HPE ProLiant DL580 G5 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

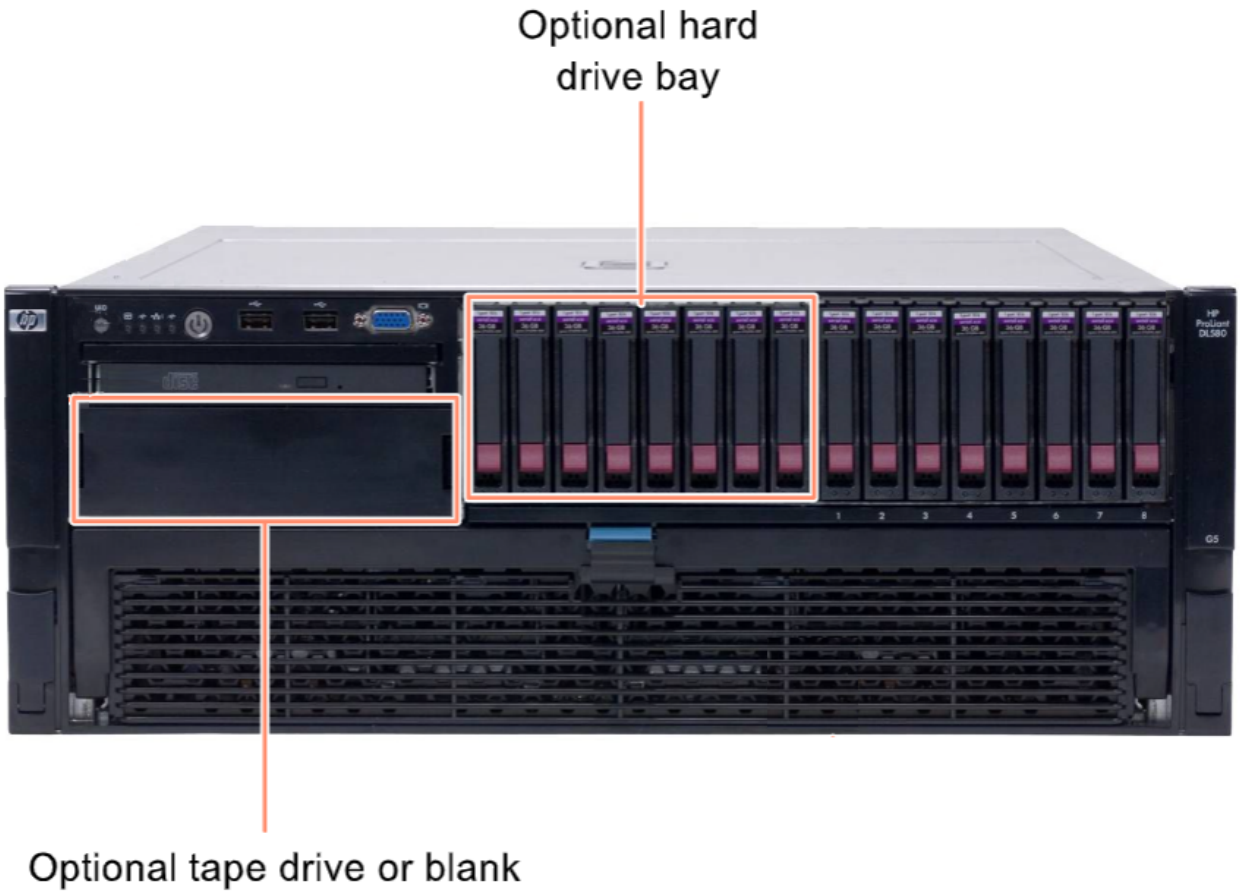
- Front view 5
  - Hard drive bay numbering 5
  - Processor and memory tray 6
  - Optical media device 7
  - Front panel LEDs and buttons 7
  - Front panel health indicators 8
  - System Insight Display 9
- Back view 10
  - Power supplies 11
  - Rear panel and connectors 13
- Left view 13
- Internal view 14
  - System fans 14
  - PCI Expansion option card 15
  - System memory 16
  - BBWC Battery pack 17
  - SPI Board 17
  - SAS Backplane 18
  - SmaryArray cache 19

Remove/Replace

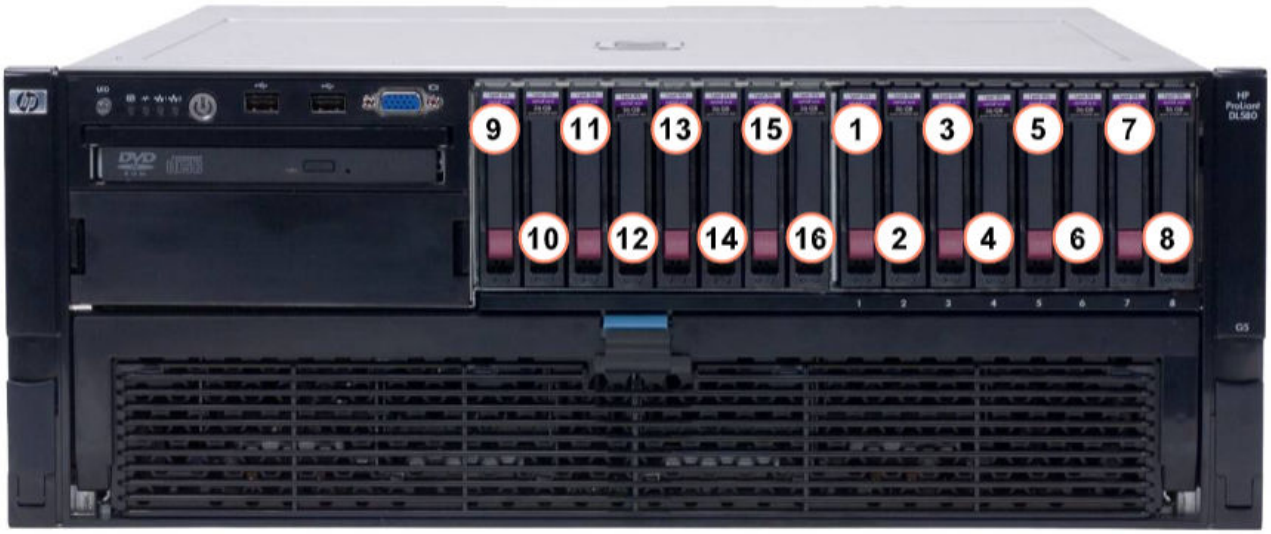
- References
  - Precautions 19
  - Tools And Materials 20
  - Preparation 21
- Procedures
  - Hard Disk Drive 23
  - Processor/Memory Module 24
  - Processor/Heatsink Assembly 25
  - Processor Power Module 26
  - FBDIMM Memory 26
  - Memory Expansion Boards 27
  - Access Panel 27
  - System Insight Display 28

