HPE ProLiant DL580 G7 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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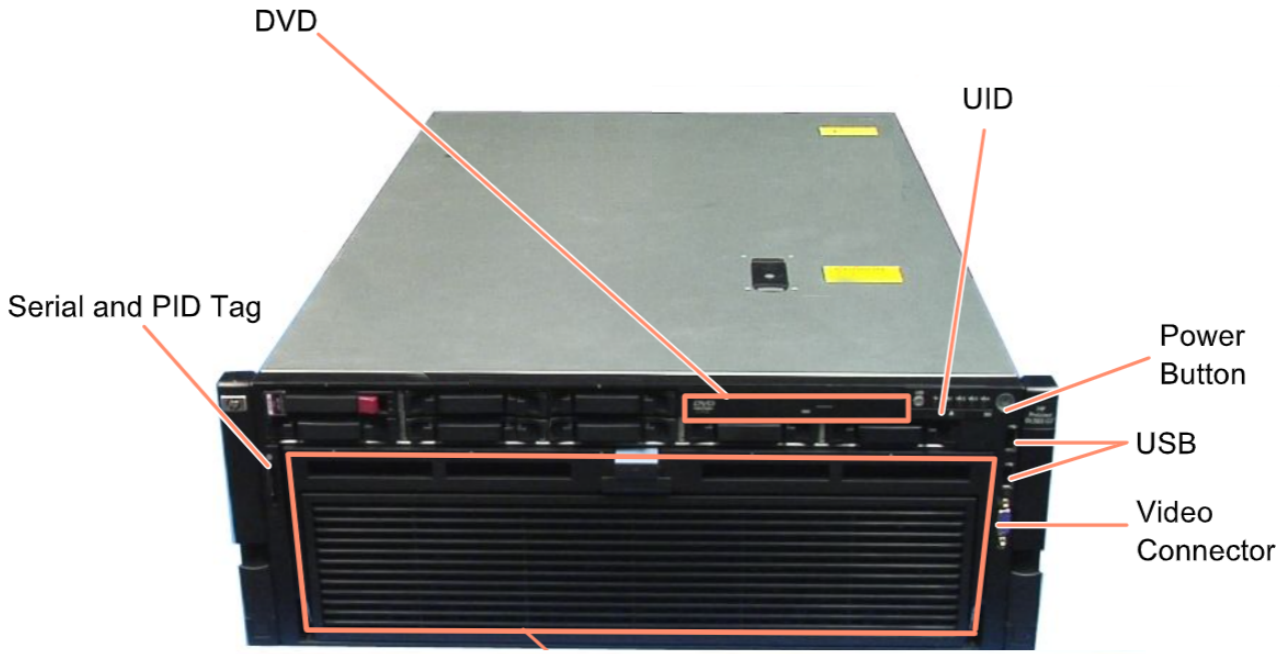
Front view



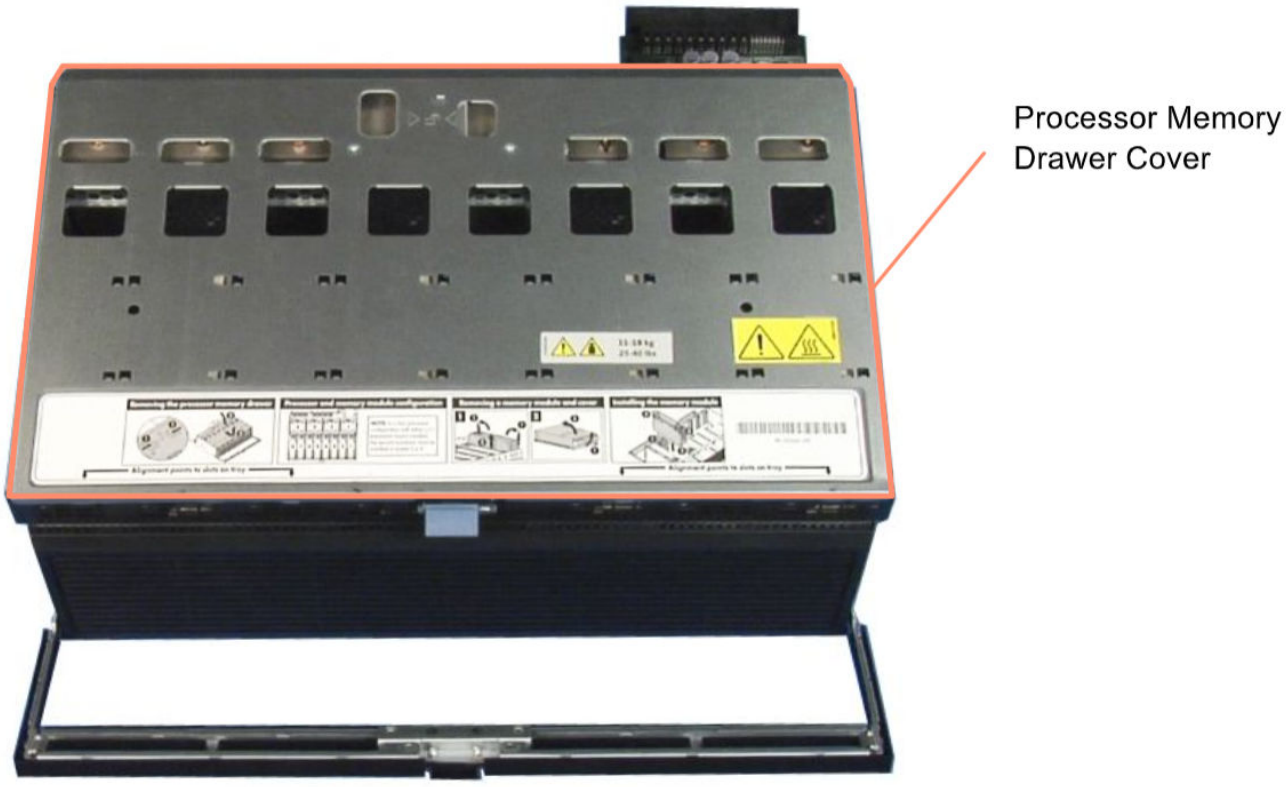
Subtopics

- **Access panel**
- **Processor memory drawer cover**
- **Processor memory drawer**
- **Hard drive**

