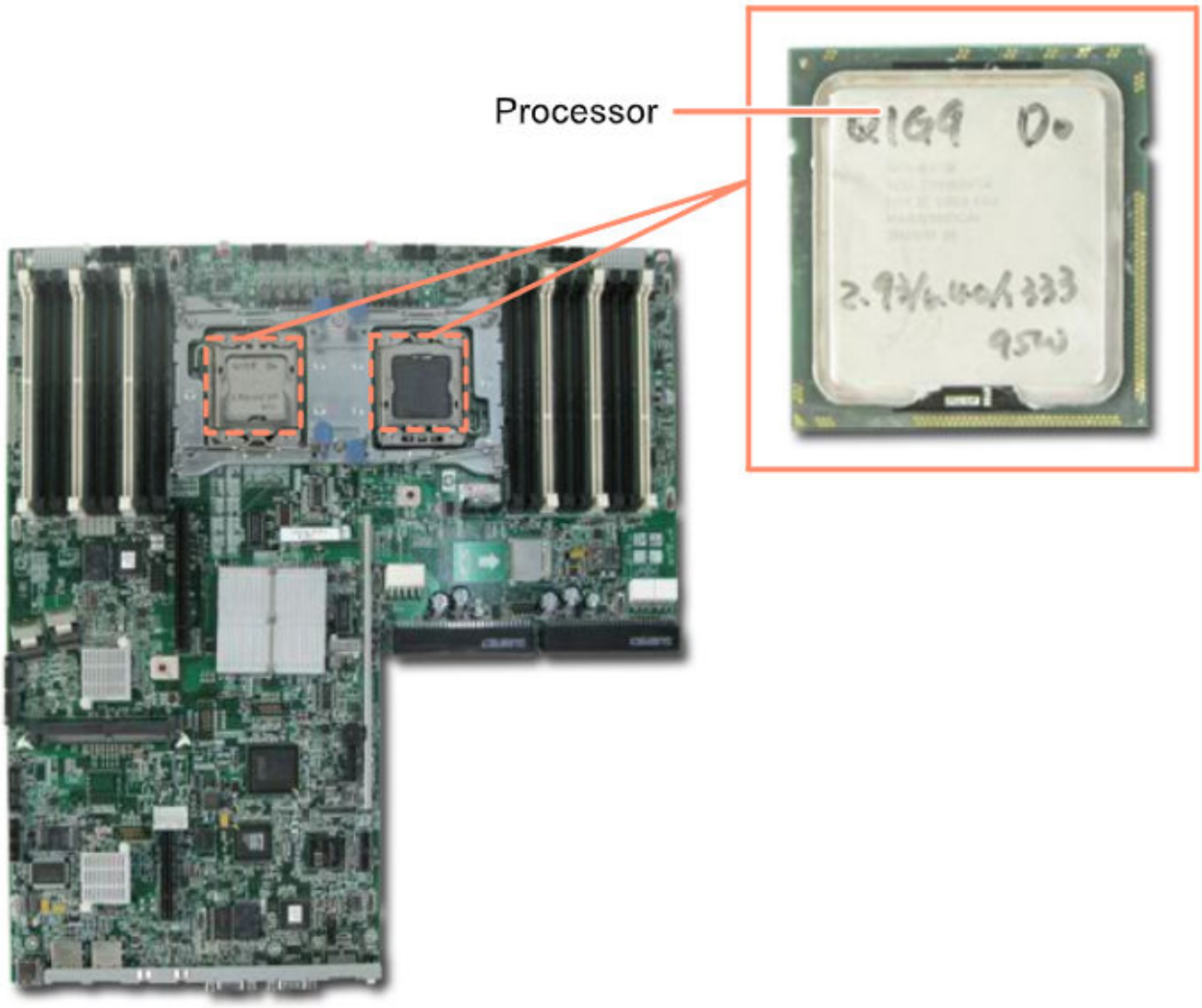
Air baffle



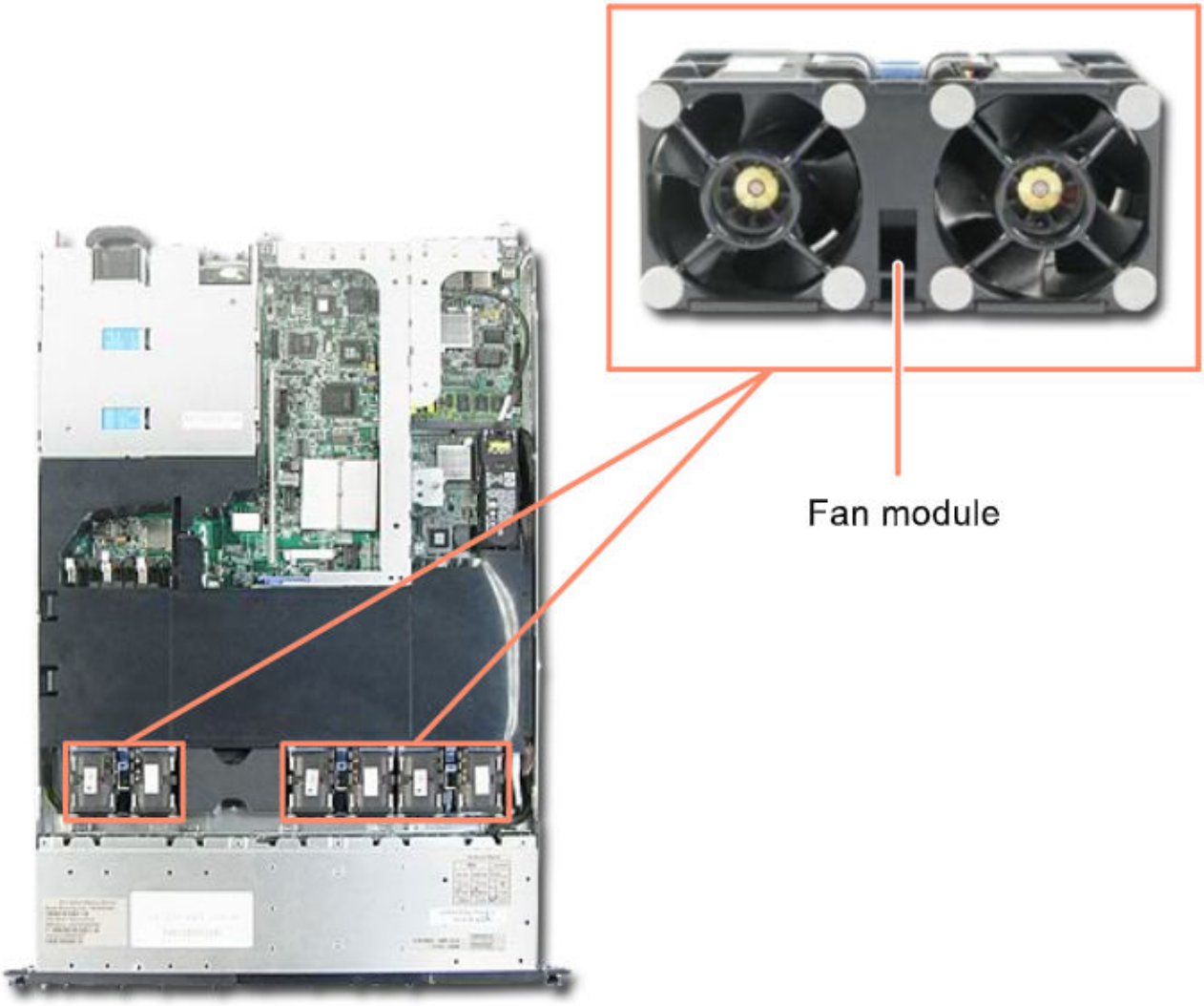
Heatsink



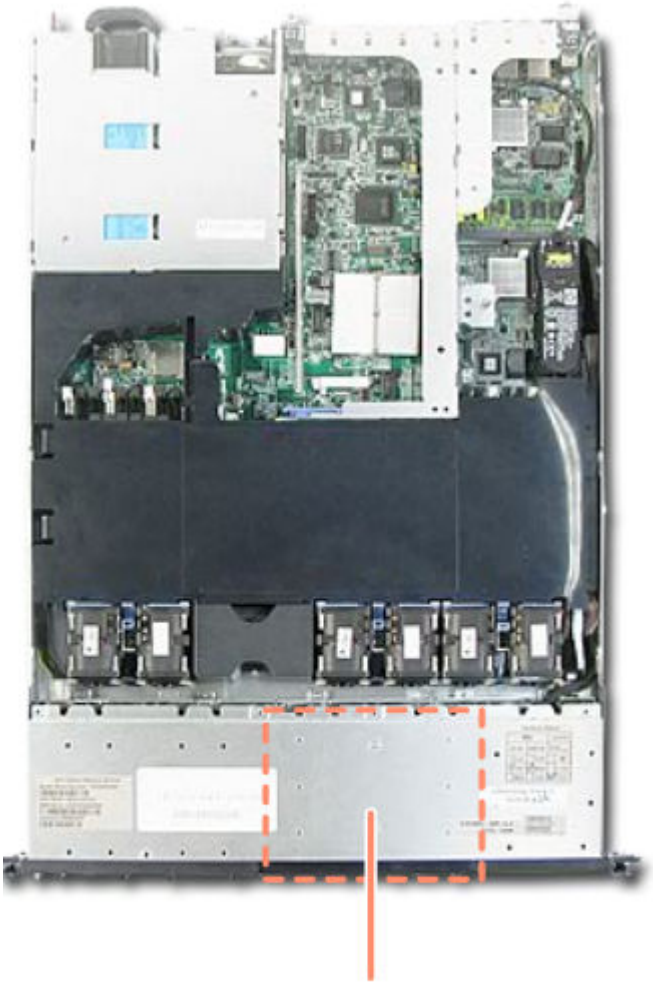