Optical Media Device..... 29
Front Bezel..... 29
Power Supply..... 30
System Fans..... 31
PCI Expansion Option Card..... 31
Battery-Backed Write Cache..... 32
SPI Board..... 33
System Battery..... 34
SAS Backplane..... 34

Front view



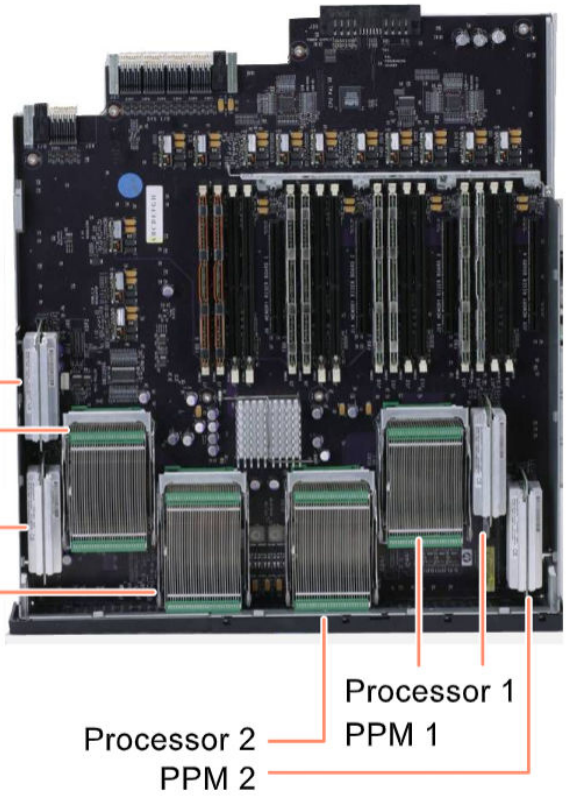
Hard drive bay numbering



Processor and memory tray



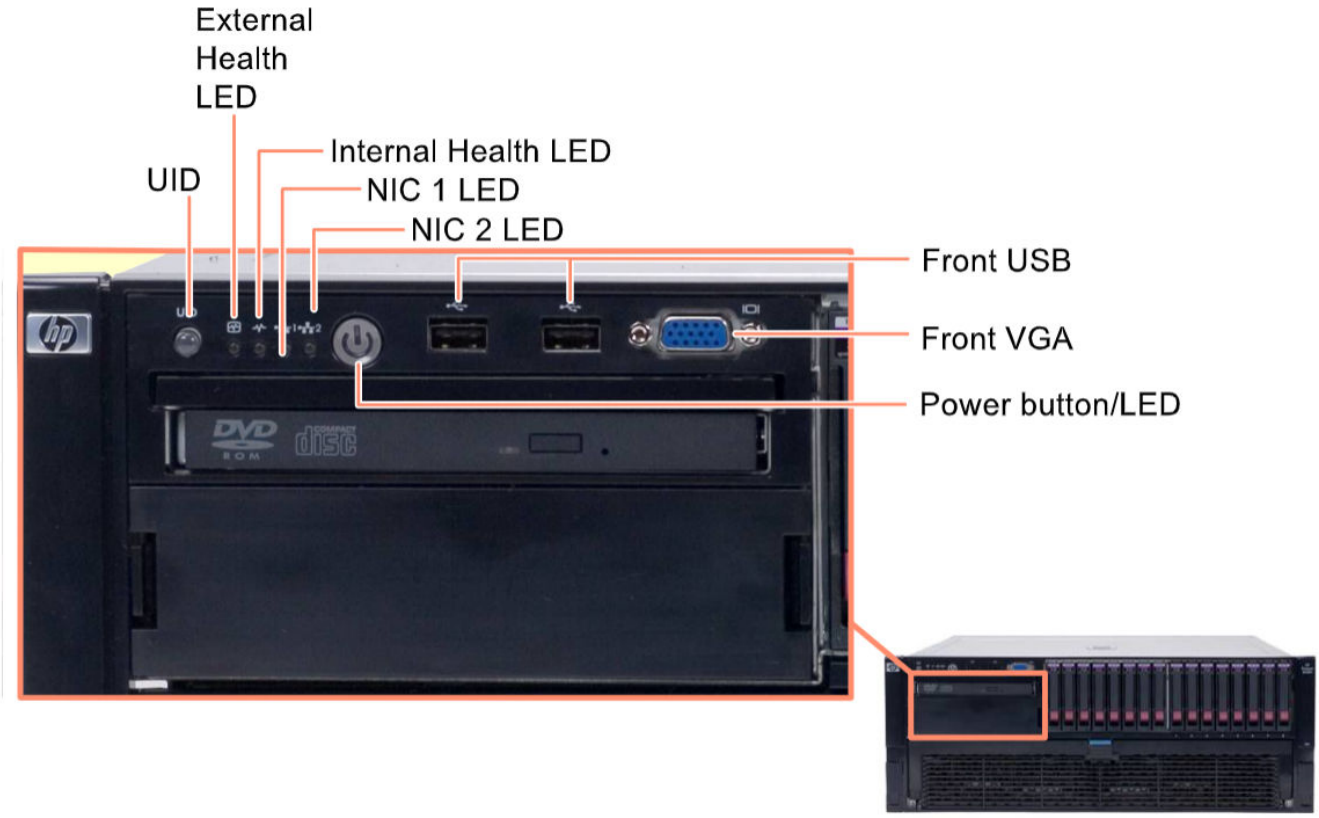




Optical media device



Front panel LEDs and buttons



Front panel health indicators

UID switch and LED	Blue — Activated Blue (flashing) — Server being managed remotely Off — Deactivated
Internal system health LED	Green — Normal (system on) Amber (flashing) — Internal system health is degraded Red (flashing) — Internal system health is critical Off — Normal (system off)
External system health LED	Green — Normal (system on) Amber (flashing) — External system health is degraded Red (flashing) — External system health is critical Off — Normal (system off)
NIC 1 link/activity LED	Green — Linked to network Green (flashing) — Linked with activity on the network Off — No network connection
NIC 2 link/activity LED	Green — Linked to network Green (flashing) — Linked with activity on the network Off — No network connection
Power on/Standby button and LED	Amber — System has AC power and is in standby mode Green — System has AC power and is turned on Off — System has no AC power



System Insight Display

LED	Description
ONLINE SPARE	Off — No protection Green — Protection enabled Amber — Memory failure occurred Amber (flashing) — Memory configuration error
MIRROR	Off — No protection Green — Protection enabled Amber — Memory failure occurred Amber (flashing) — Memory configuration error
All other LEDs	Off — Normal Amber — Failed or missing component