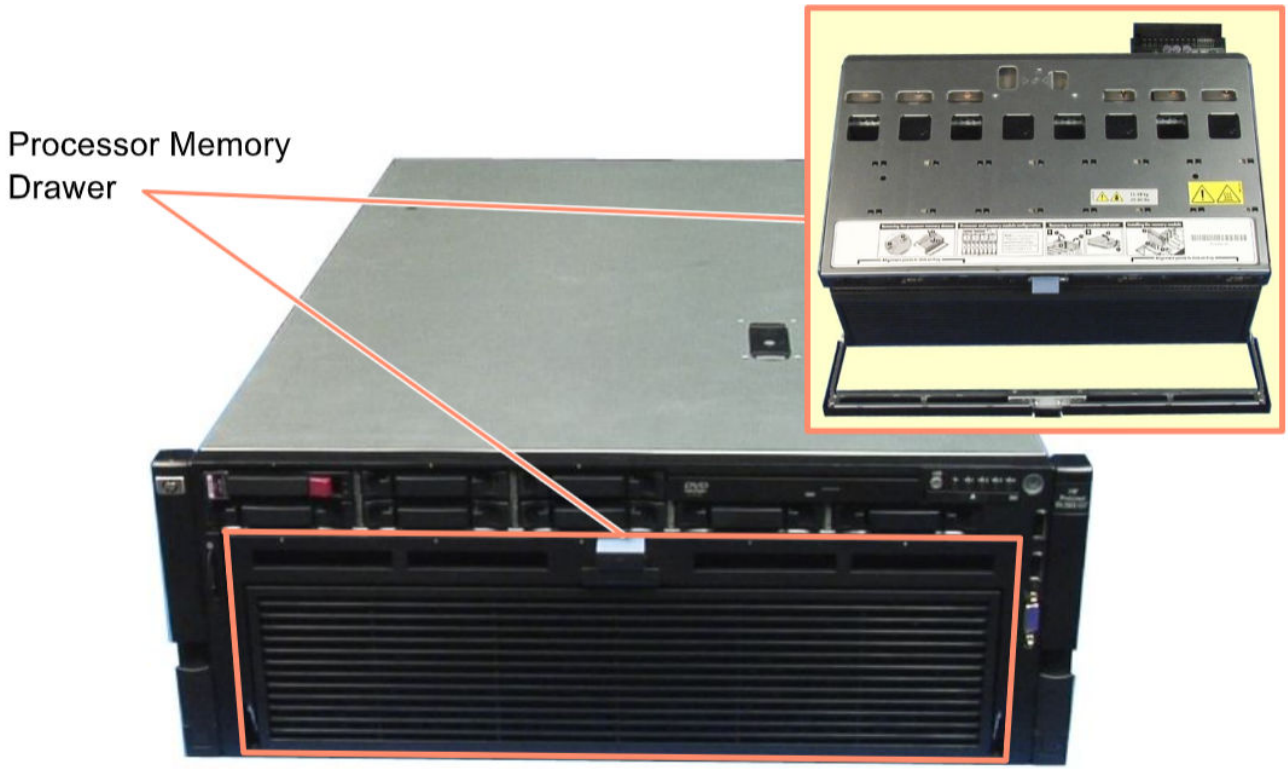
Access panel



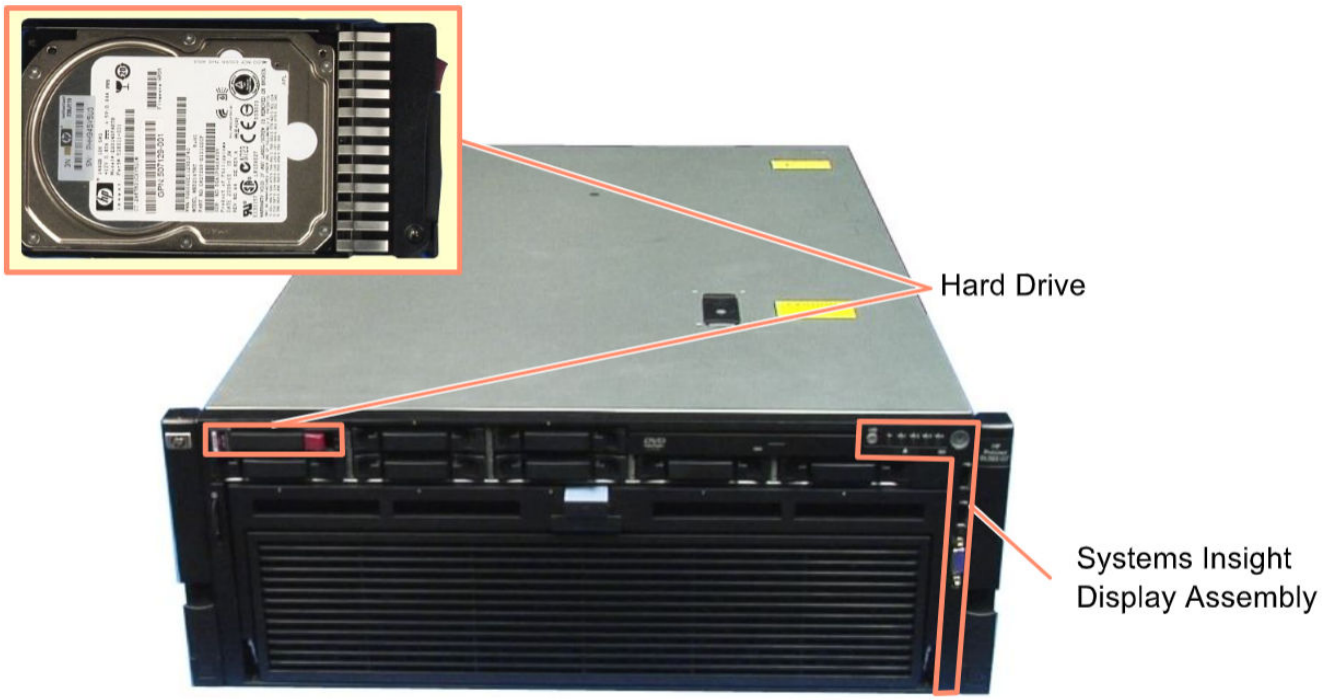
Processor memory drawer cover



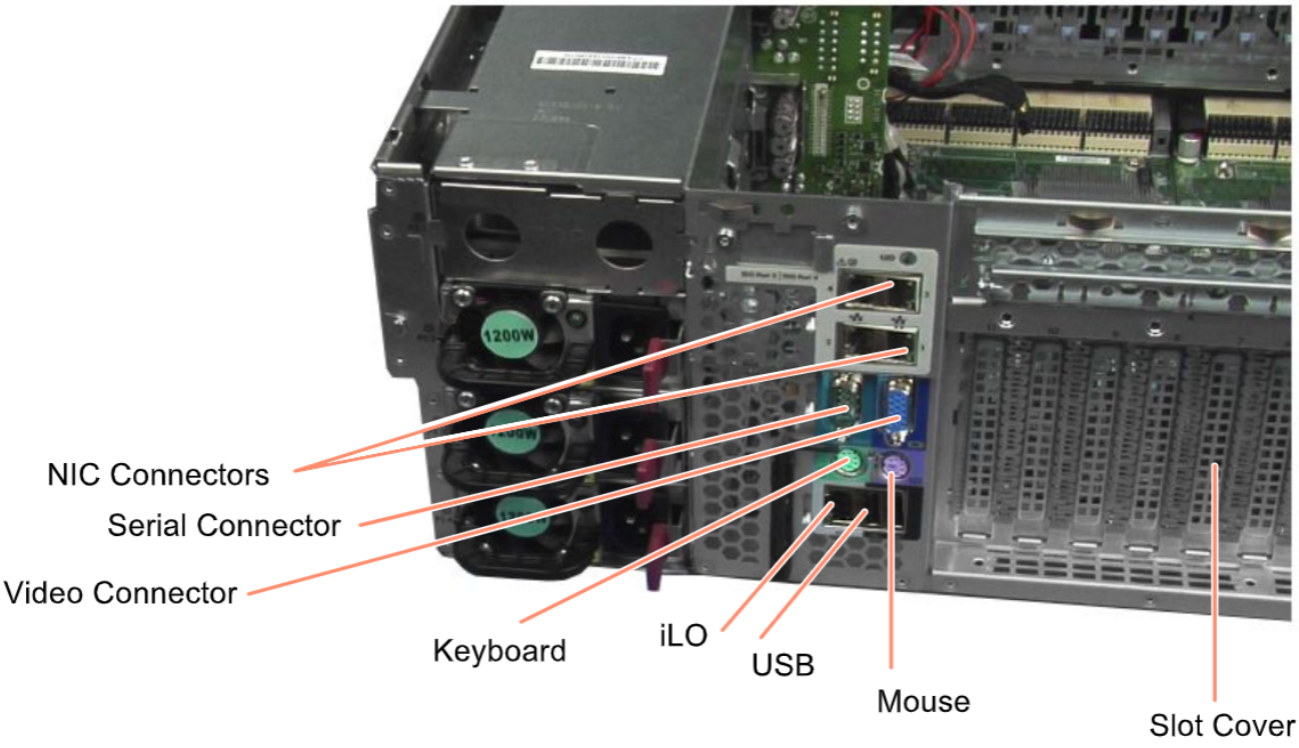
Processor memory drawer



Hard drive



Back view



