HPE ProLiant DL380 G4 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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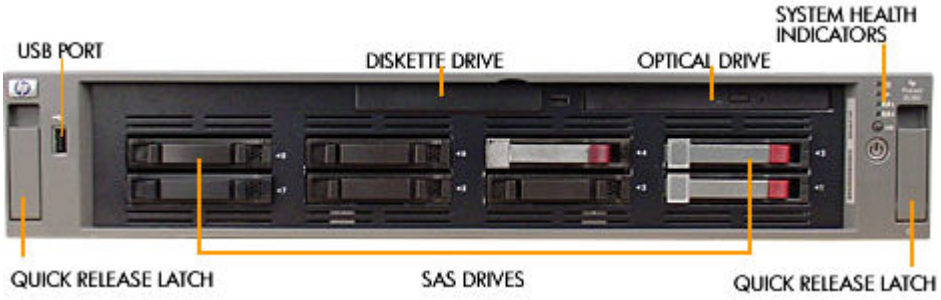
Front view



Front SCSI



Front SAS



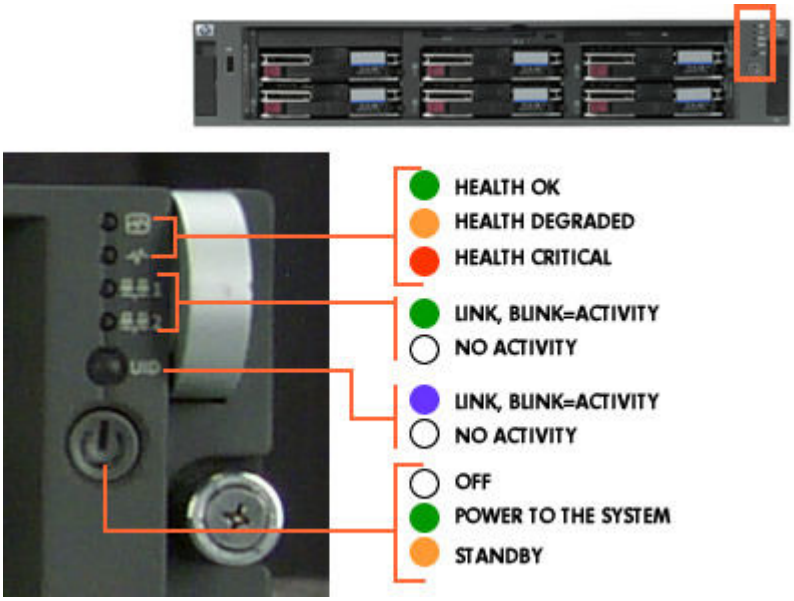
Front SCSI labeled



Front bezel



System health indicators



Quick-Release levers





SCSI Hard drives



SAS Hard drives



SAS Blank



Slimline drive