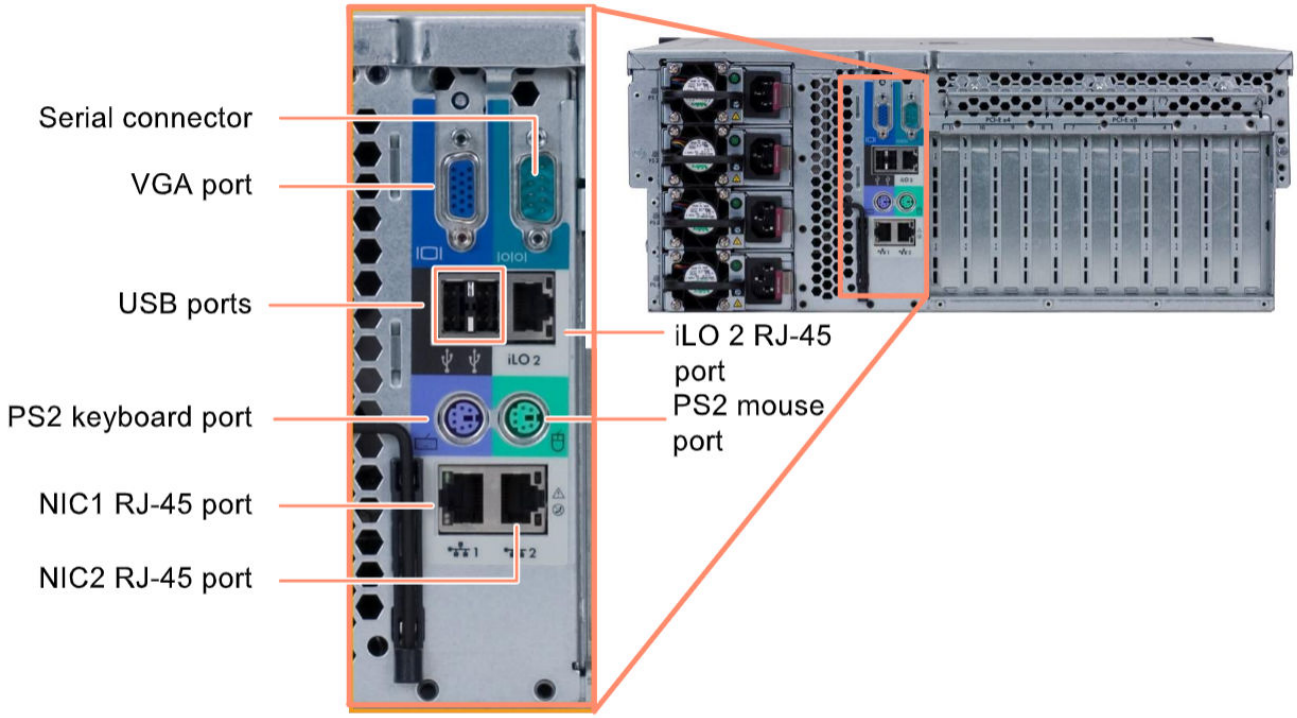
Back view



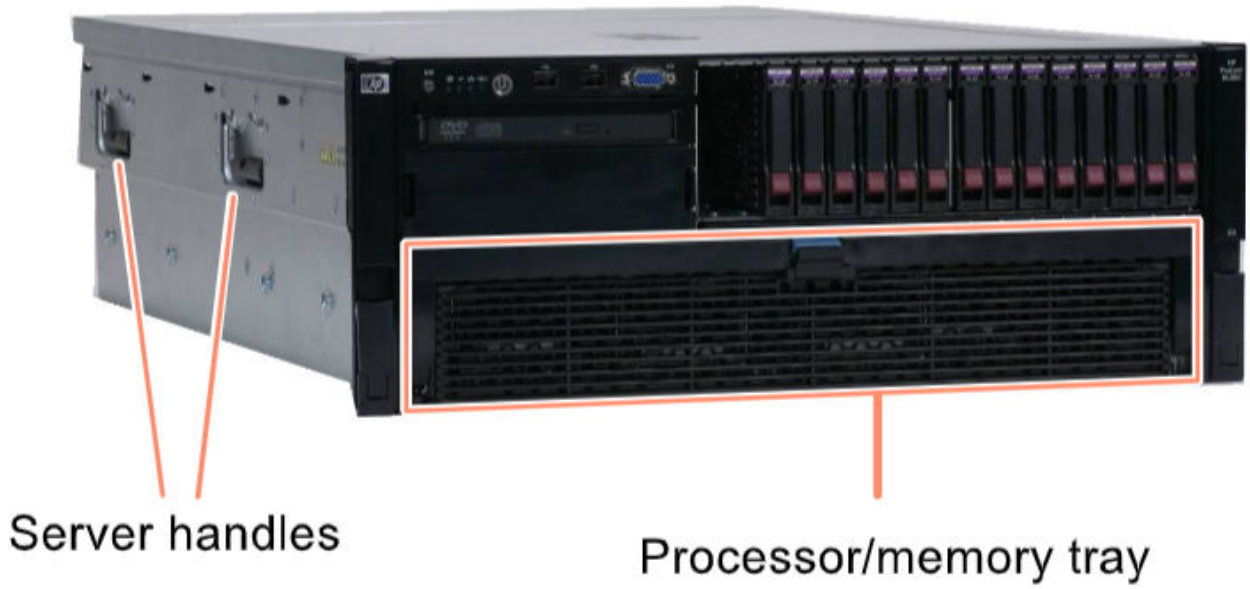
Power supplies


iLO 2
1
2

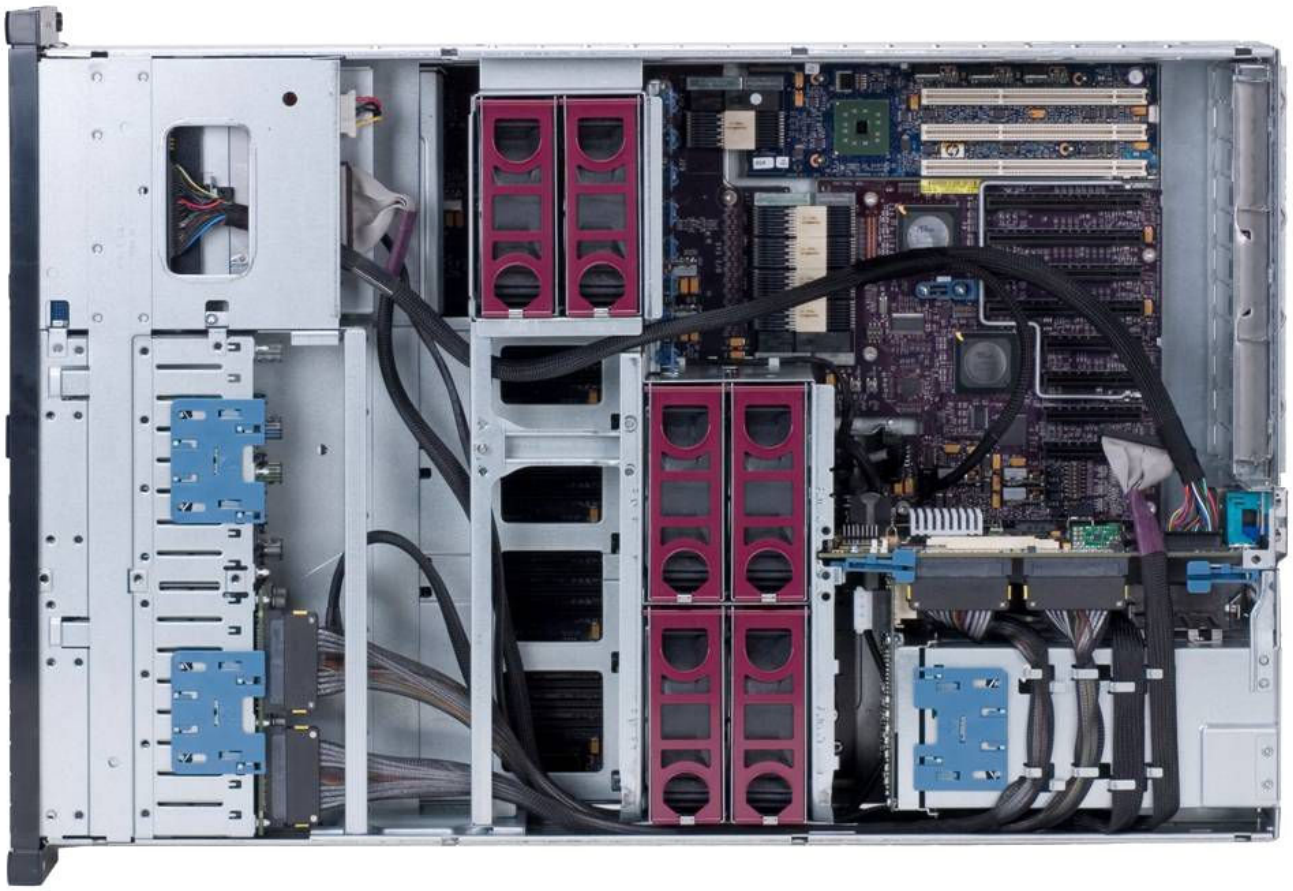
Rear panel and connectors



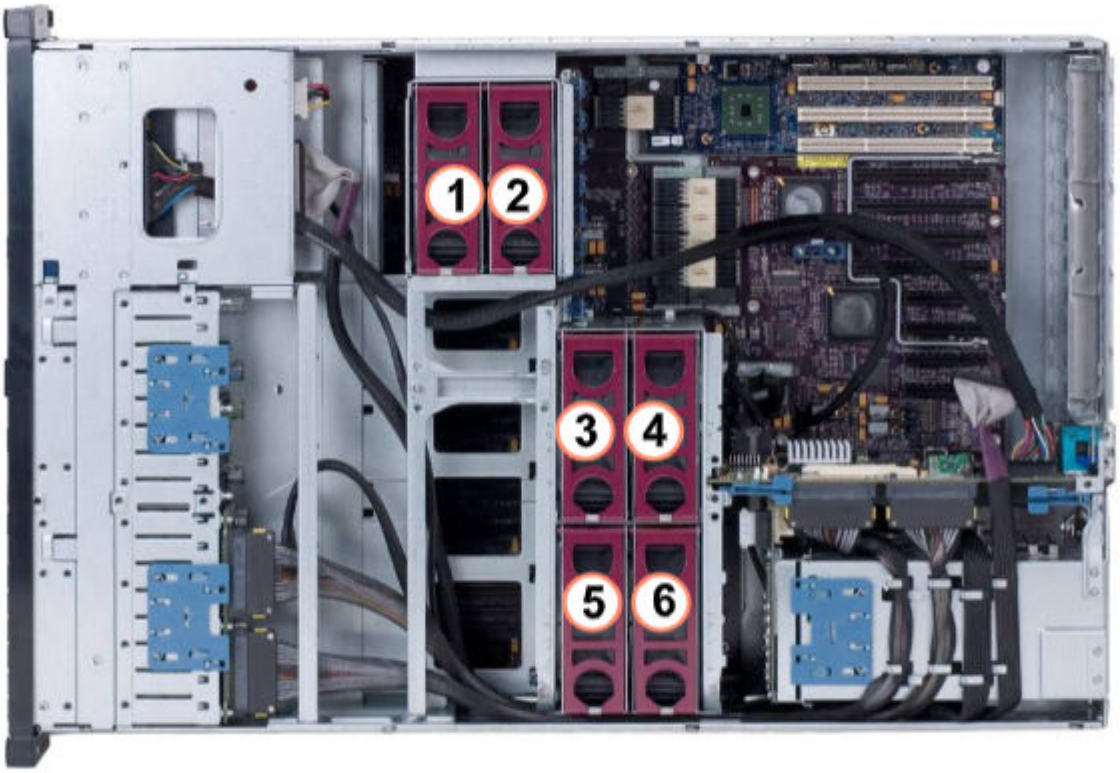
Left view



Internal view

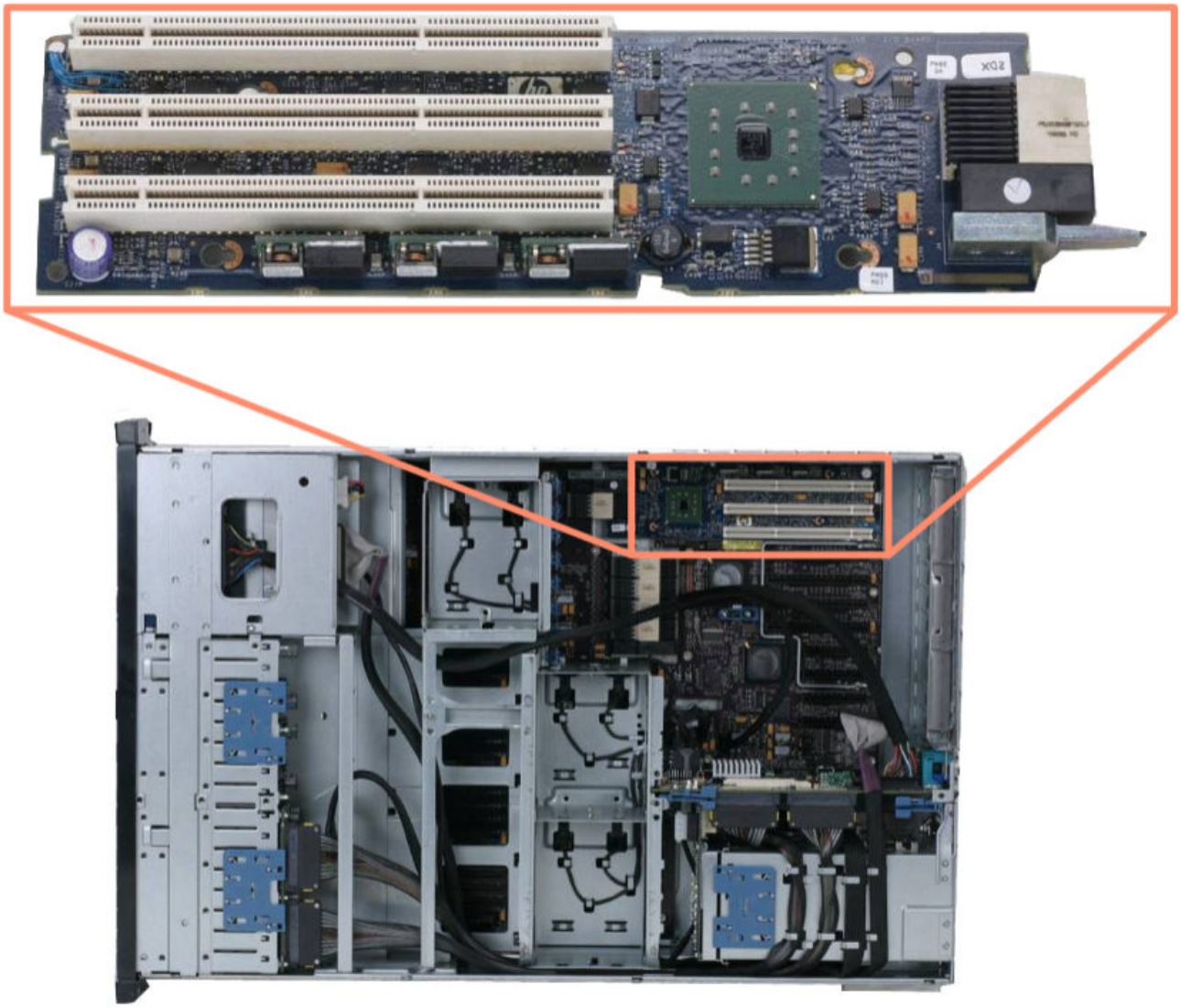


System fans

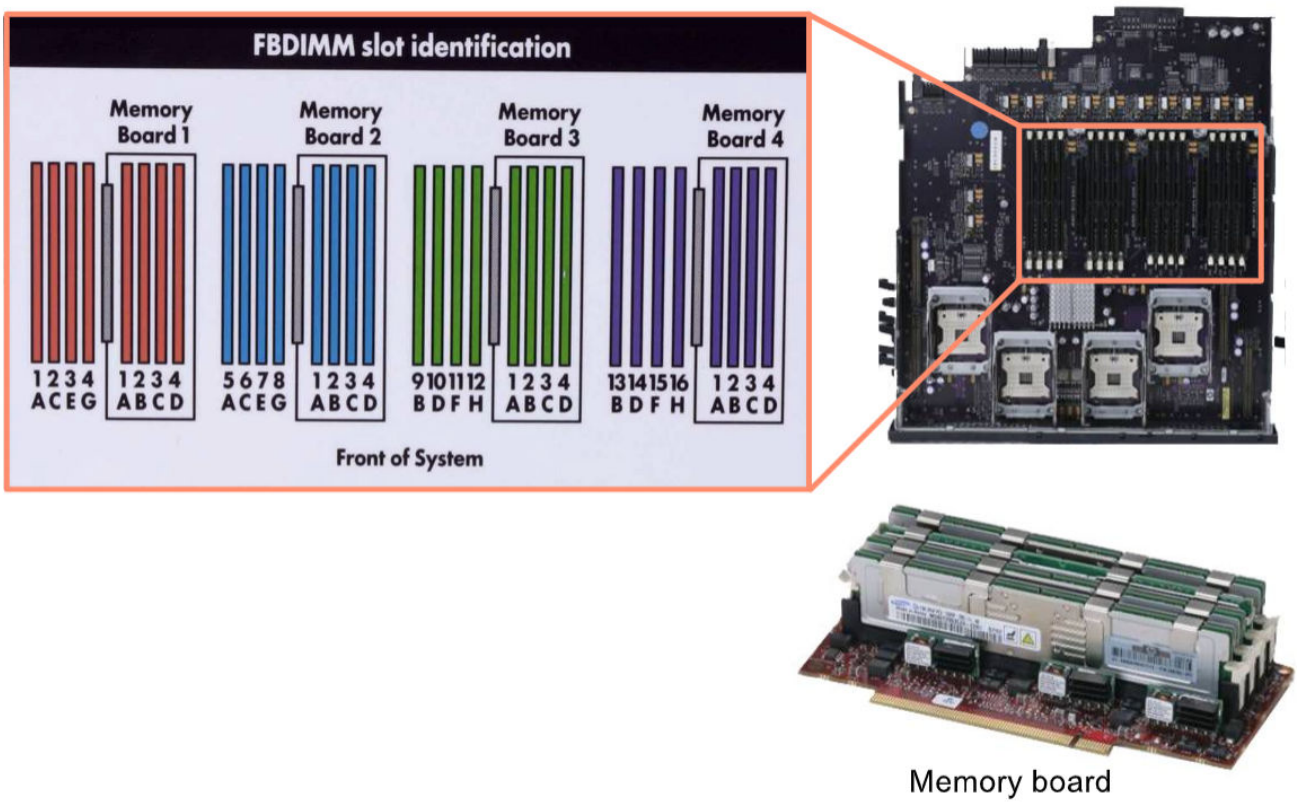




PCI Expansion option card



System memory