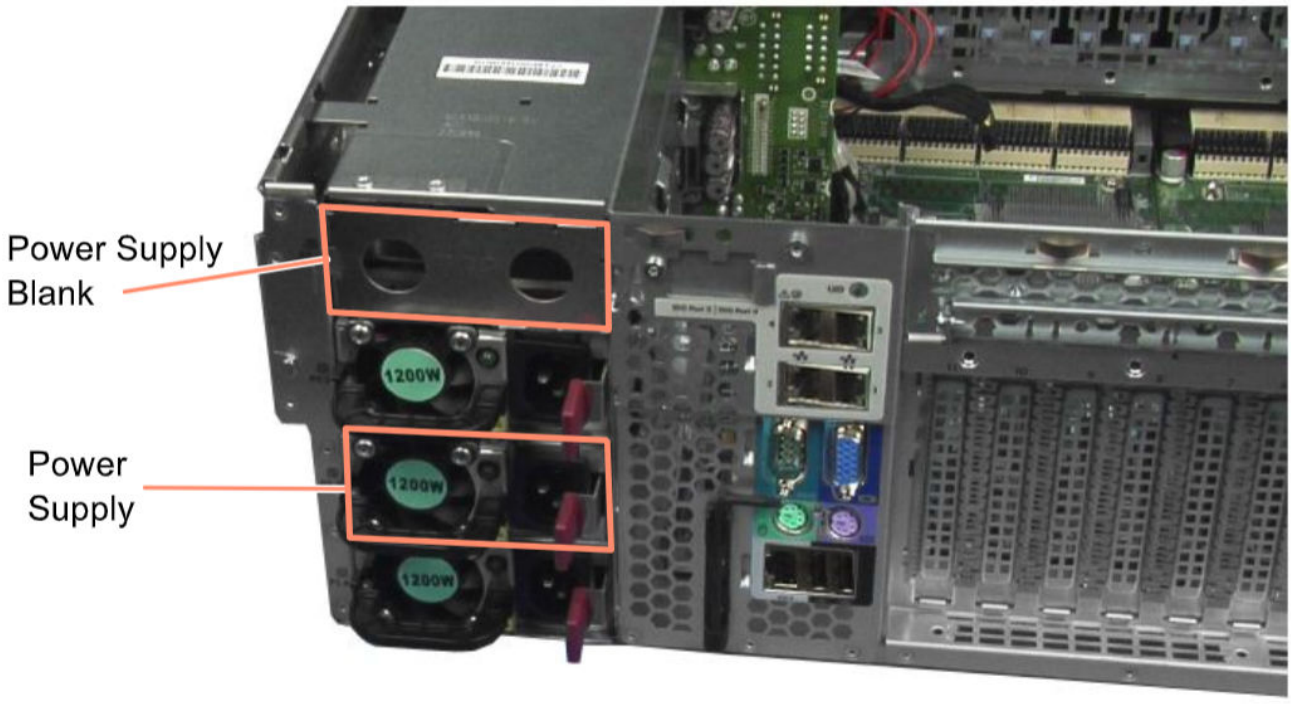
Subtopics

Power supply
Power supply blank

Power supply



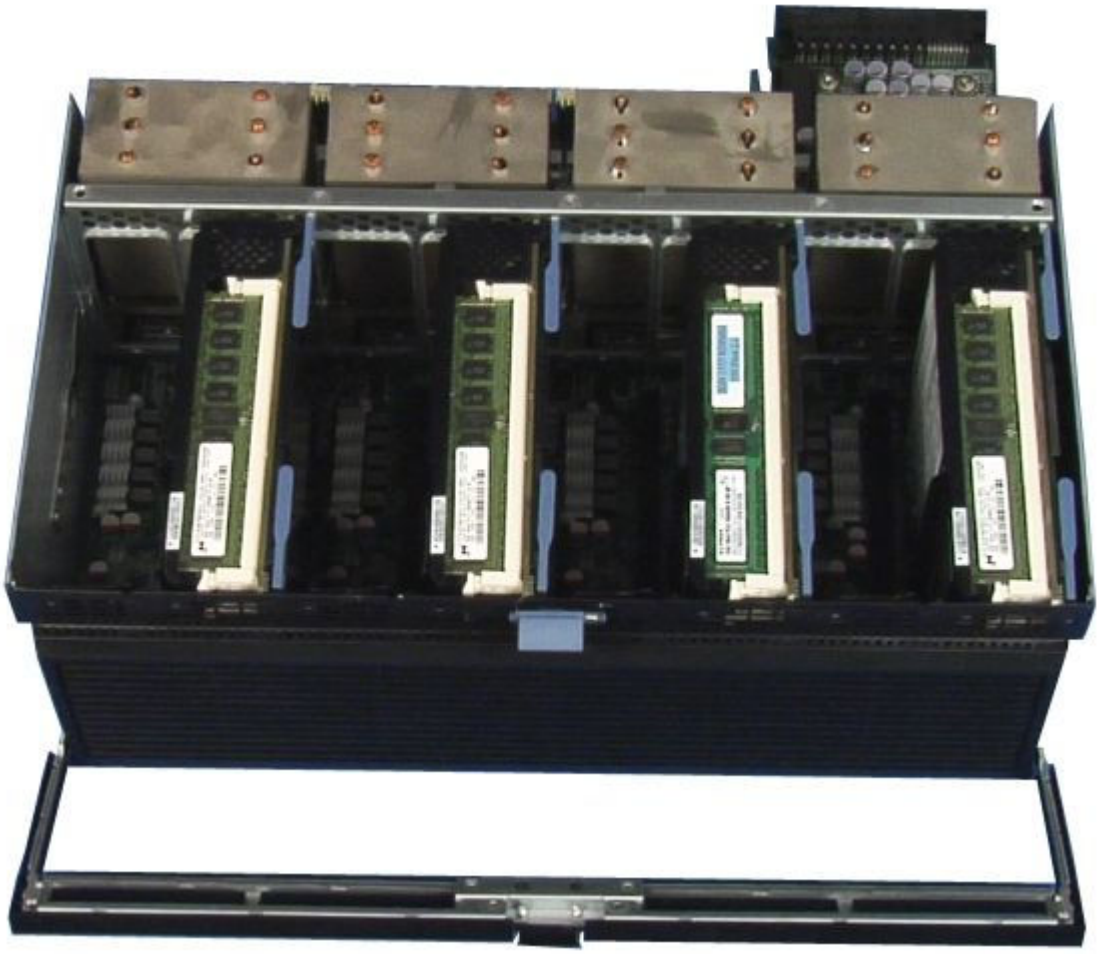
Power supply blank



Top view



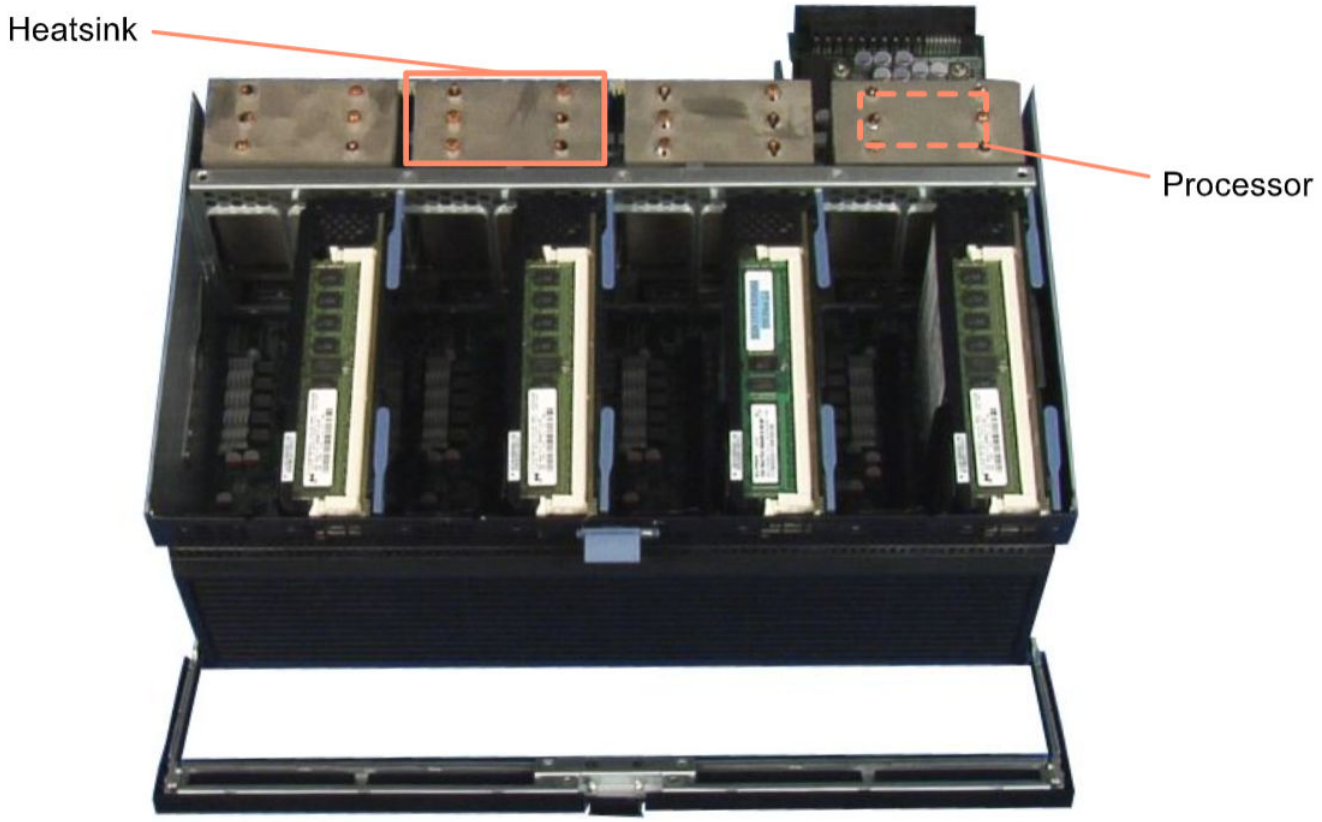
Internal view 1



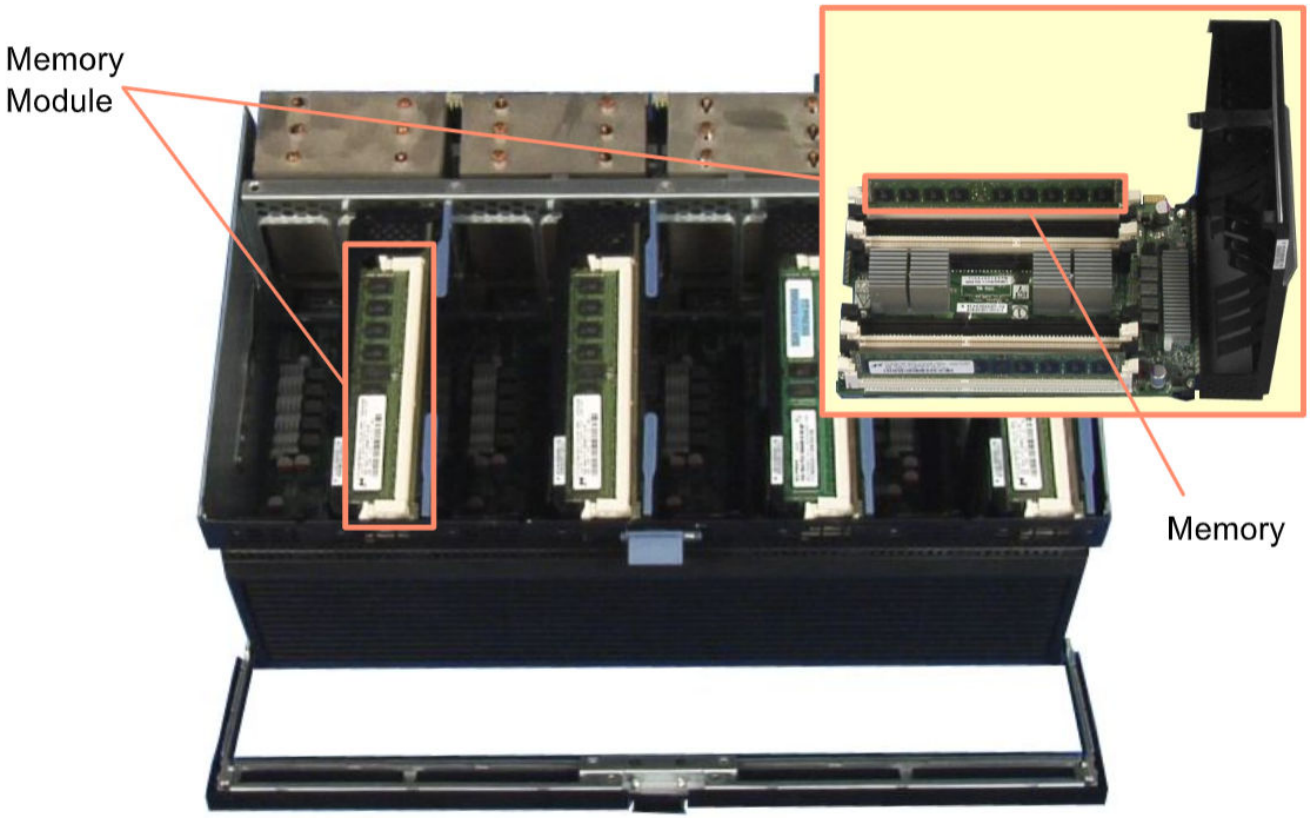