Processor



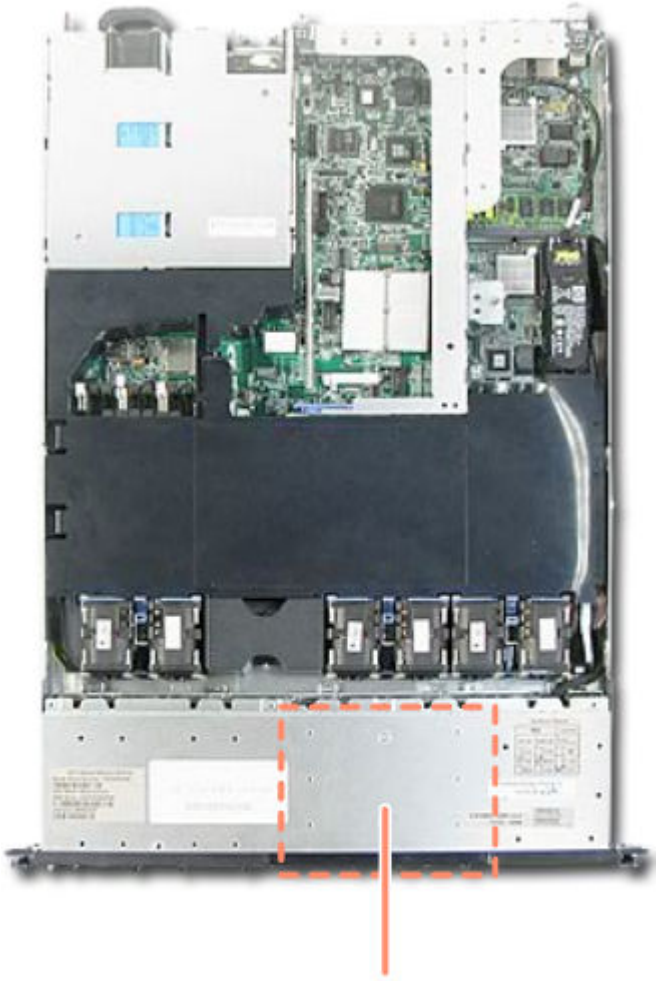
Fan module



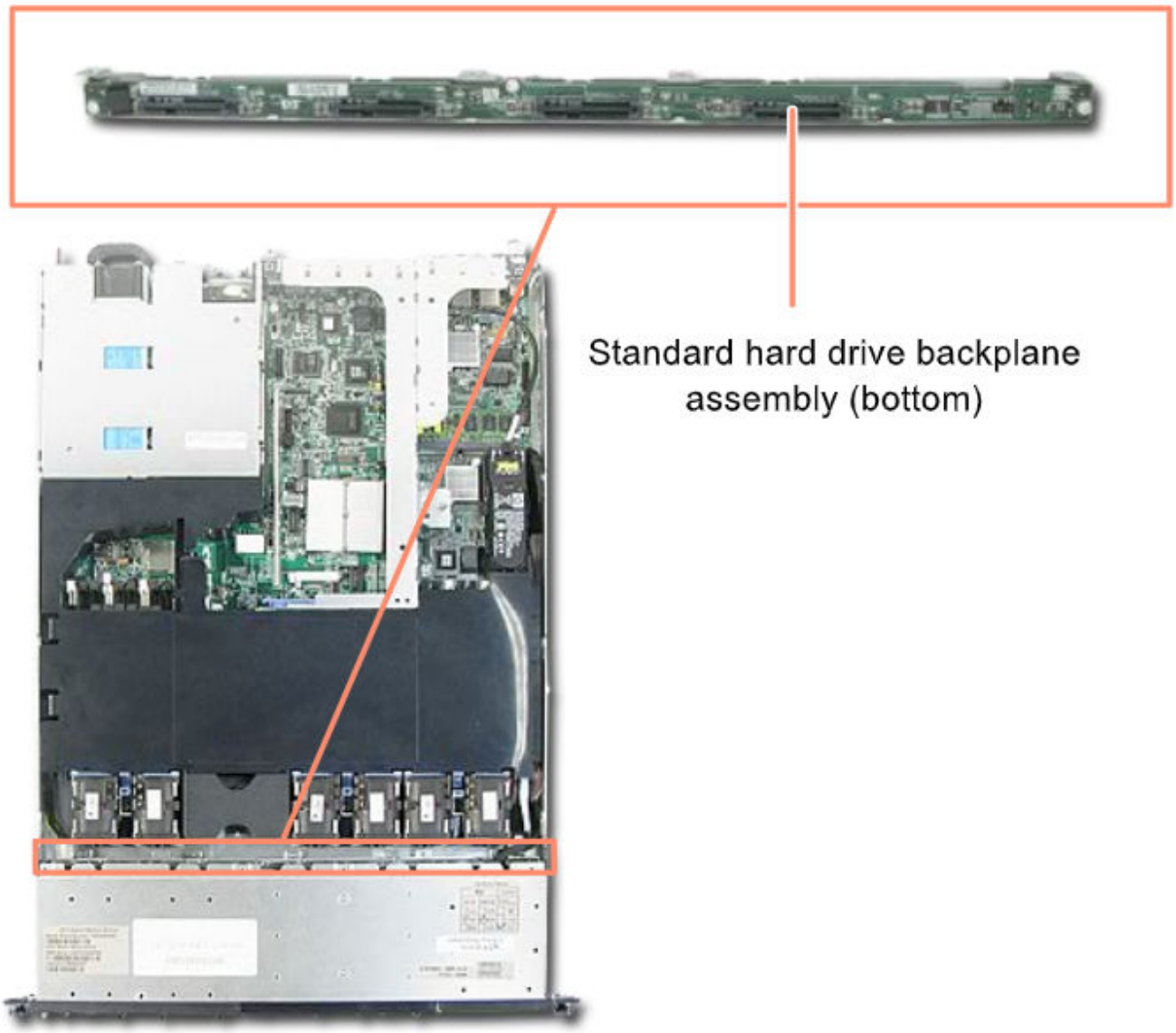
Hard drive cage