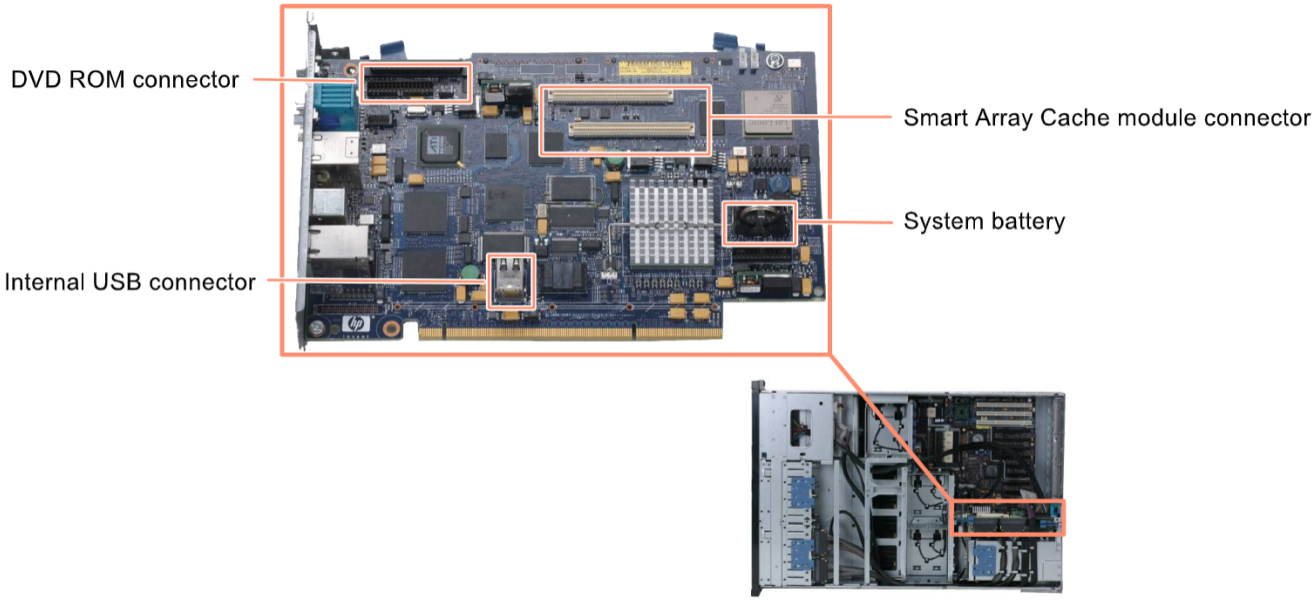


Memory board

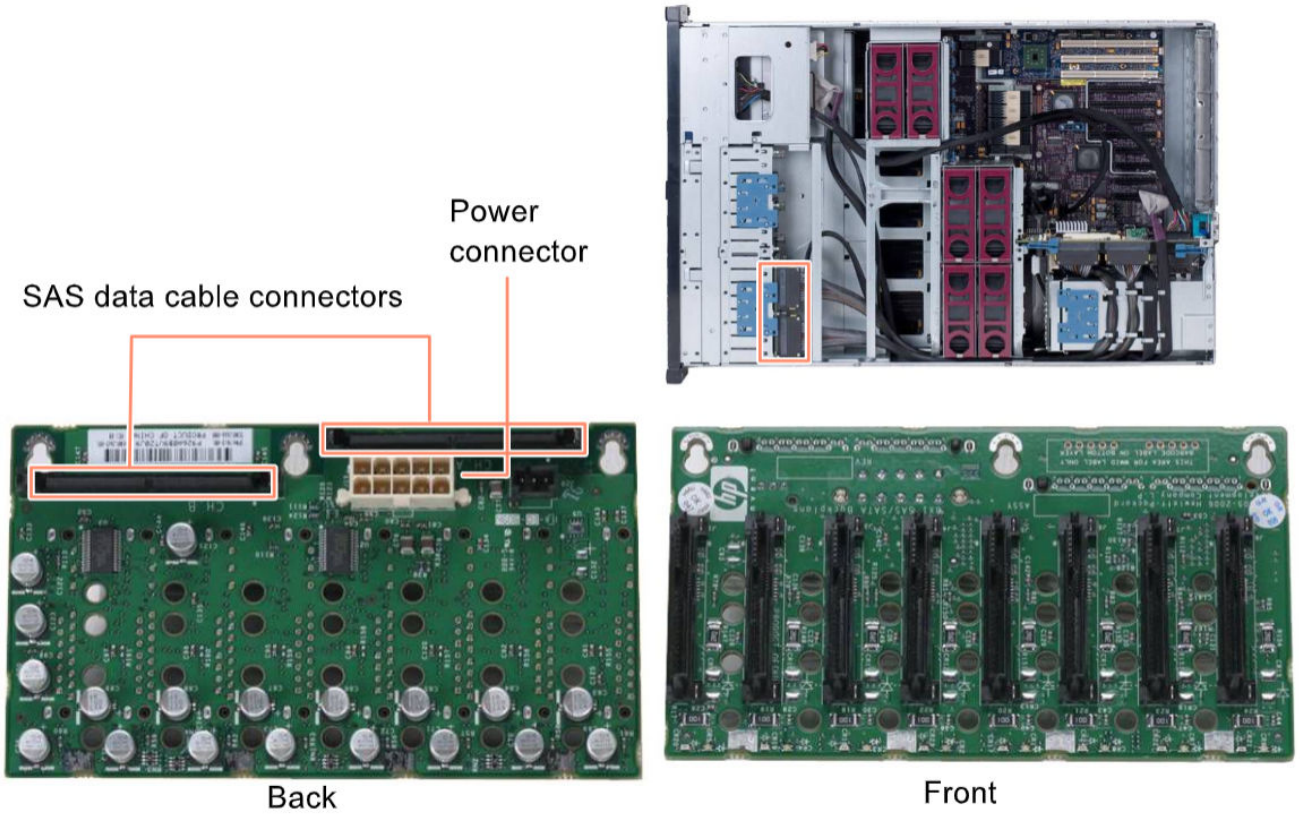
BBWC Battery pack



SPI Board



SAS Backplane



SmaryArray cache



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

Tools used in removal and replacement

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

Screws

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

Preparation

Preparation procedures