Diskette drive



Top view



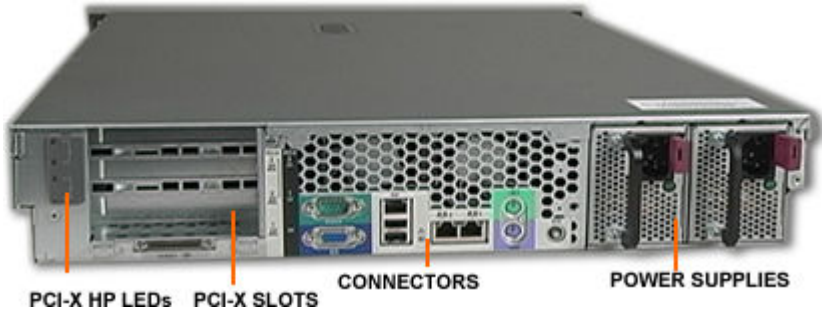
Access panel latch



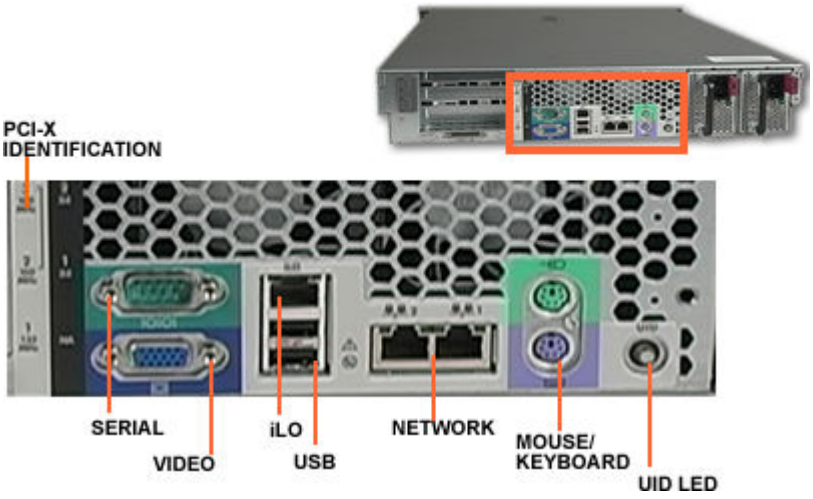
Rear view



Rear-labeled



Rear connectors



Power supply