Subtopics

- **Processor**
- **Memory and module**
- **Heatsink**

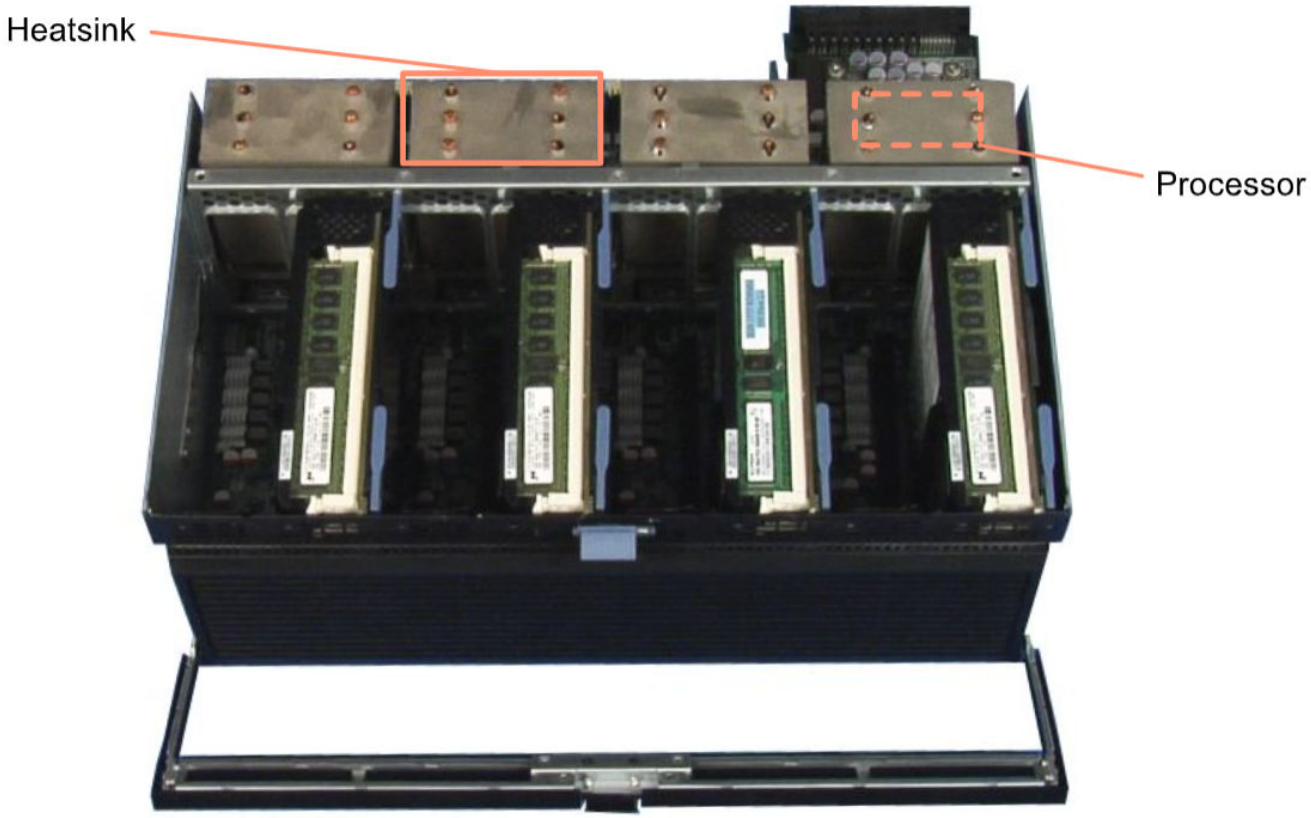
Processor



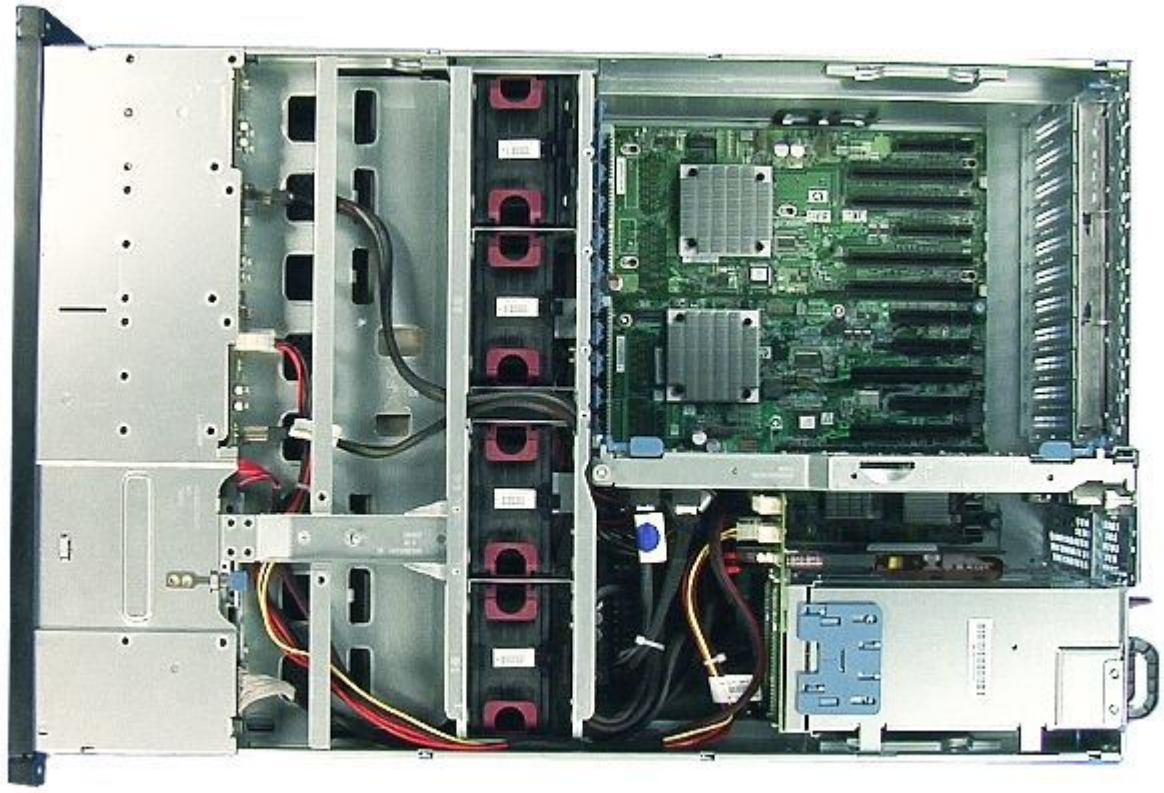
Memory and module



Heatsink



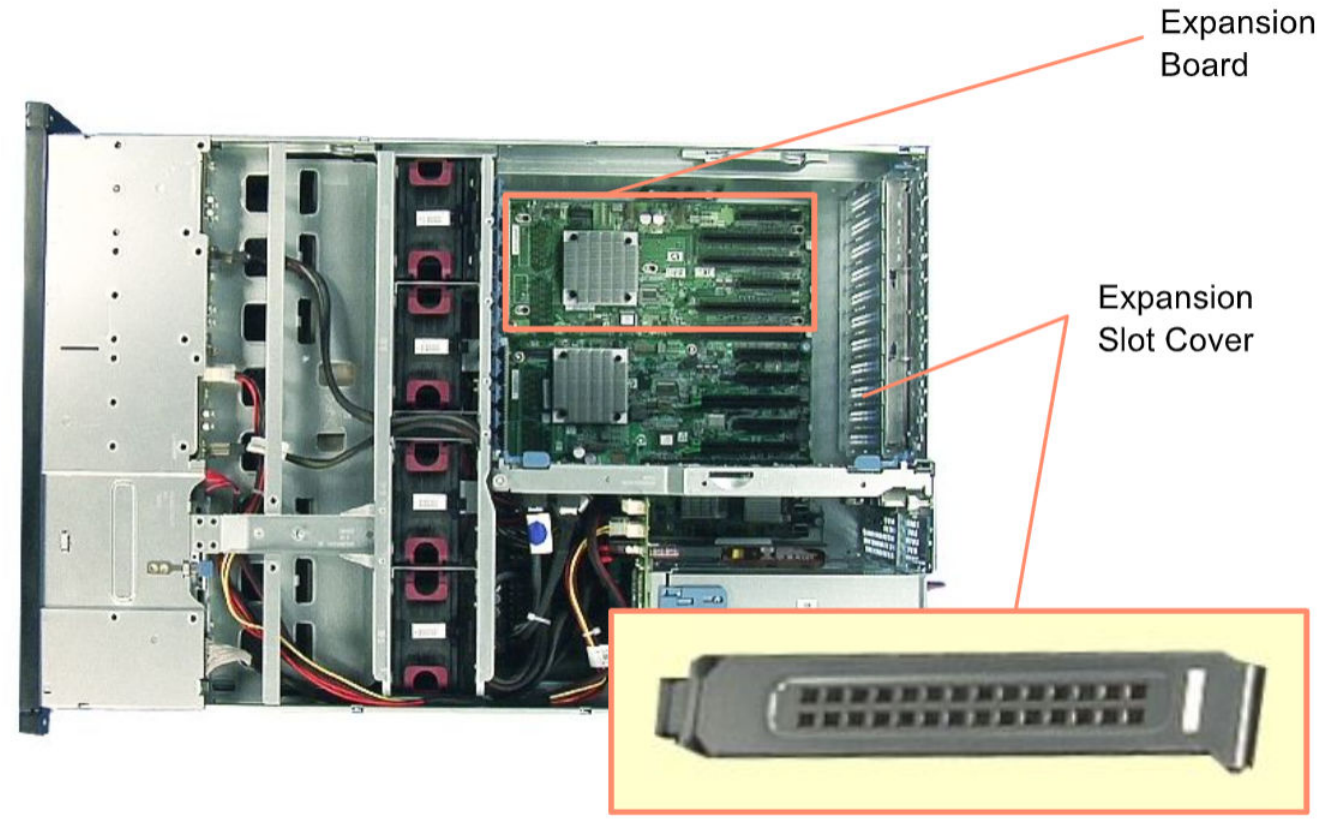