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

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. Shut down the OS as directed by the OS documentation.
2. Press the Power On/Standby button to place the server in standby mode. When the server enters standby power mode, the system power LED changes to amber.
3. Disconnect the power cords.

Extend the server from the rack

The design of the server enables you to access several components through the front of the server. You do not need to extend the server from the rack to install or access the following components:

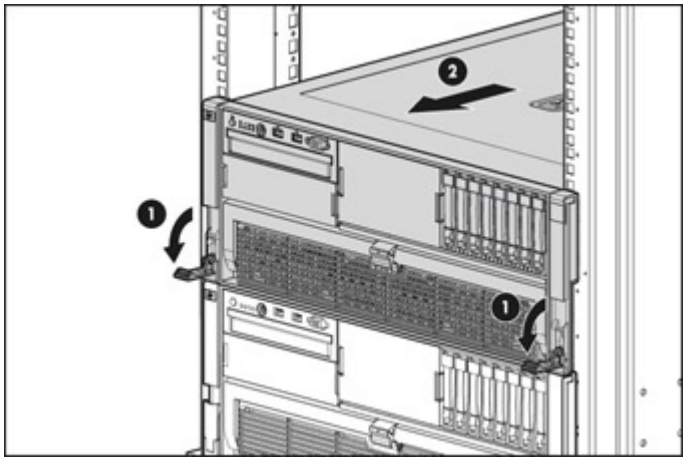
- Processors
- PPMs
- Memory
- Processor memory module
- Hard drives

Warning! To reduce the risk of personal injury or equipment damage, be sure that the rack is adequately stabilized before extending a component from the rack.