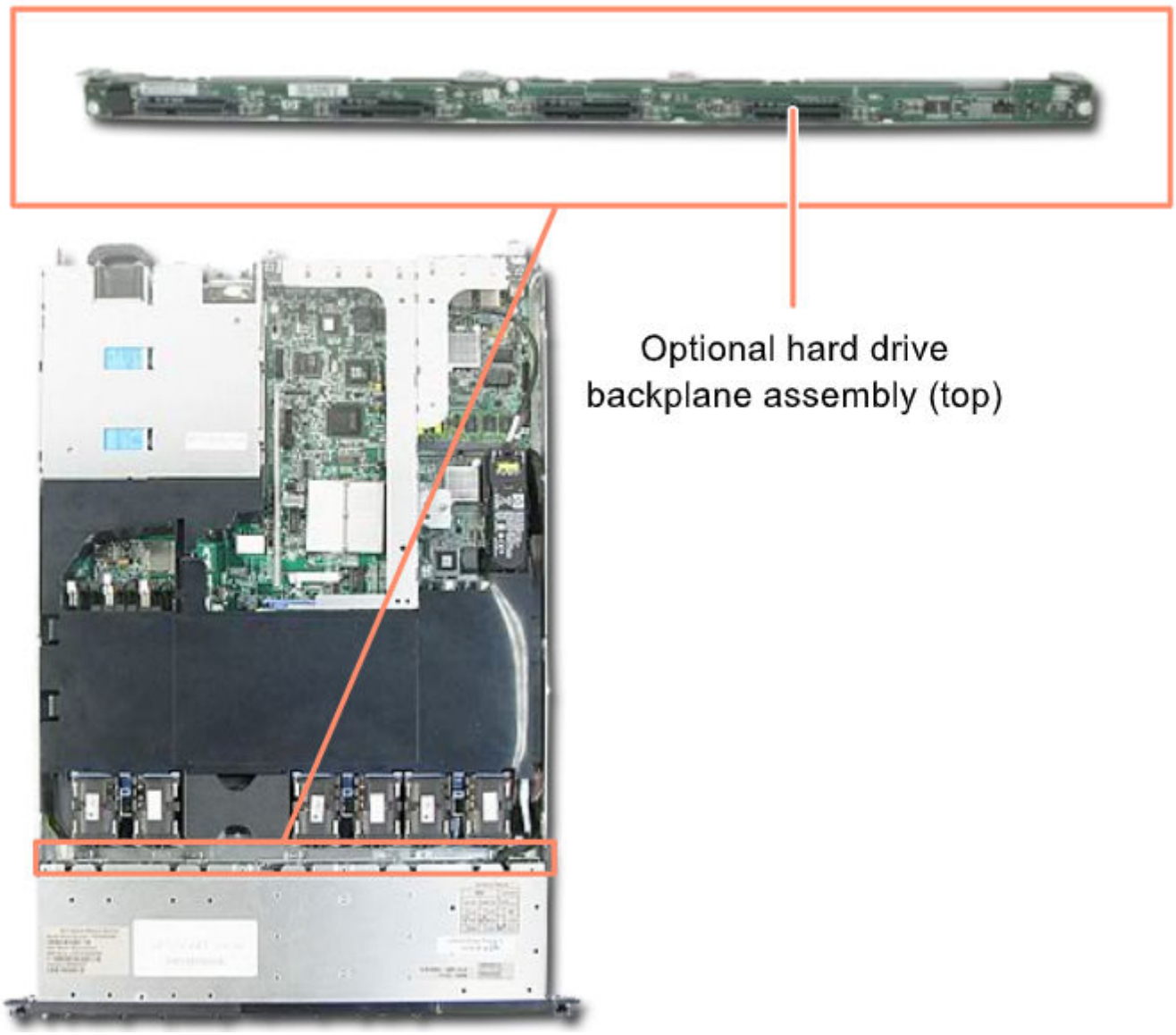
DVD tray and DVD ROM drive



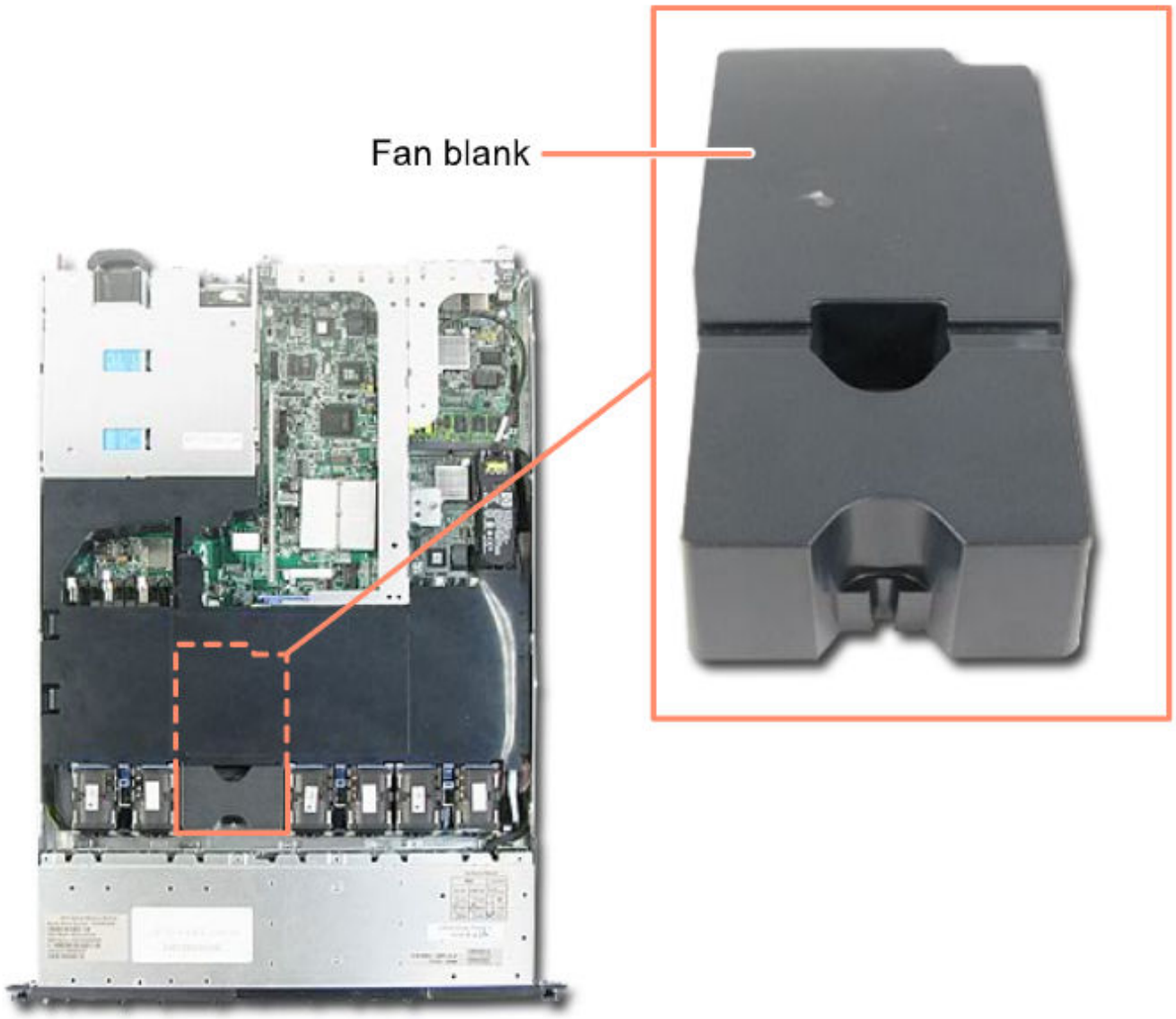
Standard hard drive backplane assembly (Bottom)