Side view



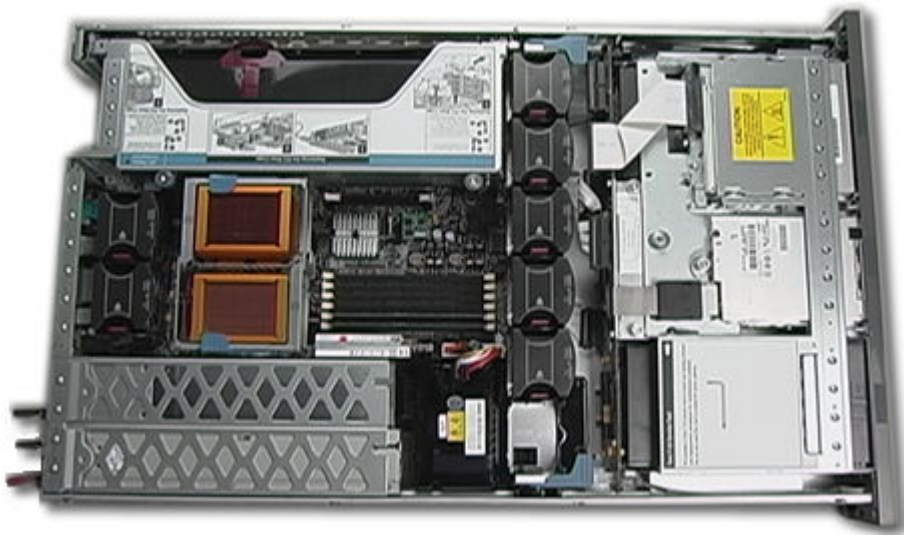
Rack quick-release lever



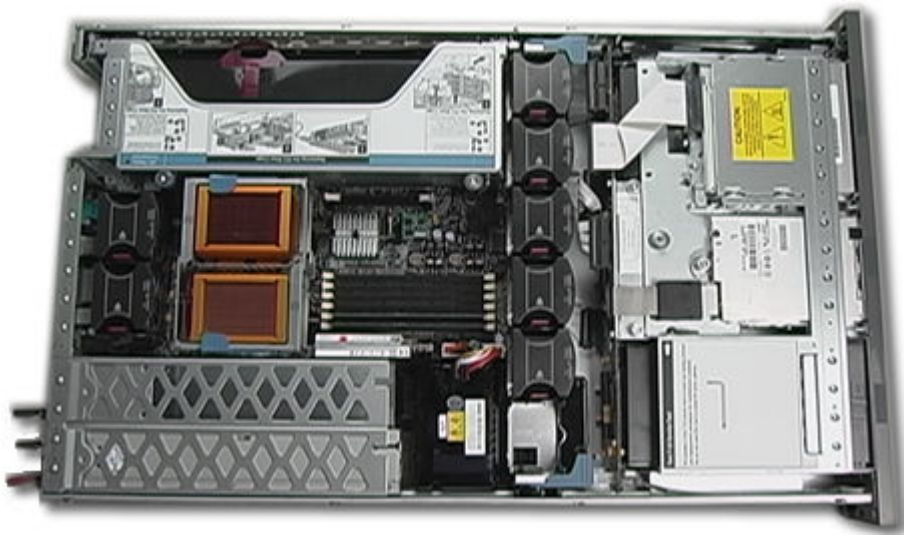
Hot plug door



Internal view



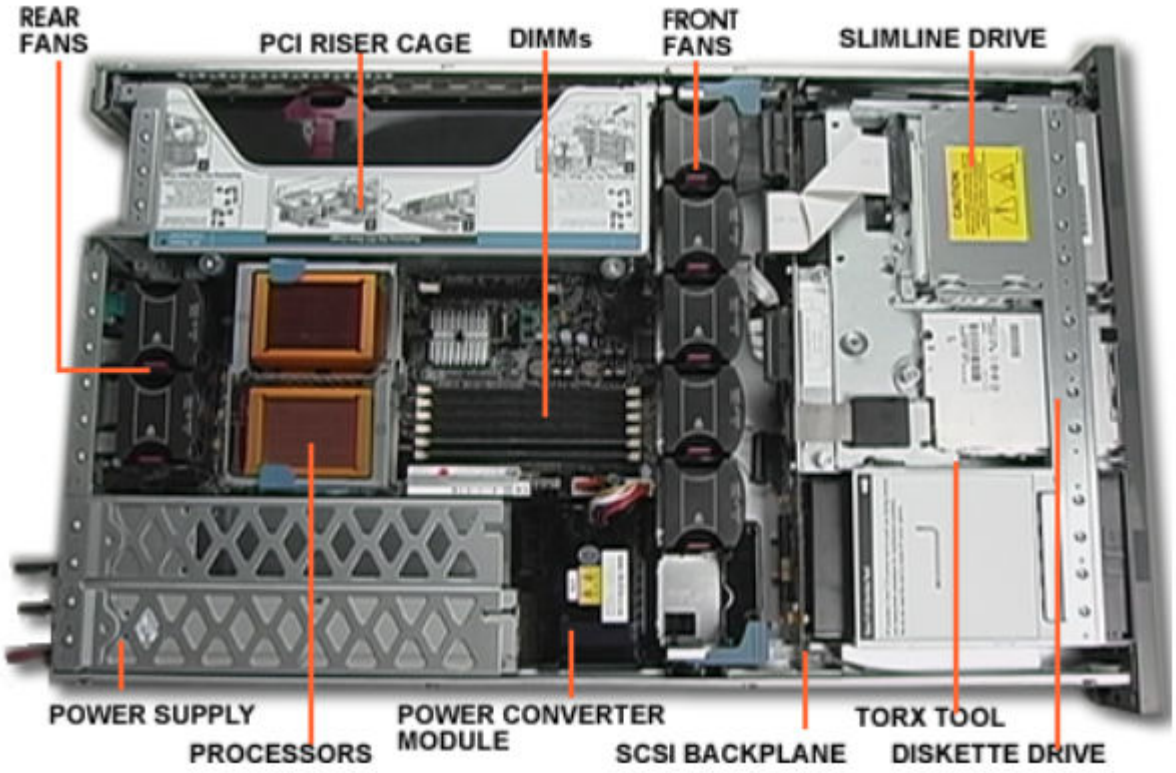