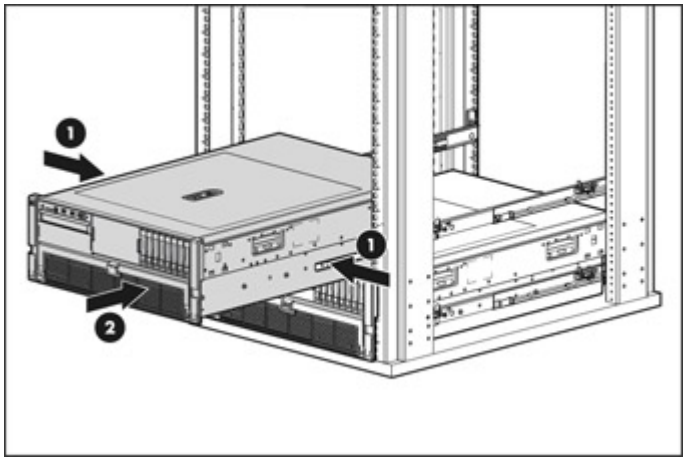
Warning! To reduce the risk of personal injury, be careful when pressing the server rail-release latches and sliding the server into the rack. The sliding rails could pinch your fingers.

To extend the server from the rack:

1. Pull down the quick-release levers on each side of the server to release the server from the rack.
2. Extend the server on the rack rails until the server rail-release latches engage.



3. After performing the installation or maintenance procedure, slide the server into the rack by pressing the server rail-release latches.



Removing the server from the rack

Warning! The server weighs approximately 36.3 kg49.9 kg (80 lb110 lb). To reduce the risk of injury due to the weight of the server, remove the following components:

- Power supplies
- Hard drives
- Processor memory module

The server weighs 21.8 kg (48 lb) with these components removed and might require two people to remove the server from the rack.

1. Power down the server
2. Remove the following components to reduce the weight of the server:
    - Processor memory module
    - Hard drives
    - Power supplies
3. Disconnect the cabling and remove the server from the rack. For more information, refer to the documentation that ships with the rack mounting option.Place the server on a sturdy, level surface.

Hard Disk Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002273en_us&noframe

Hard Disk Drive removal

Note: This is a hot plug procedure only if more than one drive is installed and configured in a RAID 1 or higher configuration.

1. Press the port-wine ejector button to release the handle.
2. Grasp the handle and pull out.
3. Slide the drive from the server.

Hard Disk Drive replacement

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

1. Press the ejector button to release the handle.

2. With the hard drive handle extended, and the ejector button towards the bottom of the server, insert the drive into the bay.
3. Close the drive handle until it locks under the ejector button.

Processor/Memory Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002274en_us&noframe

Processor memory module

Note: Access to the processor memory module is provided through the front panel, eliminating the need to extend the server from the rack to install new or replace existing processors and memory.

Before you begin

- Remove power to the server.

Processor memory module removal

1. Locate the release latches near the center of the processor memory module.
2. Press the lower latch down then lift the top latch up to unlock the processor memory module handle.
3. Lower the handle, and slide the module out of the server until the release latches catch.**Warning!Use caution when installing or removing the processor memory module; when fully populated, it can weigh up to 13.6 kg (30 lb).**
4. Press the release buttons on the left side of the module to release the latch, and pull the module out of the server.
5. Locate the release lever on the rear of the processor memory module cover. Move the release lever into the unlocked position and lift the processor memory module cover up and out of the server.

Processor memory module replacement

1. Install each processor, heatsink, PPM and DIMM in the same location in the new module.
2. Replace the processor memory module cover.
3. Slide the module into the server.

4. Rotate the handle closed until it snaps into place under the center latch.

Processor/Heatsink Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002275en_us&noframe
Processor/Heatsink Assembly

Before you begin

- Remove power to the server.
- Remove the processor memory module and open the cover.

Processor and heatsink assembly removal

1. Lift the handle to open the heatsink retaining bracket, and rotate the bracket to the open position.
2. Rotate the processor locking lever to the unlocked position.
3. Lift the processor and heatsink assembly out of the chassis.

Important! When replacing a failed processor, it is necessary to assemble the processor and heatsink assembly prior to populating the processor socket on the processor/memory module. Processor upgrade options kits come preassembled.

Processor and heatsink assembly replacement

1. Align the processor with the retainer on the heatsink. Be sure that the triangle printed on the corner of the processor aligns with the triangle on the retainer.
2. Insert the processor into the retainer, and press down firmly until the processor clicks into place.
3. Ensure the processor locking lever is in the open position.
4. Align the guide pins on the base of the processor retaining bracket to the three corresponding guide slots on the processor heatsink assembly.
5. Insert the processor assembly into the processor socket, and close the processor locking lever.
6. Close and lock the processor retaining bracket.

Processor Power Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002276en_us&noframe
Processor Power Module

Before you begin

- Remove power to the server.
- Remove the processor memory module and open the cover.

Processor Power Module removal

1. Lift up on the processor power module until it releases from the slot.

Processor Power Module replacement

1. Align the key notch in the processor power module with the key in the module slot.
2. Press the processor power module into the slot until it clicks into place.

FBDIMM Memory

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002277en_us&noframe
Fully-buffered DIMM

Before you begin

- Remove power to the server.
- Remove the processor memory module and open the cover.

Fully-buffered DIMM removal

1. Press down on the latches at both ends of the DIMM slot to release the DIMM from the socket.
2. Lift the DIMM up and out of the server.

Fully-buffered DIMM replacement

1. Align the notch on the DIMM with the key in the slot.
2. Press it fully into the slot until the latches lock into place.

Memory Expansion Boards

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002278en_us&noframe

Memory expansion boards

Before you begin

- Remove power to the server.
- Remove the processor memory module and open the cover.

Memory expansion board removal

1. Lift up on the memory expansion board to remove it from the server.
2. Remove all fully buffered DIMMs from the expansion board and install them in the same location on the new memory expansion board.

Memory expansion board replacement

1. Align the notch in the memory expansion board with the key in the memory expansion board slot. The side of the memory expansion board should be aligned with the metal guide on the processor and memory expansion module cover bracket.
2. Press the memory expansion board into place.