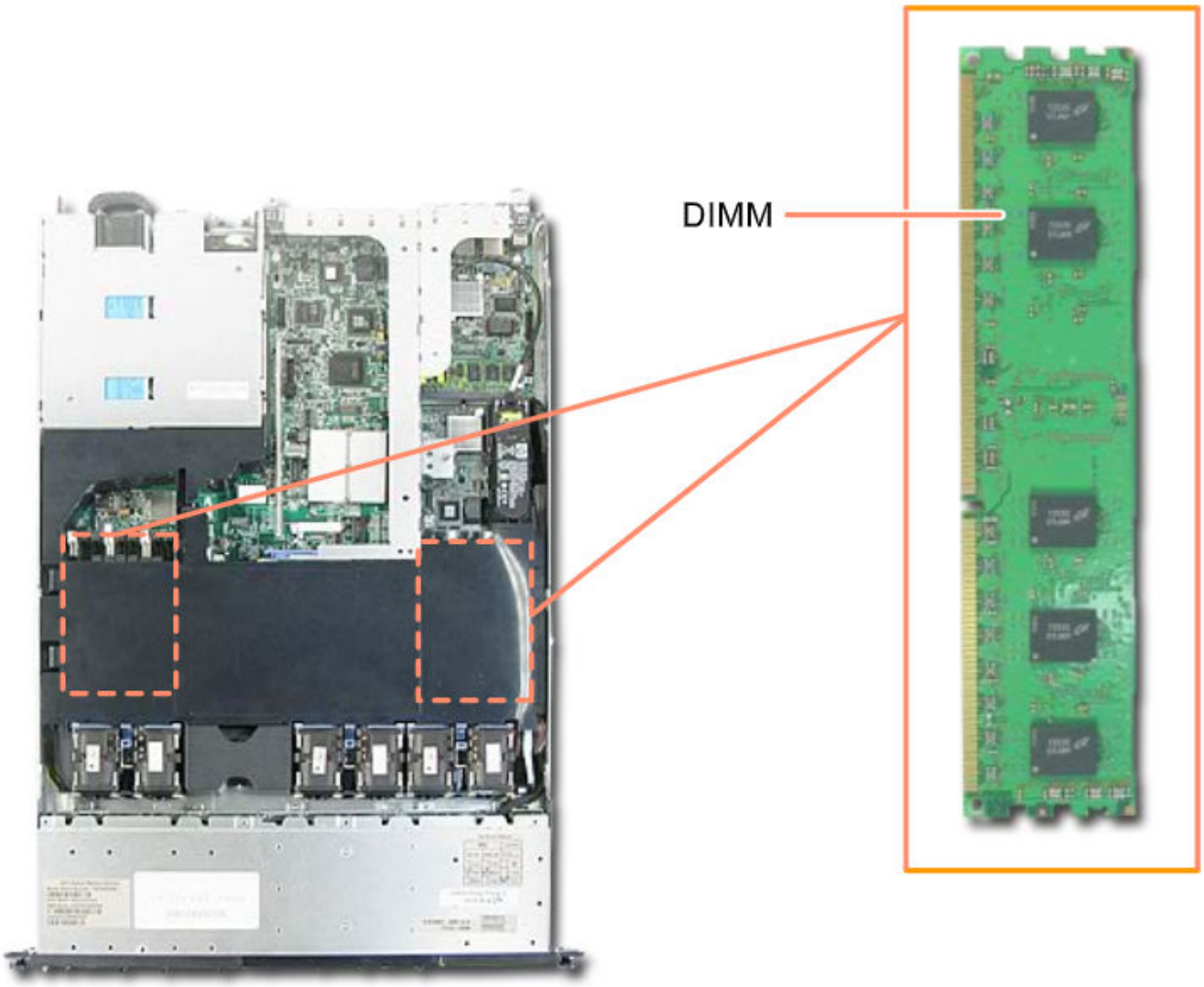
Option hard drive backplane assembly (Top)