Internal view 2



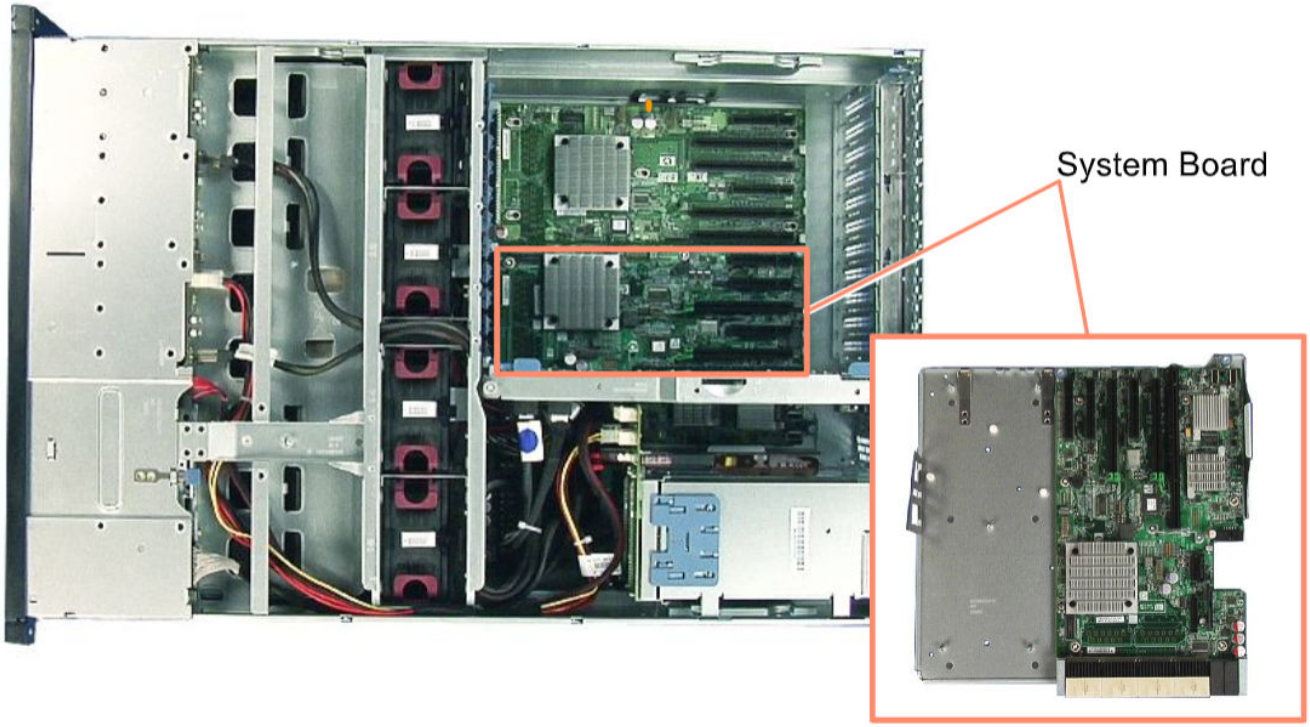
Subtopics

- **Expansion board and slot**
- **System board**
- **SPI Board and battery**
- **BBWC cache and battery module**
- **Power backplane**
- **SAS Backplane**