SCSI Internal



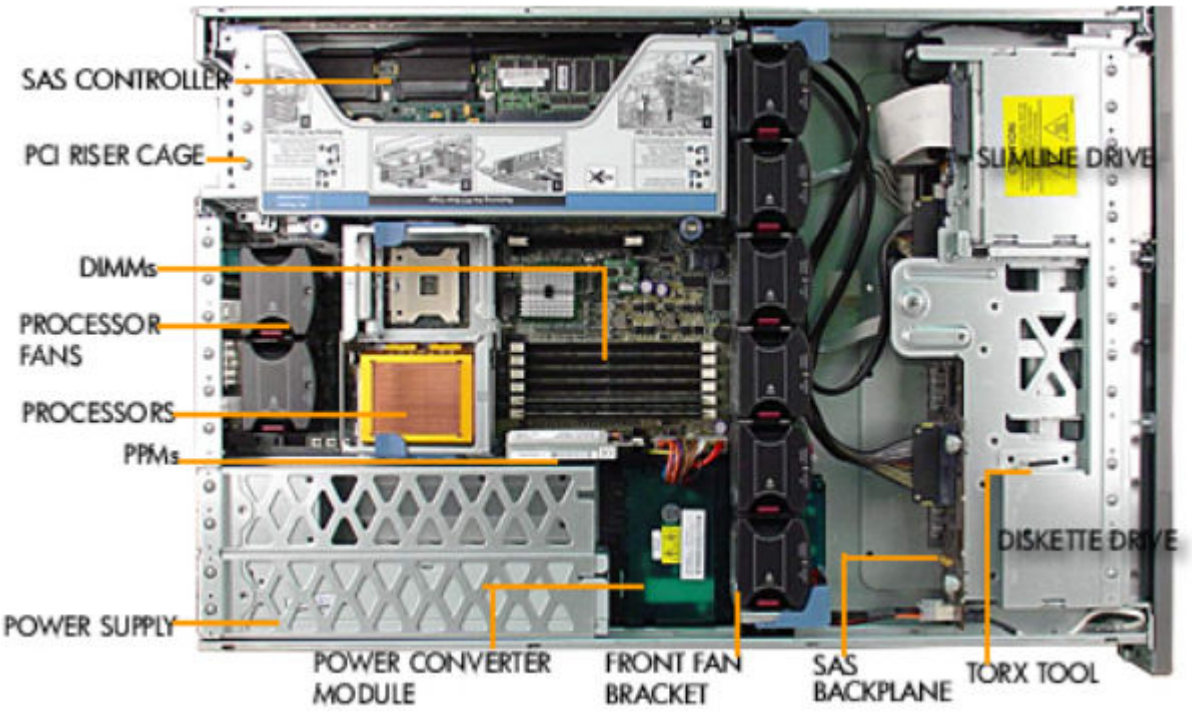
SAS Internal



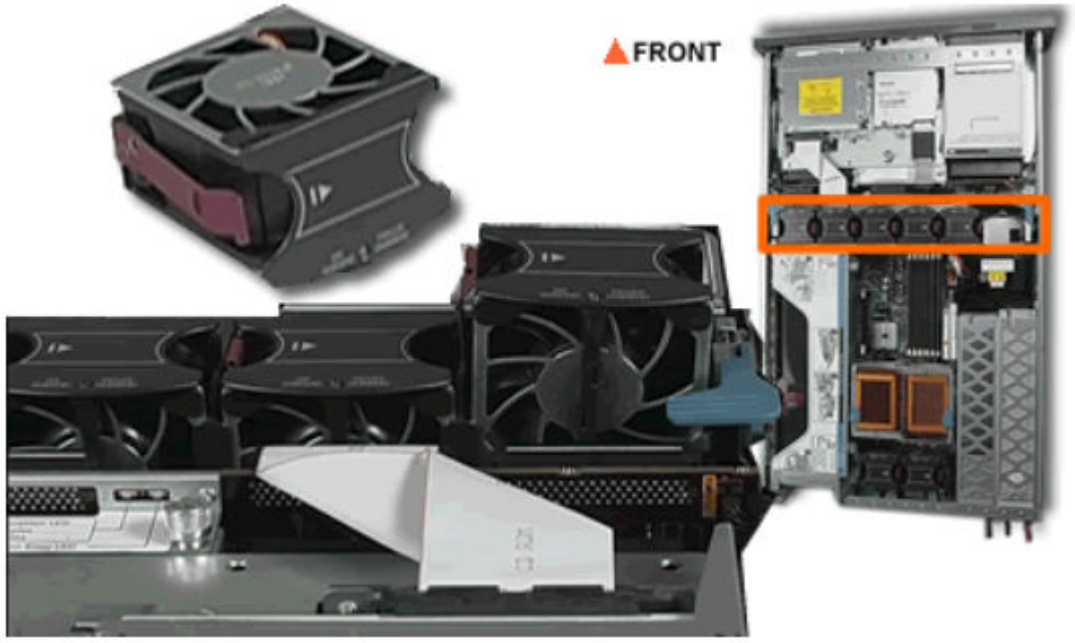
Internal-SCSI labeled



Internal-SAS labeled



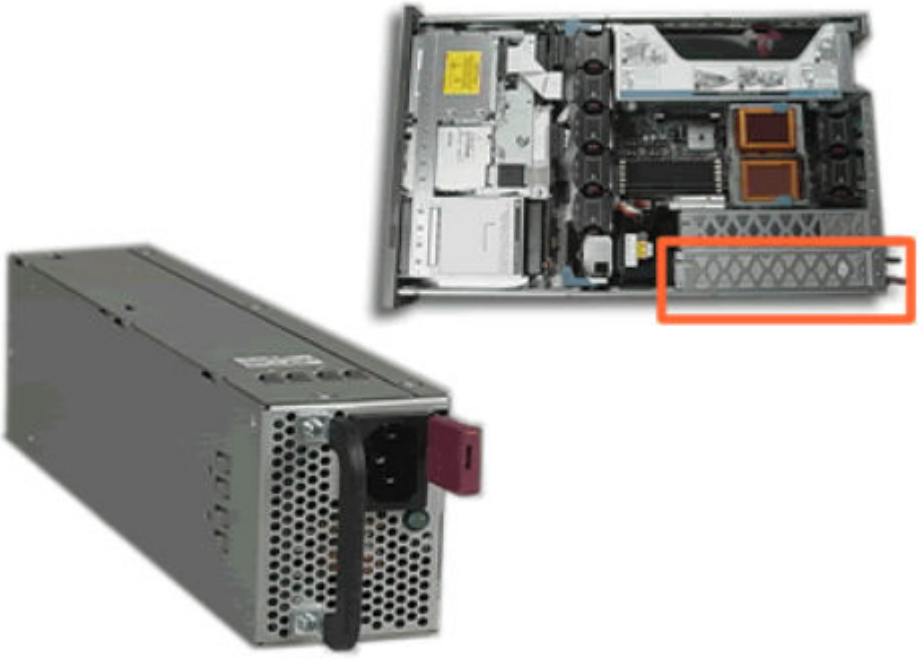