Access Panel

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Access panel removal

1. Unlock the hood latch with a T-15 screwdriver.
2. Lift up on the hood latch and the access panel will slide back.
3. Lift the access panel from the chassis.

Access panel replacement

1. Lift up on the hood latch and set the access panel on the chassis about one-half inch back from the front of the server.
2. Press the latch down and the access panel will slide into place.
3. Lock the hood latch.

System Insight Display

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002280en_us&noframe

Systems Insight Display assembly

Before you begin

- Remove power to the server.
- Remove the access panel.

Systems Insight Display removal

1. Remove the data cable connected to the rear of the Systems Insight Display assembly.
2. Remove the power and data cable connected to the DVD drive.
3. Press down on the spring-loaded locking latch located inside the system chassis.
4. Push the Systems Insight Display assembly through the front of the server.
5. Remove the DVD drive from the assembly by pulling back on the spring clap along the side of the drive and pushing on the DVD drive through the front of the Systems Insight Display assembly to disconnect it from the data connector

Systems Insight Display replacement

1. Slide the DVD drive into the front of the replacement Systems Insight Display assembly until it clicks into place.
2. Slide the Systems Insight Display assembly into the front of the server until it engages with the locking latch.
3. Attach the data and power cables to the rear of the DVD drive.
4. Attach the Systems Insight Display data cable.

Optical Media Device

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Optical Media Device

Before you begin

- Remove power to the server.
- Remove the access panel.
- Remove the Systems Insight Display Assembly

Optical Media Device removal

1. Pull back on the spring clip along the side of the drive and push the rear of the DVD drive through the front of the Systems Insight Display assembly.

Optical Media Device replacement

1. Slide the DVD drive into the front of the Systems Insight Display assembly until the connector is fully seated.

Front Bezel

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002282en_us&noframe
Front Bezel

Before you begin

- Remove power to the server.
- Remove the processor memory module
- Remove the access panel.
- Remove the Systems Insight Display Assembly

Front bezel removal

1. Remove the three T-15 screws on each side of the server, that secure the bezel to the chassis.
2. Pull the bezel from the server.

Front bezel replacement

1. Align the bezel with the front of the chassis.
2. Replace the six T-15 screws securing the bezel to the chassis.

Power Supply

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002283en_us&noframe
Power supplies

Important! If there are two or less power supplies installed, power down the server blade before removing the power supply.

Power supply removal

1. Disconnect the power cord from the power supply
2. Press the port-wine colored release tab toward the power cord connector.
3. Grasp the power supply handle and pull the power supply from the bay.

Power supply replacement

1. Slide the power supply into the bay until the release tab locks into place.

2. Attach the power cord.

System Fans

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002284en_us&noframe
System fan

Before you begin

- Remove the access panel

Warning! To prevent the server from automatically shutting down, only remove one fan per zone at a time.

System fan removal

1. Grasp the port-wine fan handle and pull the fan up and out of the chassis.

System fan replacement

1. Ensuring the fan power connector aligns with the connector on the systemboard, slide the fan into the chassis fan bay.

PCI Expansion Option Card

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002285en_us&noframe
PCI Expansion Option Card

Before you begin

- Remove power to the server.
- Remove the processor memory module
- Remove the access panel
- Remove any installed PCI expansion cards

PCI Expansion Option Card removal

1. Press down on the retaining clip at the rear of the option card.
2. Slide the expansion option card toward the front of the server approximately 1 centimeter.
3. Lift the expansion option card up and out of the server.

PCI Expansion Option Card replacement

1. With the expansion slots toward the rear of the server, align the key cutouts of the expansion board with the guide pins in the chassis and lower into place.
2. While holding the retaining clip down, slide the card toward the back of the chassis approximately 1 centimeter until the retaining clip locks the card into place.

Battery-Backed Write Cache

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002286en_us&noframe
Battery-backed Write Cache

Before you begin

- Remove power to the server.
- Remove the processor memory module
- Remove the access panel

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.

Battery-backed Write Cache removal

1. Locate the write cache battery pack on the Power supply cage.
2. With a finger, move the retaining clip toward the back of the server, and pull the battery pack up and out of the server.
3. Locate the cache module on the SPI board.
4. Pull the cache module away from the SPI board.

Battery-backed Write Cache replacement

1. Align the cache module with the battery cable connection pointing toward the rear of the server.
2. Align the cache module connectors with the connections on the SPI board and press firmly into place.
3. With a finger, move the battery retaining clip toward the back of the server.
4. Align the tabs on the battery module with the retaining bracket slots.
5. Press the battery into the bracket until the retaining clip prevents the battery from being removed.

SPI Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002287en_us&noframe
SPI Board

Before you begin

- Remove power to the server.
- Remove the access panel
- Remove the battery-backed write cache and battery

SPI board removal

1. Disconnect all cables from the SPI board, noting their locations for easy reconnection.
2. Rotate the release levers up and pull the SPI board up and out of the server.

SPI board replacement

1. With the release levers at a 45 degree angle to the SPI board, insert the SPI board into the guide tracks in the chassis.
2. Use the release levers to seat the SPI board into the socket on the system board, ensuring the release levers are flush with the SPI board.**Important!** When replacing the SPI board or the system battery, you must re-enter the server serial number through the ROM Based Setup Utility (RBSU).

System Battery

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002288en_us&noframe
System battery

Before you begin

- Remove power to the server.
- Remove the access panel

System battery removal

1. Locate the battery on the SPI board.
2. Using you finger or the tip of an insulated object, remove the battery from the socket.

System battery replacement

1. With the positive (+) side of the battery facing up, press the battery into the socket on the SPI board.**Important! When replacing the SPI board or the system battery, you must re-enter the server serial number through the ROM Based Setup Utility (RBSU).**

SAS Backplane

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00002289en_us&noframe
Serial Attached SCSI Backplane

Before you begin

- Remove power to the server.
- Remove all hard disk drives and blanks.
- Remove the access panel.

Serial Attached SCSI Backplane removal

1. Disconnect the power and SAS data cables from the backplane.
2. Slide the spring loaded retainer clip toward the front of the server chassis.

3. Lift the SAS backplane up enough to remove it from the guide pins and tilt it toward the back of the server before lifting it out of the chassis.

Serial Attached SCSI Backplane replacement

1. While slightly tilting the top of the backplane toward the rear of the server, insert the backplane into the four guides in the chassis.
2. Align the holes in the backplane with the guide pins in the chassis.
3. Tilt the backplane vertical until the guide pins fit into the holes in the backplane and the retaining bracket clicks into place.
4. Connect the power and SAS data cables to the backplane.