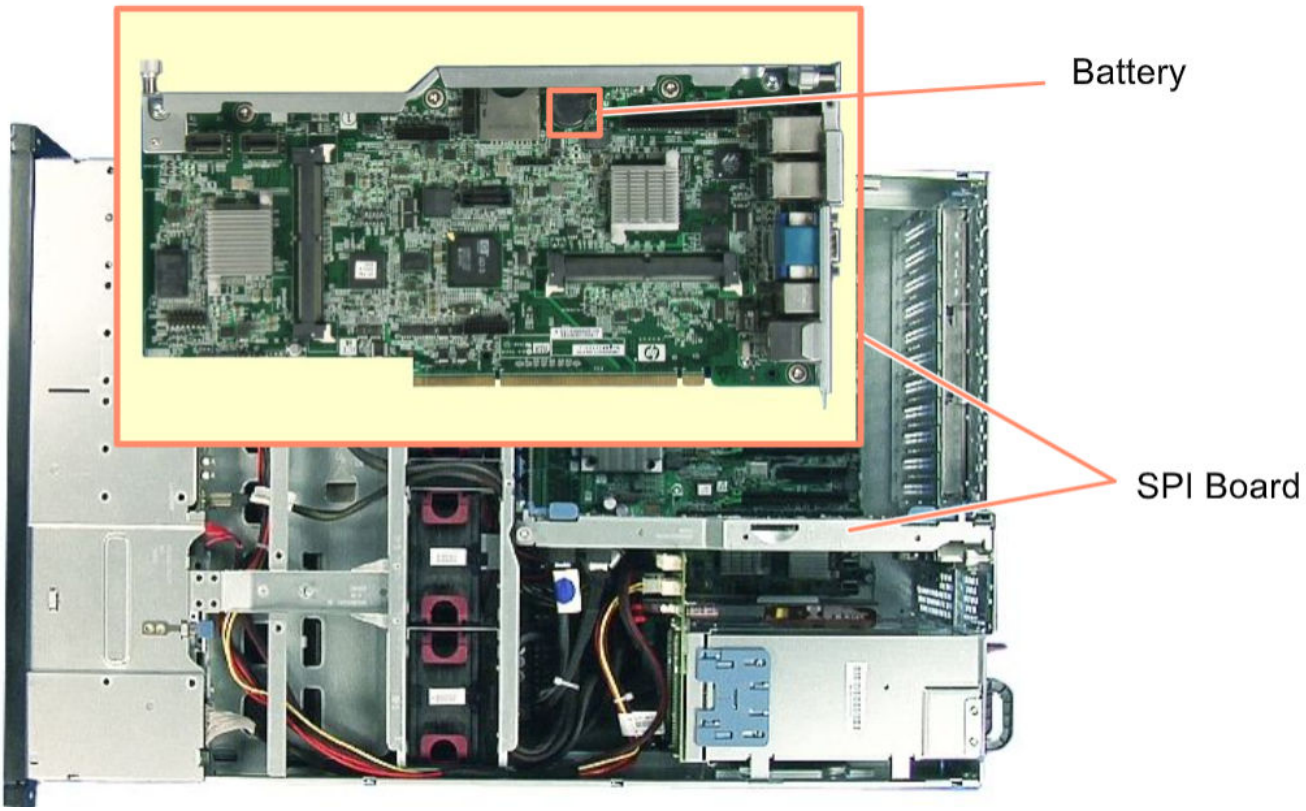
Expansion board and slot



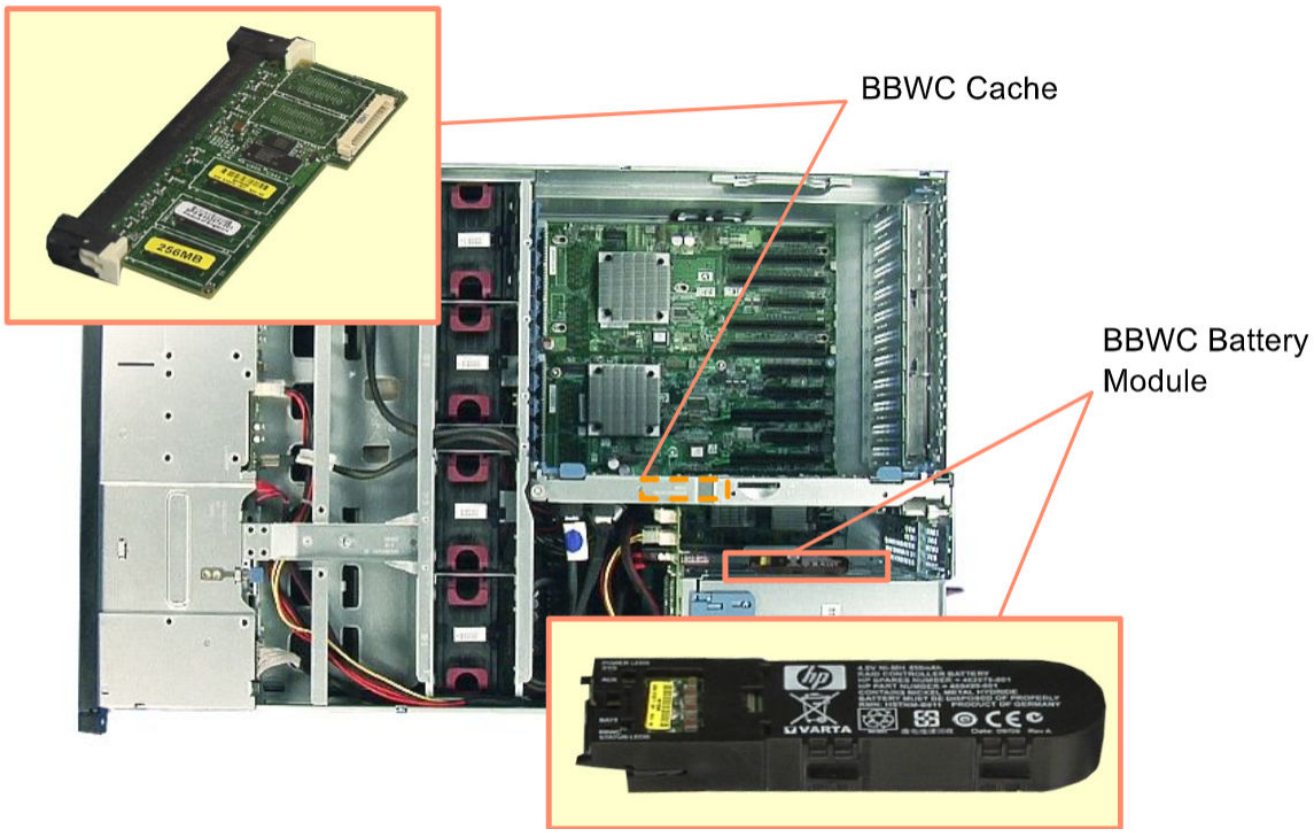
System board



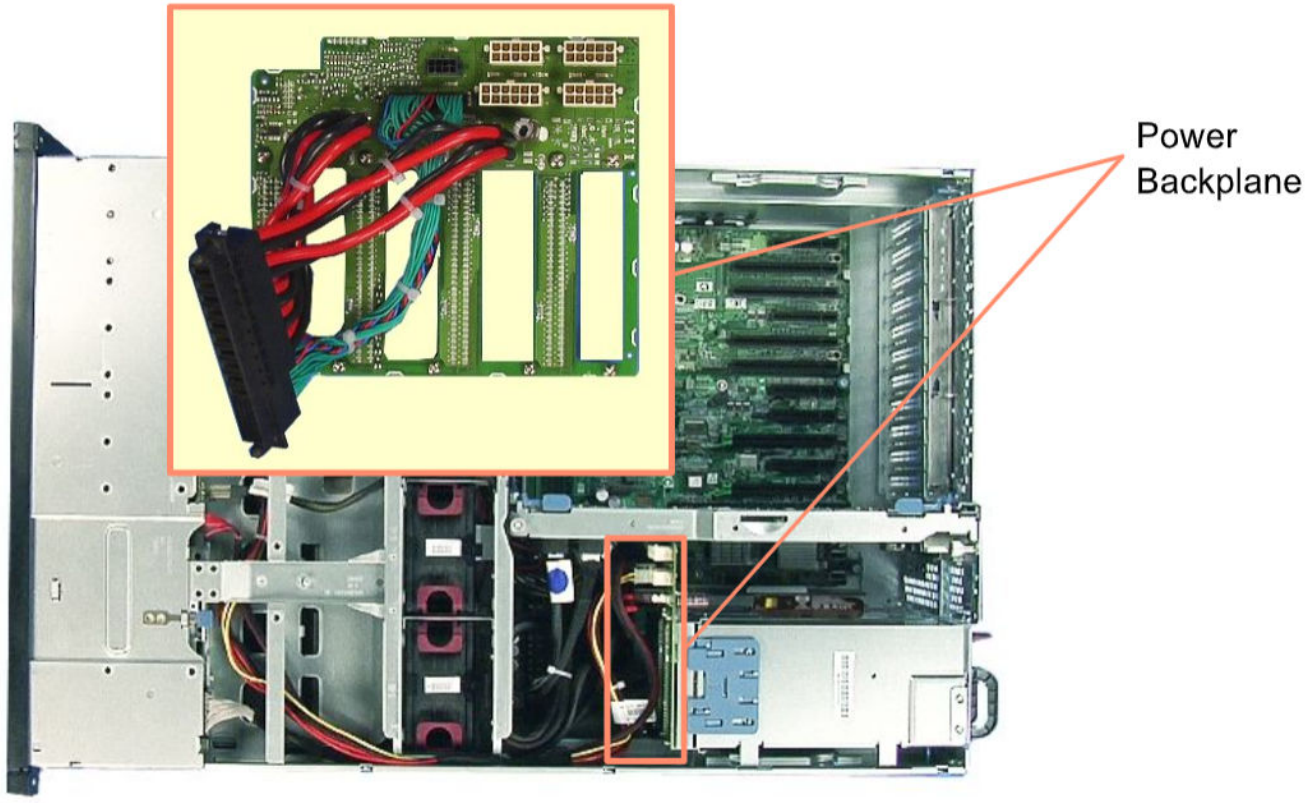
SPI Board and battery



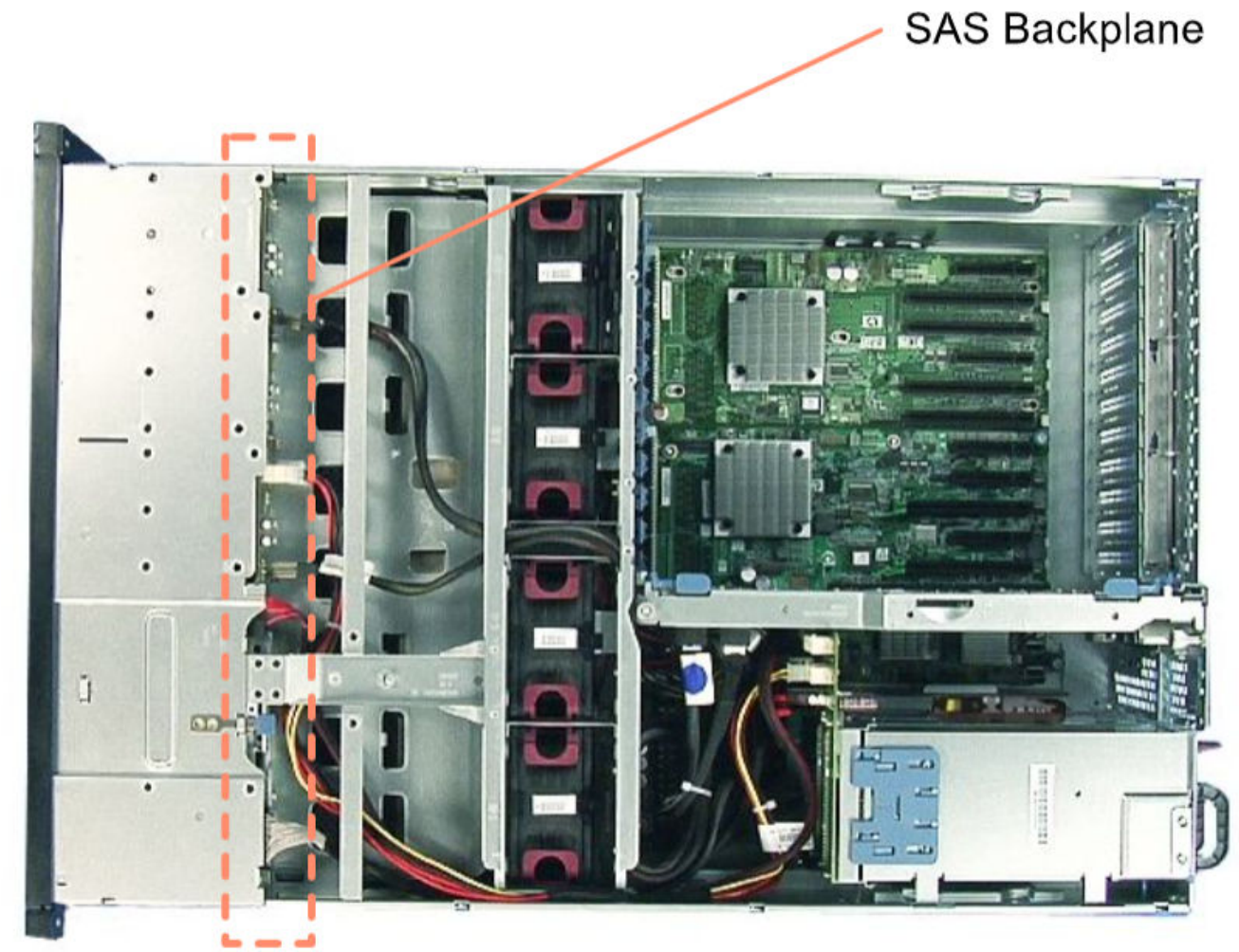
BBWC cache and battery module



Power backplane



SAS Backplane



Precautions

Before you begin

1. Put on your electrostatic discharge (ESD) wrist strap to avoid damaging any circuitry.
2. Remove all devices (such as diskettes and CD-ROMs) from the computer.
3. Power off the computer and any peripheral devices that are connected to it.

4. Disconnect the power cord from the electrical outlet and then from the computer. When the computer is plugged into an AC power source, there is always voltage applied to the system board. You must disconnect the power cord from the power source before opening the computer to prevent system board or component damage.
5. Disconnect all peripheral device cables from the computer.

Static electricity

Static electricity can damage electrical components. Before removing or replacing a component, touch a grounded metal object to discharge static electricity. Also observe the following precautions to prevent damage to electric components and accessories:

- To avoid hand contact, transport products in static-safe containers such as tubes, bags, or boxes.
- Protect all electrostatic parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.
- Avoid contact with pins, leads, or circuitry.
- Place reusable electrostatic-sensitive parts from assemblies in protective packaging or conductive foam.

Disassembly

- During disassembly, label each cable as you remove it, noting its position and routing. This will make the replacement of the cables much easier, and will ensure that the cables are rerouted properly to protect the cables.
- Keep all screws with the units removed. The screws used in the computer are of different thread sizes and lengths; using the wrong screw in a component could damage the unit.

Tools And Materials

You need the following items for some procedures:

- Torx T-15 screwdriver (provided with the server)
- Phillips screwdriver
- Flathead screwdriver
- Diagnostics Utility

Note: If worn or damaged screwdriver tips are used, the small screw heads could become stripped.

Access Panel

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002292en_us&noframe

Access Panel removal

To remove the access panel:

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.

1. To remove the access panel remove the tower bezel.
2. Open the locking latch, slide the access panel to the rear of the chassis, and remove the access panel.
   Note: If the locking latch is locked, use a T-15 Torx screwdriver to unlock the latch.

Access Panel replacement

To replace the access panel reverse the removal procedure.

Processor Memory Drawer

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002293en_us&noframe

Processor Memory Drawer removal

To remove the processor memory drawer:

1. To remove the processor memory drawer pull down the release lever cover, then push the release lever up to unlock the handle.

2. Lower the handle, and then extend the processor memory drawer from the server until the release latches catch.
   WARNING: The processor memory drawer weighs more than 11.3 kg (25.0 lb). Use extra caution when removing and replacing the processor memory drawer.
3. Firmly holding the processor memory drawer, press the release buttons and then remove the drawer from the server.

Processor Memory Drawer replacement

To replace, reverse the removal procedure

Processor Memory Drawer Cover

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002294en_us&noframe

Processor Memory Drawer Cover removal