Hot plug fans-front



Processor fans-rear



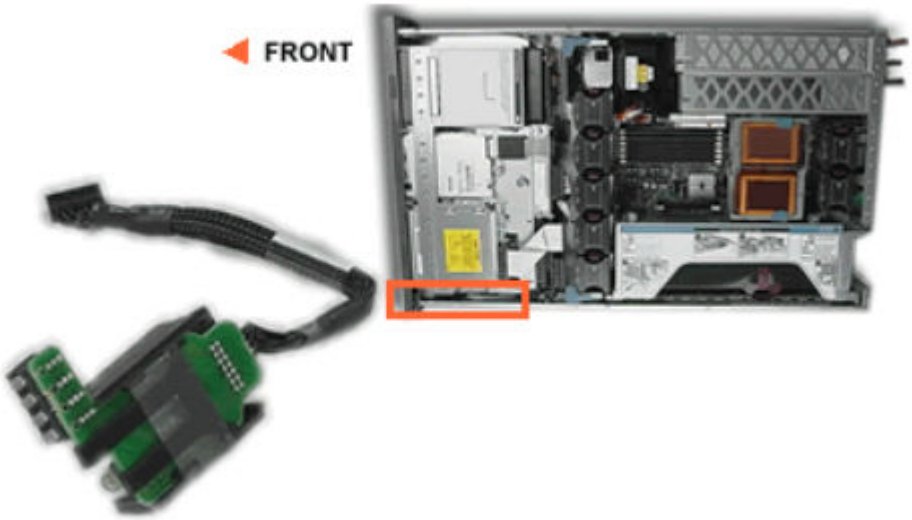
Power supply-1



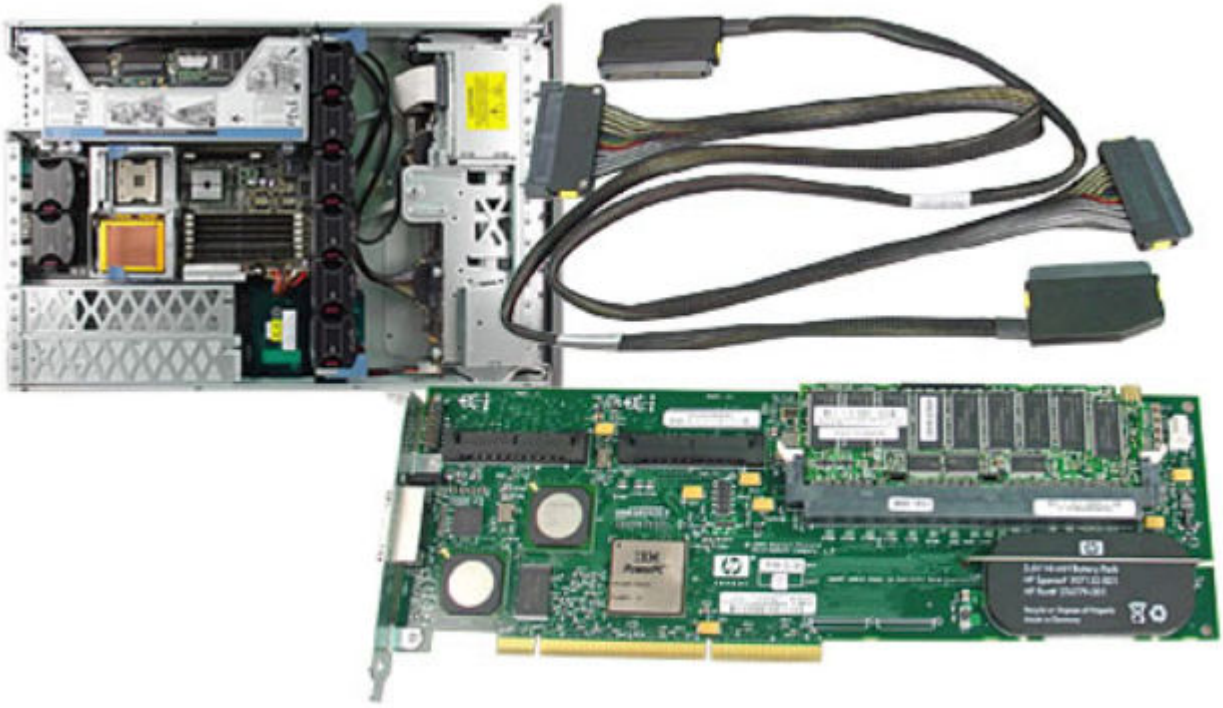
Power converter module



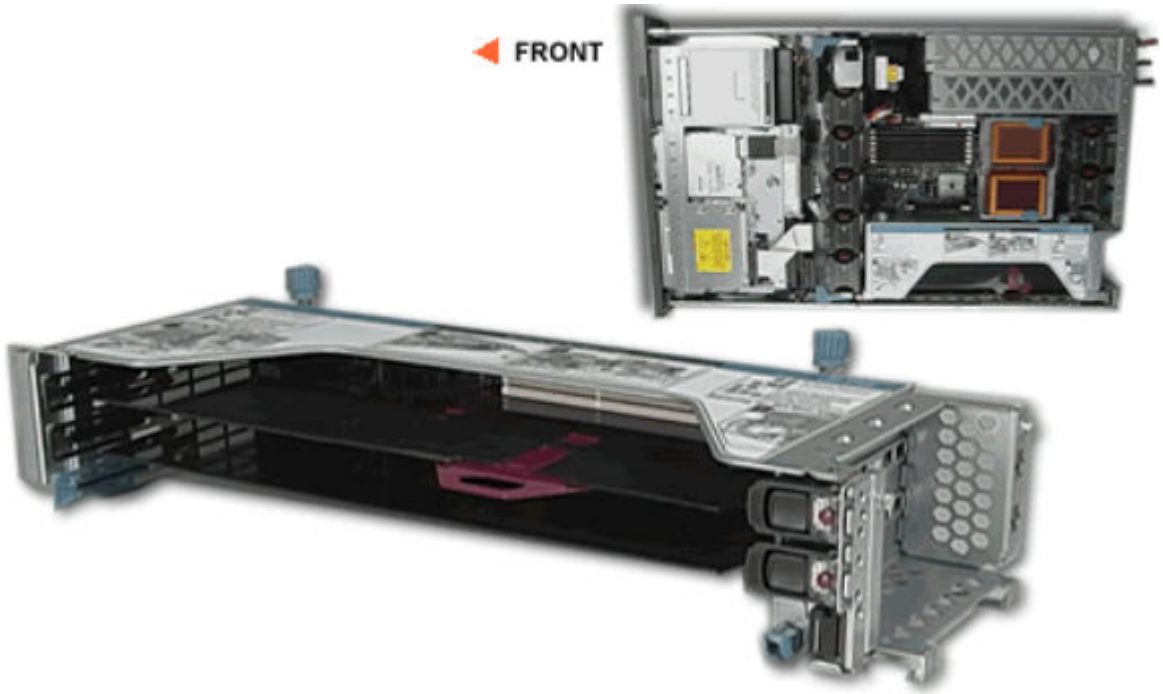