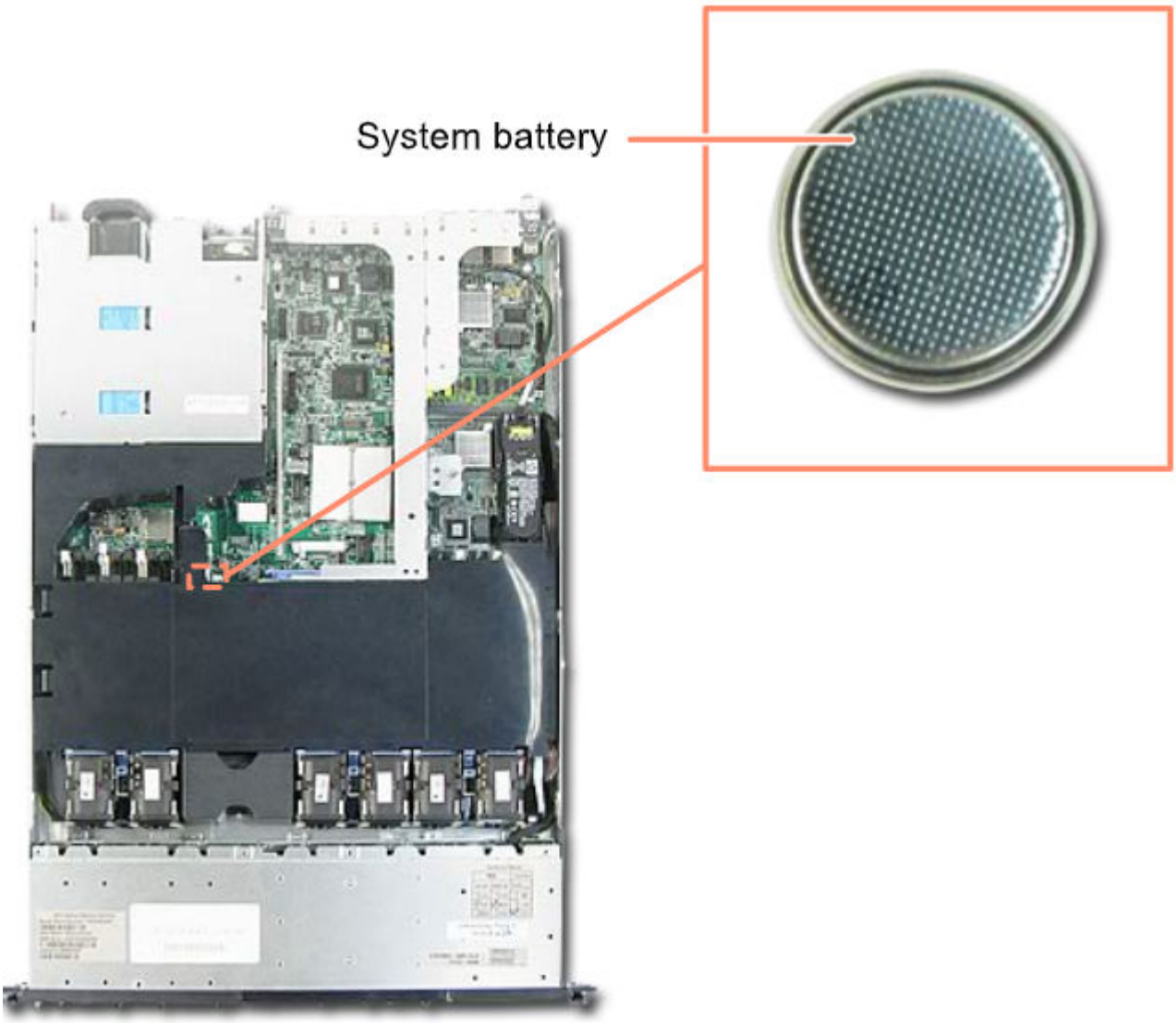
Fan blank



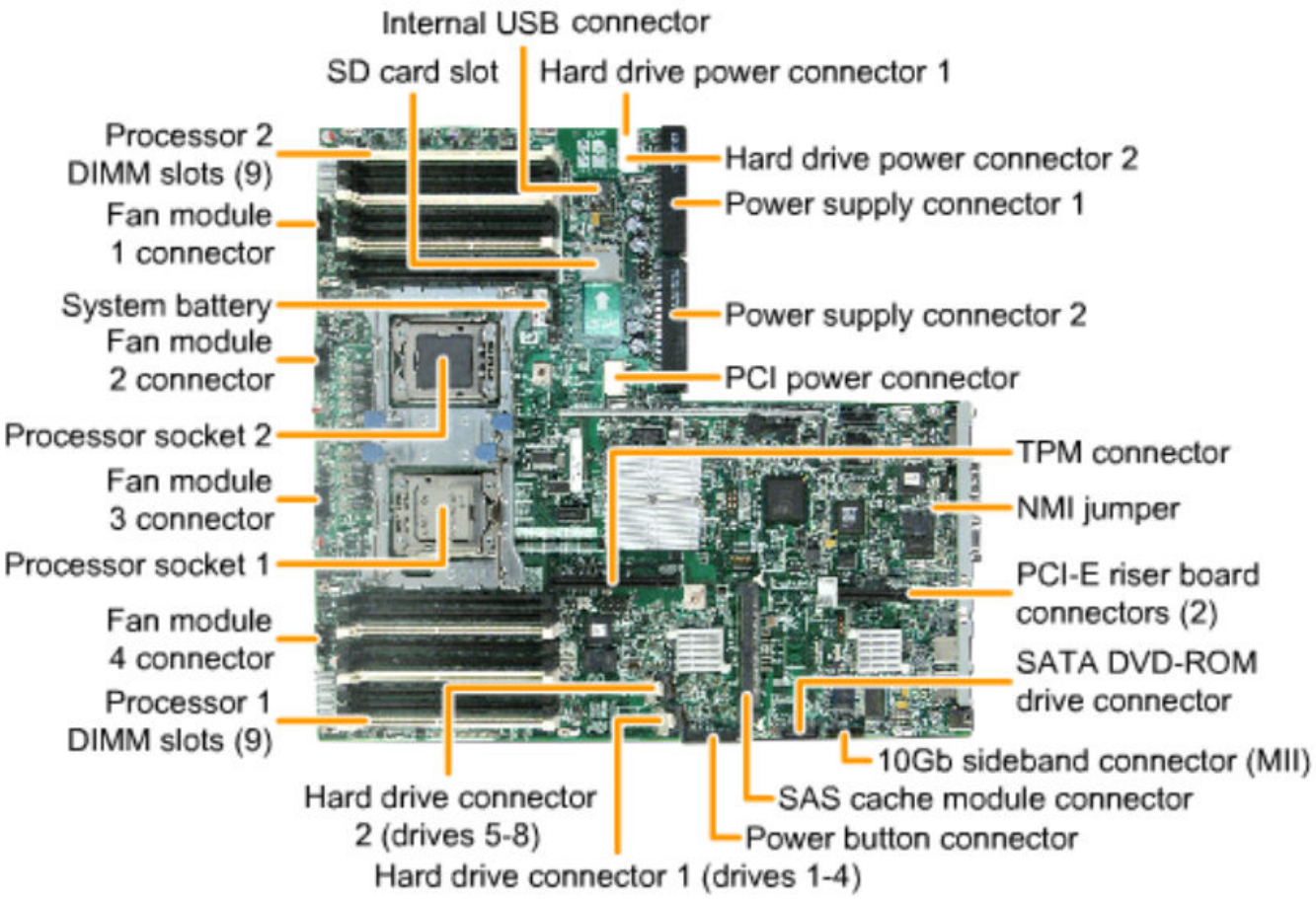
DIMM



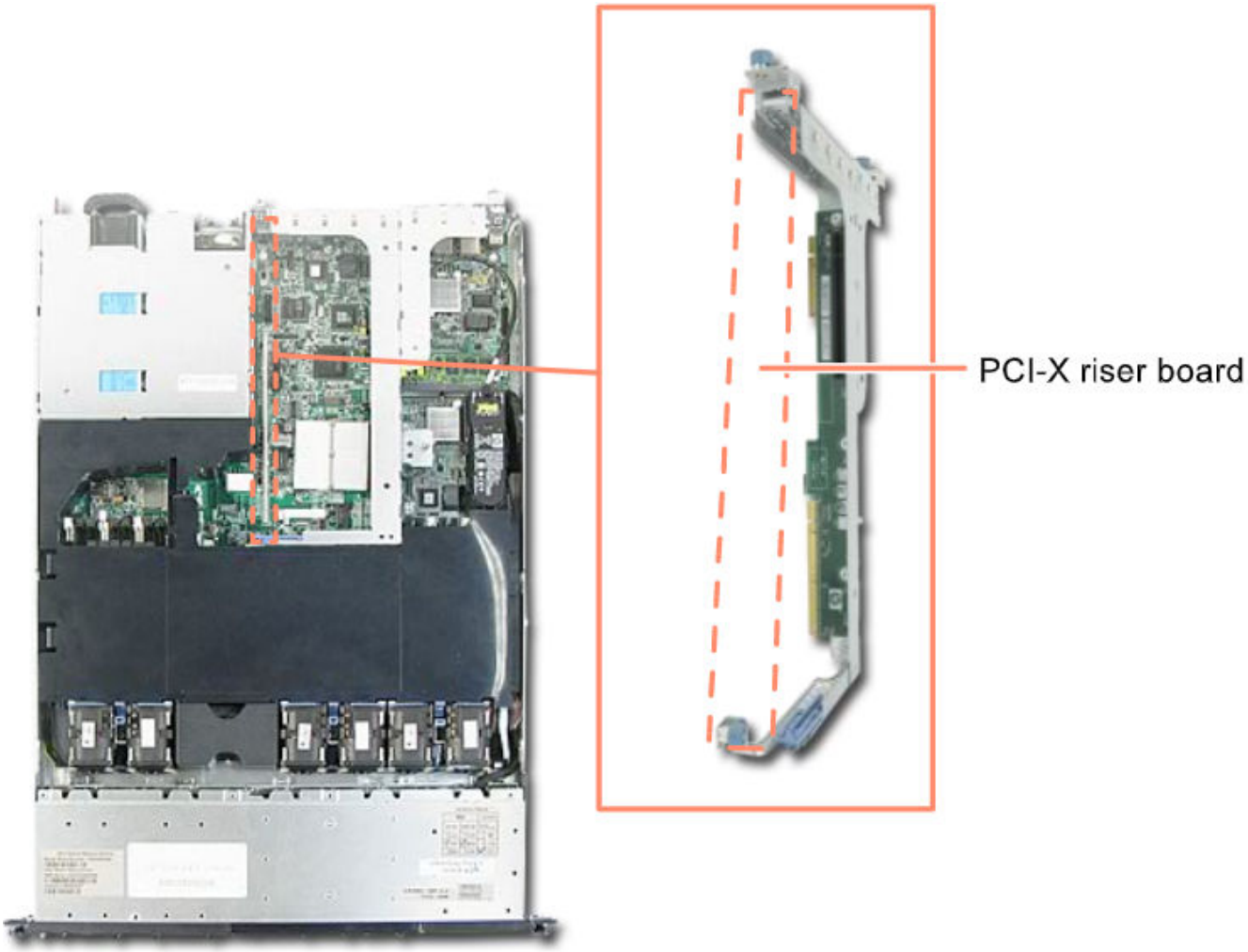
System battery



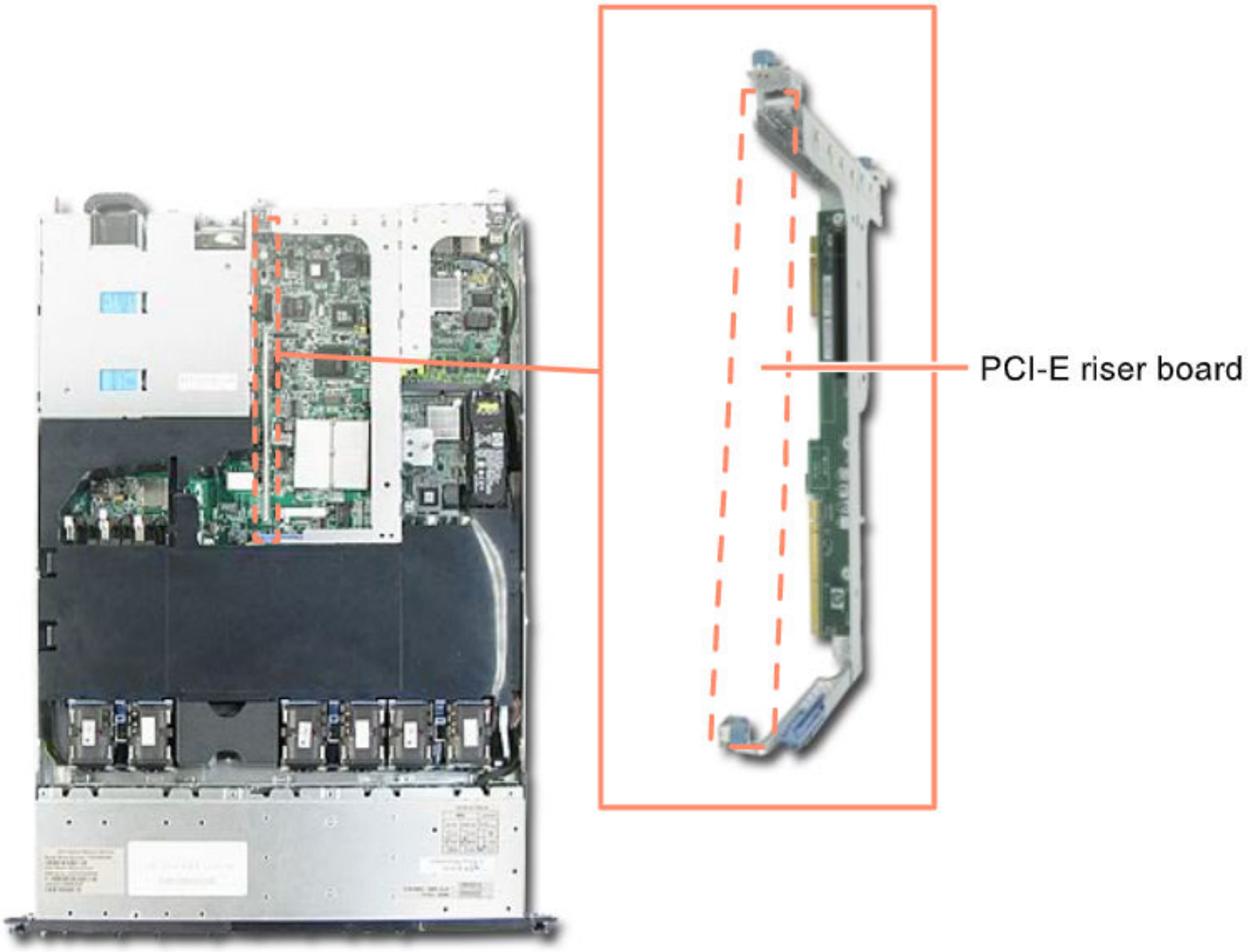
System board



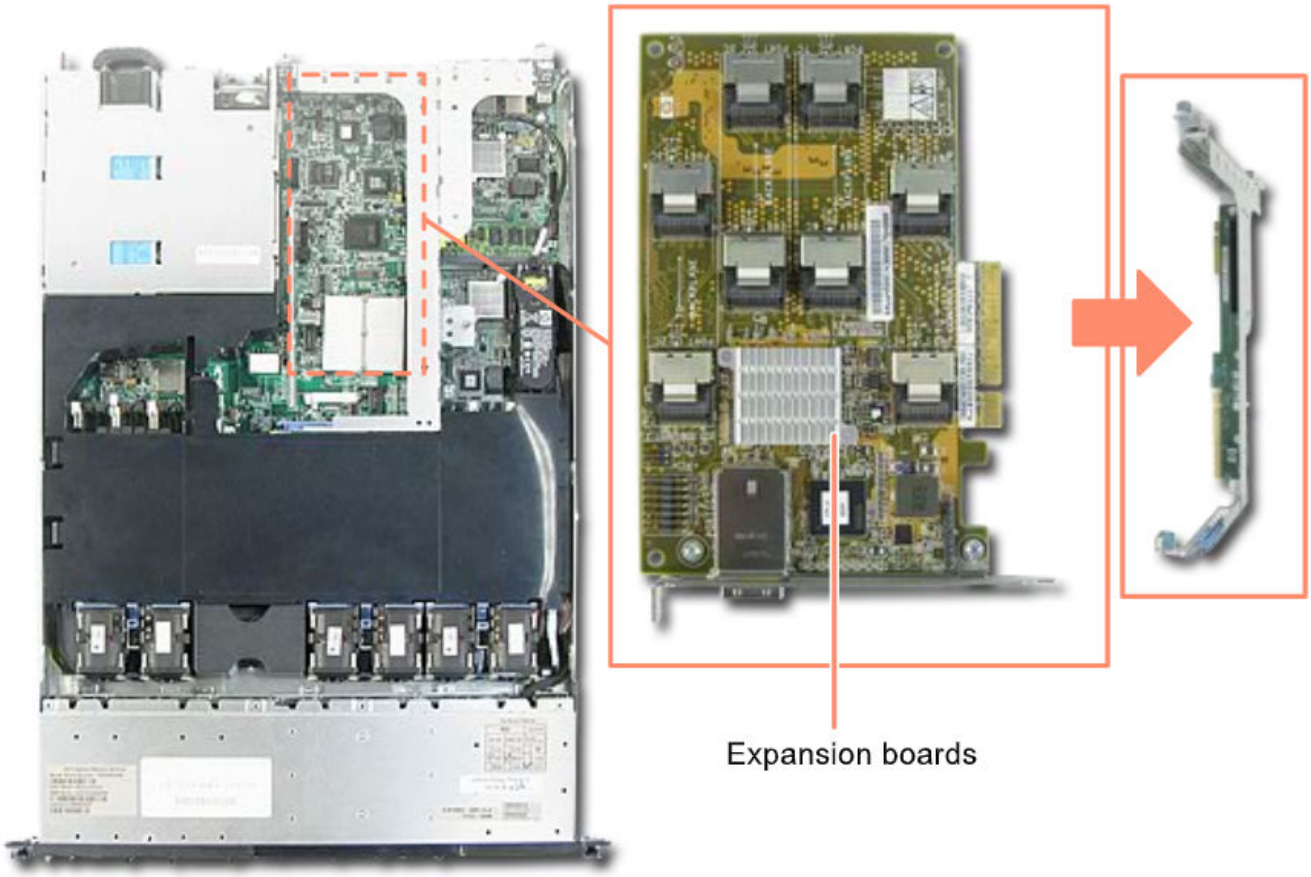
PCI-X Riser board



PCI-E Riser board



Expansion boards



Required Tools

You need the following items for certain procedures:

- T10/T15 Torx screwdriver (included with the server)
- HP Insight Diagnostics software ("HP Insight Diagnostics")
- Alcohol swab
- Thermal grease

Preparation Procedures

To access some components and perform certain service procedures, you must perform one or more of the following procedures:

- : If you are performing service procedures in an HP, Compaq branded, telco, or third-party rack cabinet, you can use the locking feature of the rack rails to support the server and gain access to internal components.
- : If you must remove a server from a rack or a non-hot-plug component from a server, power down the server.
- : If the rack environment, cabling configuration, or the server location in the rack creates awkward conditions, remove the server from the rack.