To remove the processor memory drawer cover:

1. Remove the processor memory drawer
2. To remove the processor memory drawer cover push in the tab at the rear of tray, lift the front of the cover up, push the cover towards the front and lift it away from the server.

Processor Memory Drawer Cover replacement

To replace, reverse the removal procedure

SAS/SATA Hard Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002295en_us&noframe

SAS/SATA Hard Drive removal

To remove the hard drive:

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.

Note: Before removing, determine the status of the hard drive from the hot-plug SAS hard drive LED combinations (MSG page 95). Also, make sure to back up all server data on the hard drive before removing.

1. To remove the hard driver first press the purple button on the right to release the handle, pull the handle out, using the handle carefully pull the hard drive from the server chassis.

SAS/SATA Hard Drive replacement

To replace, reverse the removal procedure

System Memory (DIMM'S)

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System Memory (DIMM's) removal

To remove the system memory:

1. Remove the processor memory drawer.
   Caution: To prevent damage to the processor memory drawer cover, be sure the handle of the processor memory drawer is fully open before removing the cover.
2. Remove the processor memory drawer cover.
3. Lift the latches on the memory module to release, then lift the module out of the drawer.
4. Open the memory module cover by lifting the tab near the front of the module while lifting the cover up.
5. To remove the DIMM open the slot latches, pull the DIMM up and away from the board.

System Memory (DIMM's) replacement

To replace the DIMM:

1. To replace the DIMM, lift the slot latches and insert the DIMM into the slot, close the latches.
2. Close the DIMM baffle and make sure the tab clicks into place.
3. To reinsert the memory module, lift the ventilation flap and slide the module into the drawer, close the latches to secure the module in place.

Power Supply

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002297en_us&noframe

Power supply removal

To remove the power supply:

1. To remove the power supply push the tab to the left and carefully pull the power supply out of the chassis.

Power supply replacement

To replace, reverse the removal procedure

Power Supply Blank

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002298en_us&noframe

Power Supply Blank remova

To remove the power supply blank, using your fingers pull the blank out of the server.

Power Supply Blank replacement

To replace, reverse the removal procedure.

Systems Insight Display Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002299en_us&noframe

Systems Insight Display assembly removal

To remove the SID assembly:

Caution: When routing cables, always be sure that the cables are not in a position where they can be pinched or crimped.

1. Remove the access panel
2. Using the T-10 Torx screwdriver, push in the locking latches on the top of the SID, then pull the bezel up and away from the unit.
3. Disconnect the cable from the rear of the Systems Insight Display assembly.
4. Remove the retaining screw on the right hand side of the SID assembly.
5. Pull the Systems Insight Display assembly out of the unit.

Systems Insight Display assembly replacement

To replace, reverse the removal procedure

Fans

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002300en_us&noframe

Fans removal

To remove the fan:

1. Remove the access panel
2. To remove the fan push the tabs in and pull the fan out of the server chassis. (illustrated steps)

Fans replacement

To replace the fan, reverse the removal procedure.