Power button LED assembly



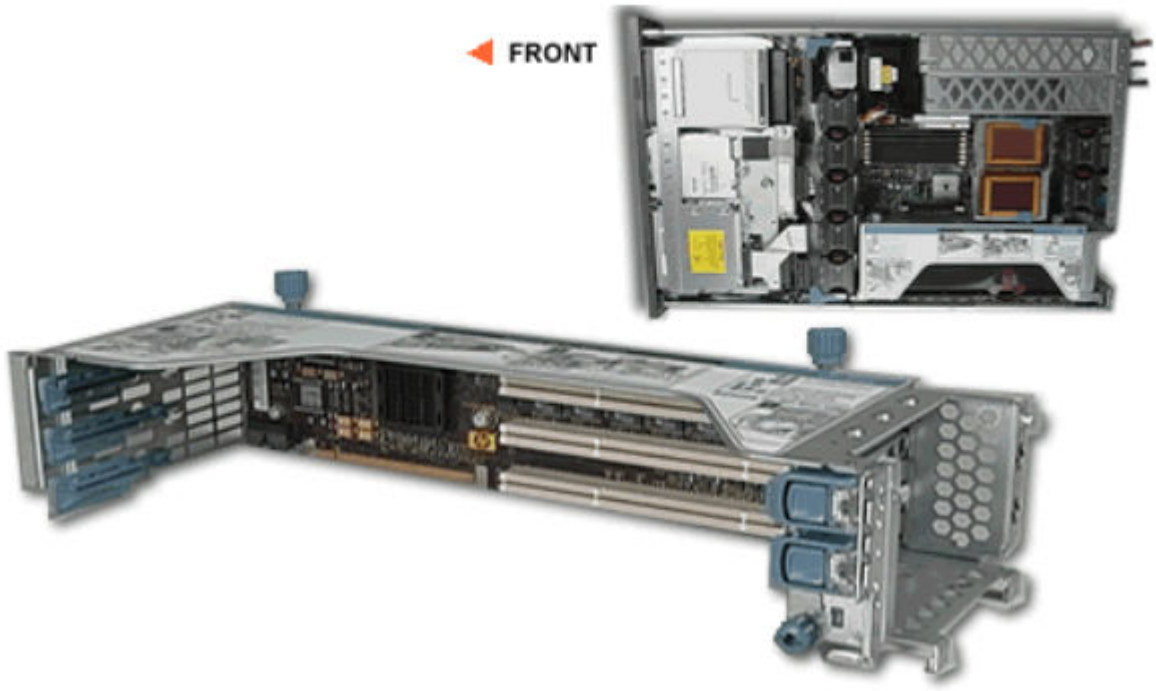
SAS Contoller card



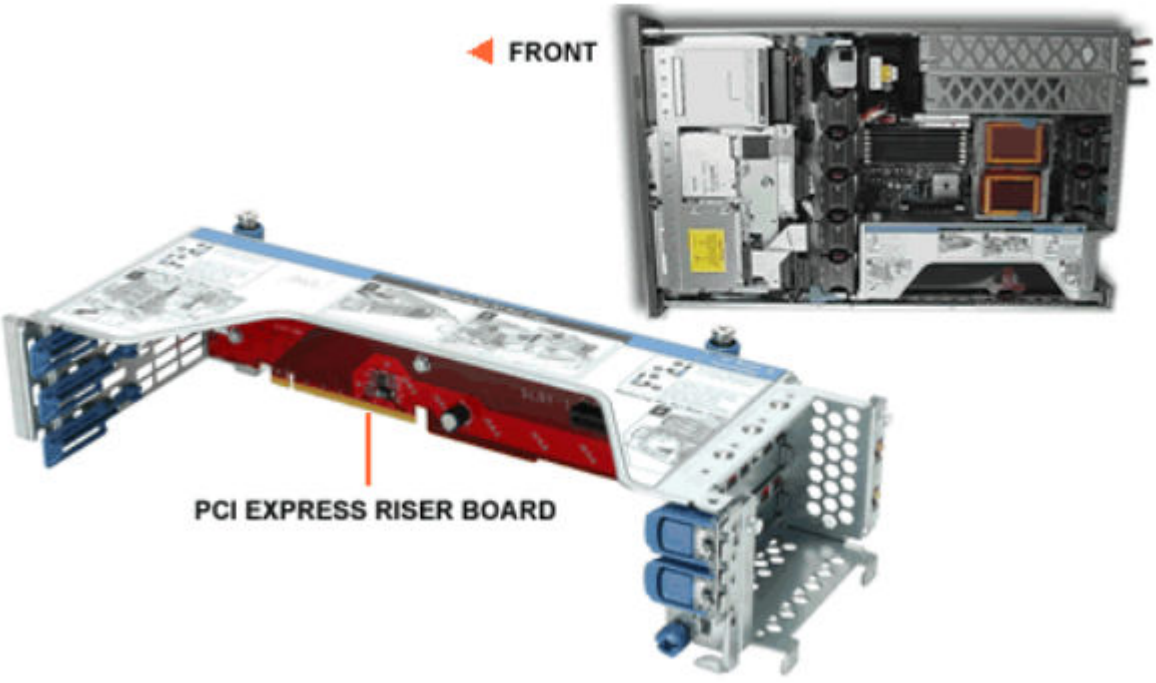
Hot plug riser cage



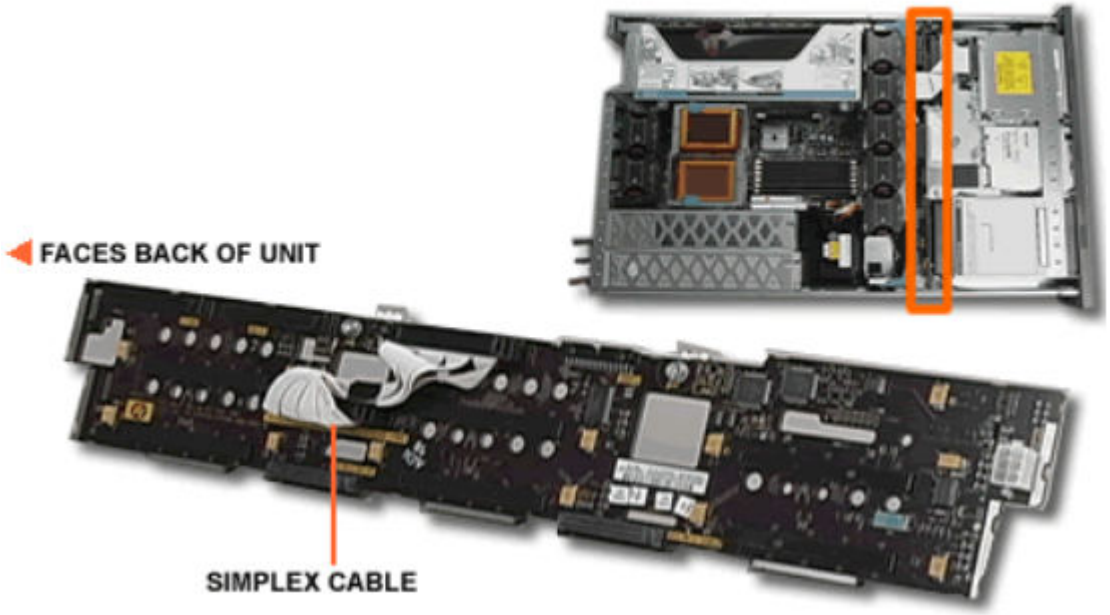