Extend the server from the rack

Note: If the optional cable management arm option is installed, you can extend the server without powering down the server or disconnecting peripheral cables and power cords. These steps are only necessary with the standard cable management solution.

1. Power down the server.
2. Disconnect all peripheral cables and power cords.
3. Loosen the front panel thumbscrews.
4. Extend the server on the rack rails until the server rail-release latches engage.
5. After performing the installation or maintenance procedure, slide the server into the rack:
   a. Sliding the server fully into the rack.
   b. Secure the server by tightening the thumbscrews.
6. Connect the peripheral cables and power cords.

Power down the server

WARNING! To reduce the risk of personal injury, electric shock, or damage to the equipment, remove the power cord to remove power from the server. The front panel Power on/Standby button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

Important! If installing a hot-plug device, it is not necessary to power down the server.

1. Back up the server data.
2. Shut down the operating system as directed by the operating system documentation.
3. If the server is installed in a rack, press the UID LED button on the front panel. Blue LEDs illuminate on the front and rear panels of the server.
4. Press the Power on/Standby button to place the server in standby mode. When the server activates standby power mode, the system power LED changes to amber.
5. If the server is installed in a rack, locate the server by identifying the illuminated rear UID LED button.

6. Disconnect the power cords.The system is now without power.

Remove the server from the rack

To remove the server from an HP, Compaq branded, telco, or third-party rack:

1. Power down the server.
2. Extend the server from the rack.
3. Disconnect the cabling and remove the server from the rack.
4. Place the server on a sturdy, level surface.

Safety Considerations

Before performing service procedures, review all the safety information.

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device. To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Server blade warnings and cautions

Before installing a server, be sure that you understand the following warnings and cautions.

WARNING! To reduce the risk of electric shock or damage to the equipment:

- **Do not disable the power cord grounding plug. The grounding plug is an important safety feature.**
- **Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.**
- **Unplug the power cord from the power supply to disconnect power to the equipment.**

- **Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the server.**

WARNING! To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

Caution! Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

Access Panel

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001687en_us&noframe

Access panel removal

WARNING! To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

Caution! For proper cooling do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

To remove the access panel:

1. Power down the server.
2. Extend the server from the rack.
3. Open the locking latch, slide the access panel to the rear of the chassis, and remove the access panel. If the locking latch is locked use a T15 Torx screwdriver to unlock the latch.

Access panel replacement

To replace the access panel:

1. Place the access panel on top of the server with the hood latch open. Allow the panel to extend past the rear of the server approximately 1.25cm (0.5-inch).
2. Push down on the hood latch. The access panel slides to a closed position.
3. Use the T15 Torx screwdriver provided with the server to tighten the security screw on the hood latch.

Hot-Plug Hard Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001688en_us&noframe

Hot-plug hard drive removal

Caution! To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

To remove the hard drive:

1. Lift the release lever.
2. Pull the hard drive from the front of the unit.

Hot-plug hard drive replacement

To replace the hard drive, reverse the removal procedures.

Hot-Plug Power Supply

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001689en_us&noframe

Hot-plug power supply removal

WARNING! To reduce the risk of electrical shock, do not disassemble the power supply or attempt to repair it. Replace it only with the specified spare part.

Caution! Do not attempt to remove or replace a power supply as a hot-plug procedure unless both bays are populated with power supplies.

Caution! To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

To remove the hot-plug power supply:

Note: Determine how many hot-plug power supplies are installed. If only one hot-plug power supply is installed, power down and remove the power cord from the server. If more than one hot-plug power supply is installed, continue with the next step.

1. Disconnect the power cord from the power supply.
2. Disconnect the power cord from the server.
3. Remove the hot-plug power supply by pulling the handle.

WARNING! To reduce the risk of electrical shock or damage to the equipment, do not connect the power cord to the power supply until the power supply is installed.

Hot-plug power supply replacement

To replace the hot-plug power supply:

1. Slide the hot-plug power supply into the power supply bay.
2. Connect the power cord to the power supply.
3. Install the cable management arm, if removed.

Hard Drive Cage

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001690en_us&noframe

Hard drive cage removal

To remove the hard drive cage:

1. Power down the server.
2. Extend the server from the rack.
3. Remove all hard drives or blanks.
4. Remove the two screws on the top of the chassis.
5. Remove the hard drive cage by pushing the rear of the cage out the front of the chassis.

Hard drive cage replacement

To replace the hard drive, reverse the removal procedures.

DVD Tray And DVD ROM Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001691en_us&noframe

DVD tray and DVD ROM drive removal

To remove the DVD tray and ROM:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.

4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove fans.
7. Remove the two screws on the top of the tray.
8. Disconnect the SATA DVD cable from the rear of the DVD tray and the system.
9. Remove the DVD tray and ROM.

DVD tray and DVD ROM drive replacement

To replace the DVD tray and ROM, reverse the removal procedures.

Fan Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001692en_us&noframe

Fan module removal

Note: The server has four fan modules. Install fan 2 only when processor 2 is installed. When only one processor is installed, always install the fan blank.

To remove the fan module:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the fan module by squeezing the two release levers on each side and lifting the module out.

Fan module replacement

To replace the fan module, reverse the removal procedures.

Fan Blank

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001693en_us&noframe

Fan blank removal

Note: Install fan 2 only when processor 2 is installed. When only one processor is installed, always install the fan blank.

To remove the fan blank:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the fan blank by releasing the lever and pulling up.

Fan blank replacement

To replace the fan blank, reverse the removal procedures.

Battery-Backed Write Cache Battery Pack

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001694en_us&noframe

Battery-backed write cache battery pack removal

Caution! To prevent a server malfunction or damage to the equipment, do not add or remove the battery pack while an array capacity expansion, RAID level migration, or stripe size migration is in progress.

To remove the battery pack:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the PCI riser board assembly.
5. Unplug the BBWC cable and remove the BBWC battery.

Battery-backed write cache battery pack replacement

To replace the battery pack, reverse the removal procedures.

Air Baffle

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001695en_us&noframe

Air baffle removal

To remove the air baffle:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle by lifting.

Air baffle replacement

To replace the air baffle, reverse the removal procedures.

PCI Riser Board Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001696en_us&noframe

PCI riser board assembly removal

Caution! To prevent damage to the server or expansion boards, power down the server and remove all AC power cords before removing or installing the PCI riser board assembly.

To remove the PCI riser board assembly:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the PCI riser board assembly by:
    a. Disconnecting external cables connected to any existing expansion boards.

b. Loosening the four PCI riser board assembly thumbscrews.

c. Lifting the assembly to unseat the PCI riser boards, and then remove the assembly.

PCI riser board assembly replacement

To replace the PCI riser board assembly, reverse the removal procedures.