Fan Louver

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002301en_us&noframe

Fan louver removal

To remove the fan louver:

1. Remove the access panel
2. Remove the fan.
3. To remove the fan louver, pull the fan louver tab and lift it out of the server chassis. (illustrated steps)

Caution: Do not operate the server unless a fan louver is installed next to each fan. If all louvers are not installed, the server overheats.

Fan louver replacement

To replace the fan louver, reverse the removal procedure.

I/O Expansion Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002302en_us&noframe

I/O expansion board removal

To remove the I/O expansion board:

CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all expansion slots have either an expansion slot cover or an expansion board installed.

IMPORTANT: When either optional I/O expansion board in installed in a two-processor configuration, the second processor must be installed in socket 3.

1. Remove the access panel
2. Remove the processor memory drawer.
3. Press in the two latches at the top of expansion board
   NOTE: Remove any expansion boards from the failed I/O expansion board before removing the I/O expansion board.
4. To remove the I/O expansion board slide the board out and lift it out of the server.

I/O expansion board replacement

To replace, reverse the removal procedure

DVD-ROM Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002303en_us&noframe

DVD-ROM drive removal

To remove the DVD:

1. Remove the access panel
2. Disconnect the cable from the rear of the DVD-ROM drive.
3. Remove the DVD-ROM drive.

DVD-ROM drive replacement

To replace the DVD:

1. To replace the DVD drive, reverse the removal procedure.

Processor

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002304en_us&noframe

Processor removal

To remove the processor:

WARNING: Use caution when installing the processor memory module or removing the processor memory module. The processor memory module is very heavy when fully populated.

CAUTION: To help avoid damage to the processor and system board, do not install the processor without using the processor installation tool.

CAUTION: To prevent possible server malfunction and damage to the equipment, multiprocessor configurations must contain processors with the same part number.

IMPORTANT: When either optional I/O expansion board in installed in a two-processor configuration, the second processor must be installed in socket 3.

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.

1. Remove the access panel
2. Remove the processor memory drawer
3. Remove the processor memory drawer cover.
4. Open the processor retaining bracket.
5. Remove the heatsink.
6. Open the processor retaining latch and the processor socket retaining bracket.
7. Align the processor installation tool over the processor with the locking lever graphic correctly oriented.
8. Press in on the release tabs on the side of the tool and lower it onto the processor.
9. With the processor in place, release the tabs to firmly grasp the processor into the mouth of the tool.

.0. Lift the processor straight up and out of the socket.

.1. 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 the 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. Install the replacement processor on the system board.
5. Close the processor socket retaining bracket and the processor retaining latch.
6. Clean the old thermal grease from the heatsink and processor with an alcohol swab. Be sure to allow the alcohol to evaporate before continuing.
7. Apply all of the grease provided to the top of the processor in a five-dot or S pattern.
8. Install the heatsink.
9. Close and lock the processor retaining bracket.
.0. Install the memory drawer cover
.1. Replace the processor memory drawer.

Heatsink

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002305en_us&noframe

Heatsink removal

To remove the heatsink:

1. Remove the access panel .
2. Remove the processor memory drawer.
3. Remove the processor memory drawer cover .
4. Open the processor retaining bracket.
5. Remove the heatsink.

Heatsink replacement

To replace the heatsink:

1. Clean the old thermal grease from the top of the processor and heatsink with an alcohol swab. Be sure to allow the alcohol to evaporate before continuing.
2. Remove the protective cover from the replacement heatsink.
3. Install the heatsink.
4. Clean and lock the processor retaining bracket.
5. Install the memory drawer cover .
6. Install the processor memory drawer.

SSD Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002306en_us&noframe

SSD drive removal

To remove the SSD Drive.

1. Remove the access panel
2. Disconnect the cable from the SSD drive.
3. Remove the SSD drive by pressing in the tab and pulling the drive upwards. (illustrated steps)

SSD drive replacement

To replace, reverse the removal procedure.

Expansion Slot Cover

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002307en_us&noframe

Expansion slot cover removal

To remove the expansion board:

Caution: To prevent improper cooling and thermal damage, do not operate the server unless all expansion slots have either an expansion slot cover or an expansion board installed.

1. Remove the access panel
2. Open the latch, and remove the expansion slot cover.

Expansion slot cover replacement

To replace the expansion slot cover, reverse the removal procedure.

Expansion Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002308en_us&noframe

Expansion board removal

To remove the expansion board:

Caution: To prevent improper cooling and thermal damage, do not operate the server unless all expansion slots have either an expansion slot cover or an expansion board installed.

1. Remove the access panel
2. If installed, remove the shipping screw.
3. Open the latch, and remove the expansion slot cover.
4. Disconnect any cables attached to the expansion board.
5. Remove the retaining screw.
6. Remove the expansion board.

Expansion board replacement

To replace the expansion board:

1. To replace the expansion board, reverse the removal procedure.

SPI Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002309en_us&noframe

SPI board removal

To remove the SPI Board:

1. Remove the access panel
2. Disconnect all cables from the SPI board.
   IMPORTANT: If replacing the SPI board or clearing NVRAM, you must re-enter the server serial number through RBSU.
3. To remove the SPI Board remove the thumbscrews, raise the levers, then carefully lift the SPI board from the server.

SPI board replacement

To replace, reverse the removal procedure

BBWC Cache Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002310en_us&noframe

BBWC Cache Module removal

To remove the BBWC Cache module:

Caution: Do not detach the cable that connects the battery pack to the cache module. Detaching the cable causes any unsaved data in the cache module to be lost.

Caution: After the server is powered down, wait 15 seconds and then check the amber LED before unplugging the cable from the cache module. If the amber LED blinks after 15 seconds, do not remove the cable from the cache module. The cache module is backing up data, and data is lost if the cable is detached.

Caution: Do not detach the cable that connects the battery pack to the cache module. Detaching the cable causes any unsaved data in the cache module to be lost.

1. Remove the access panel

Note: If the existing cache is connected to a battery, observe the BBWC Status LED. If the LED is blinking every 2 seconds, data is still trapped in the cache. Restore system power, and repeat the previous steps. If the LED is not lit, disconnect the battery from the cache.

2. Disconnect the cable.
3. Open the cache slot latches.
4. Remove the cache module.

BBWC Cache Module replacement

To replace the bbwc cache module, reverse the removal procedure.

BBWC Battery Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002311en_us&noframe

BBWC Battery Module removal

To remove the BBWC Battery Module:

Caution: After the server is powered down, wait 15 seconds and then check the amber LED before unplugging the cable from the cache module. If the amber LED blinks after 15 seconds, do not remove the cable from the cache module. The cache module is backing up data, and data is lost if the cable is detached.

Caution: Do not detach the cable that connects the battery pack to the cache module. Detaching the cable causes any unsaved data in the cache module to be lost.

1. Remove the access panel
   Note: If the existing cache is connected to a battery, observe the BBWC Status LED. If the LED is blinking every 2 seconds, data is still trapped in the cache. Restore system power, and repeat the previous steps. If the LED is not lit, disconnect the battery from the cache.
2. Disconnect the cable.
3. Remove the battery pack.

BBWC Battery Module replacement

To replace the bbwc battery module, reverse the removal procedure.

Battery

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002312en_us&noframe

Battery removal

To remove the system battery:

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.

1. Remove the access panel
2. Remove the SPI Board
3. Remove the battery.

Battery replacement

To replace the battery, reverse the removal procedure.

System Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002313en_us&noframe

System Board removal

To remove the system board:

WARNING: The server weighs approximately 36.6 kg49.9 kg (80.0 lb110.0 lb). To reduce the risk of injury due to the weight of the server, remove the following components before removing the server from the rack: Processor memory module, Hard drives, and power supplies. The server weighs 21.8 kg (48 lb) with these components removed and might require two people to remove the server from the rack.

Caution: Before starting this procedure, read the information about protecting against electrostatic discharge

Caution: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support before proceeding.

1. Remove the access panel
2. Remove the processor memory drawer

3. Disconnect all cables from all installed expansion boards.
4. Remove all expansion boards
5. Remove the SPI board
6. Remove the I/O expansion board.
7. Remove all cables from the system board.
8. To remove the system board remove the thumbscrews, then lift the system board from the server chassis.

System Board replacement

To replace, reverse the removal procedure

SAS Backplane

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002314en_us&noframe

SAS backplane removal

To remove the SAS Backplane:

1. Remove the access panel
2. Remove all hard drives
3. Disconnect all cables from the SAS backplane.
4. Press the locking latch on the right hand side of the backplane.
5. Remove the SAS backplane.

SAS backplane replacement

To replace, reverse the removal procedure

Power Backplane

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002315en_us&noframe

Power backplane removal

To remove the power backplane:

1. Remove the access panel
2. Remove the processor memory drawer.
3. Remove all power supplies
4. Remove the SPI board
5. Remove the system board.
6. Disconnect all cables from the power supply backplane and remove the two screws on the drawer power connector.
7. Slide the plastic retainer to the rear of the server.
8. Remove the backplane.

Power backplane replacement

To replace, reverse the removal procedure.