Expansion Boards

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001697en_us&noframe

Expansion boards removal

To remove the expansion boards:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the PCI riser board assembly.
7. Remove the expansion board.

Expansion boards replacement

To replace the expansion boards, reverse the removal procedure.

PCIe Riser Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001698en_us&noframe

PCIe riser board removal

To remove the PCIe riser board:

1. Power down the server.

2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the PCI riser board assembly.
7. Remove all expansion boards.
8. Remove the full-length PCIe riser board from the riser board assembly.

PCIe riser board replacement

To replace the PCIe riser board, reverse the removal procedures.

PCI-X Riser Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001699en_us&noframe

PCI-X riser board removal

To remove the PCI-X riser board:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the PCI riser board assembly.
7. Remove all expansion boards.
8. Remove the full-length PCI-X riser board from the riser board assembly.

PCI-X riser board replacement

To replace the PCI-X riser board, reverse the removal procedures.

Battery-Backed Write Cache Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001700en_us&noframe

Battery-backed write cache module removal

To remove the cache module:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the PCI riser board assembly.
7. Remove the cache module by pressing the release levers outward and lifting the module.

Battery-backed write cache module replacement

To replace the cache module, reverse the removal procedures.

Optional Hard Drive Backplane Assembly (Top)

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001701en_us&noframe

Optional hard drive backplane assembly (top) removal

To remove the optional hard drive backplane assembly:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the hard drives.
7. Remove the fan modules.

8. Remove the fan blank, if applicable.
9. Remove the two cables connected to the backplane.
.0. Remove the six screws securing the backplane.
.1. Pull back and lift out the optional hard drive backplane.

Optional hard drive backplane assembly (top) replacement

To replace the optional hard drive backplane, reverse the removal procedures.

Standard Hard Drive Backplane Assembly (Bottom)

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Standard hard drive backplane assembly (bottom) removal

To remove the standard hard drive backplane assembly:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove all fan modules and blanks.
7. Remove all hard drives and blanks.
8. Remove the optional hard drive backplane.
9. Remove the two cables from the backplane.
.0. Unscrew the three screws along the backplane.
.1. Lift out the backplane.

Standard hard drive backplane assembly (bottom) replacement

To replace the standard hard drive backplane assembly, reverse the removal procedures.

HP Systems Insight Display And LED Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001703en_us&noframe

HP Systems Insight Display and LED assembly removal

Note: The Systems Insight Display is an assembly that includes the front panel LEDs, Power on/ Standby button, and a cable.

To remove these components:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the two screws securing the Systems Insight Display.
7. Remove the HP Systems Insight Display and LED assembly by pulling the display out the front of the chassis.
8. Disconnect the Systems Insight Display cable from the system board.

HP Systems Insight Display and LED assembly replacement

To replace the components, reverse the removal procedure.

DIMMs

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001704en_us&noframe

DIMMs removal

To remove the DIMMS:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.

5. Remove the air baffle.
6. Remove the DIMM by pushing down on the release latches and lifting out the DIMM.

DIMMs replacement

To replace the DIMM, reverse the removal procedures.

Heat Sink

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001705en_us&noframe

Heat sink removal

To remove the heat sink:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the heat sink by lifting the two release latches and pulling up the heat sink.

Heat sink replacement

To replace the heat sink:

1. Use the alcohol swab to remove all the existing thermal grease from the processor. Allow the alcohol to evaporate before continuing.
2. Apply new grease to the top of the processor in an -S- pattern to ensure even distribution.
3. Install the heat sink by following the removal procedures in reverse.

Processor

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001706en_us&noframe

Processor removal

Caution ! To avoid damage to the processor: Handle the processor only by the edges. Do not touch the bottom of the processor, especially the contact area.

Caution ! THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the system board: - Never install or remove a processor without using the processor installation tool.- Do not touch the processor socket contacts.- Do not tilt or slide the processor when lowering the processor into the socket.- Your processor installation tool may differ from the one shown here. The general procedures and cautions for removal and replacement still apply.

To remove a processor:

Locate and download the latest ROM version from the HP website (**http://www.hp.com/support**). Follow the instructions on the website to update the system ROM.

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Remove the heat sink.
7. Open the processor locking lever and the processor socket retaining bracket.
8. Align the processor installation tool over the processor with the locking lever graphic correctly oriented.
9. Press in on the release tabs on the side of the tool and lower it onto the processor.
10. With the processor in place, release the tabs to firmly grasp the processor into the mouth of the tool.
11. Lift the processor straight up and out of the socket.
12. To help ensure that the processor remains in the tool, carefully rotate the tool, and then push in and release the tabs to secure the processor in the tool.

Processor replacement

To replace a processor:

Caution! Failure to completely open the processor locking lever prevents the processor from seating during installation, leading to hardware damage.

1. Insert the processor into the processor installation tool. Handle the processor by the edges only, and do not touch the bottom of the processor, especially the contact area.**Caution! Ensure that the alignment pins on the tool are aligned with the cutouts on the processor. If the processor is not inserted correctly, it may be destroyed.Important! Be sure the processor remains inside the processor installation tool.**

2. Align the processor installation tool with the socket, and then install the processor.
3. Press the tabs on the processor installation tool to separate it from the processor, and then remove the tool.
4. Close the processor socket retaining bracket and the processor locking lever.**Caution! Be sure to close the processor socket retaining bracket before closing the processor locking lever. The lever should close without resistance. Forcing the lever closed can damage the processor and socket, requiring system board replacement.**
5. Clean the old thermal grease from the heatsink with the alcohol swab. Allow the alcohol to evaporate before continuing.
6. Apply thermal grease in an pattern of five big dots on the surface of the processor.
7. Install the heat sink.
8. Install the air baffle.
9. Install the BBWC battery pack, if removed.
10. Install the access panel.
11. Power up the server.

System Battery

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001707en_us&noframe

System battery removal

WARNING! The computer contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack. A risk of fire and burns exists if the battery pack is not properly handled. To reduce the risk of personal injury:

- **Do not attempt to recharge the battery.**
- **Do not expose the battery to temperatures higher than 60-C (140-F).**
- **Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.**
- **Replace only with the spare designated for this product.**

To remove the system battery:

1. Power down the server.

2. Extend or remove the server from the rack.
3. Remove the access panel.
4. Remove the BBWC battery pack, if installed.
5. Remove the air baffle.
6. Locate the battery on the system board.
7. Remove the battery by pressing the release lever and pulling out the battery with your fingers.

Important! Replacing the system board battery resets the system ROM to its default configuration. After replacing the battery, reconfigure the system through RBSU.

System battery replacement

To replace the system battery, reverse the removal procedures.

System Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001708en_us&noframe

System board removal

To remove the system board:

1. Power down the server.
2. Extend the server from the rack.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all power supplies.
6. Remove the BBWC battery pack, if installed.
7. Remove the air baffle.
8. Remove the PCI riser board assembly.
9. Remove all fan modules.
10. Disconnect all cables connected to the system board.
11. Remove the cache module.

.2. Remove the optional hard drive backplane if installed.

.3. Remove all DIMMs.

.4. Remove the heat sink.

.5. Remove the processor.

.6. Remove the failed system board by sliding towards the front of the chassis and lifting.

System board replacement

To replace the system board:

1. Install the spare system board in the server before installing the processor.
2. Prepare the processor socket on the spare system board:
   a. Open the processor retaining latch and the processor socket retaining bracket.
   b. Remove the processor socket protective cover.
3. Install the processor socket cover onto the processor socket of the failed system board.
4. Install the processor on the spare system board.
5. Install the heat sink.
6. Install all components removed from the failed system board.
7. Power up the server.

Note: After you replace the system board, you must re-enter the server serial number and the product ID.