Non-hot plug riser cage



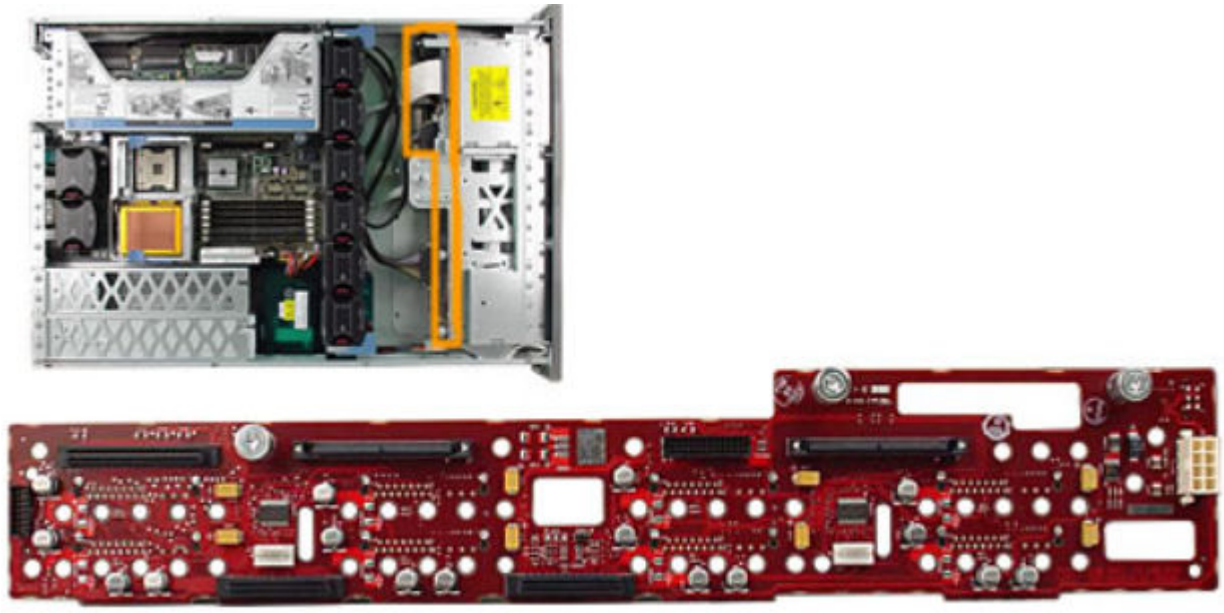
PCI Express riser cage



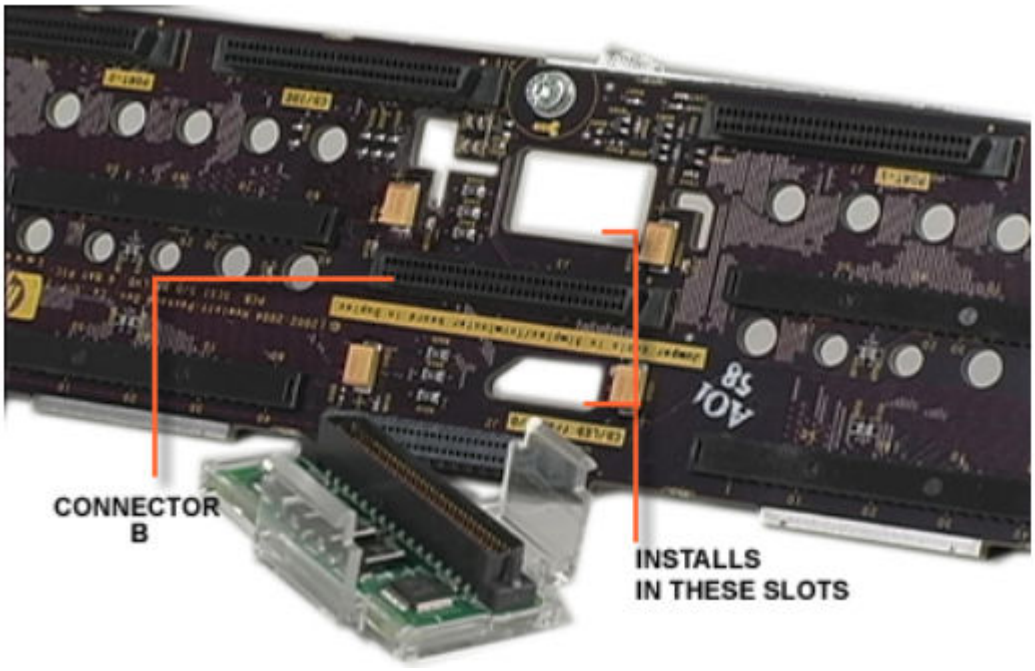
SCSI Backplane



SAS Backplane



Terminator board



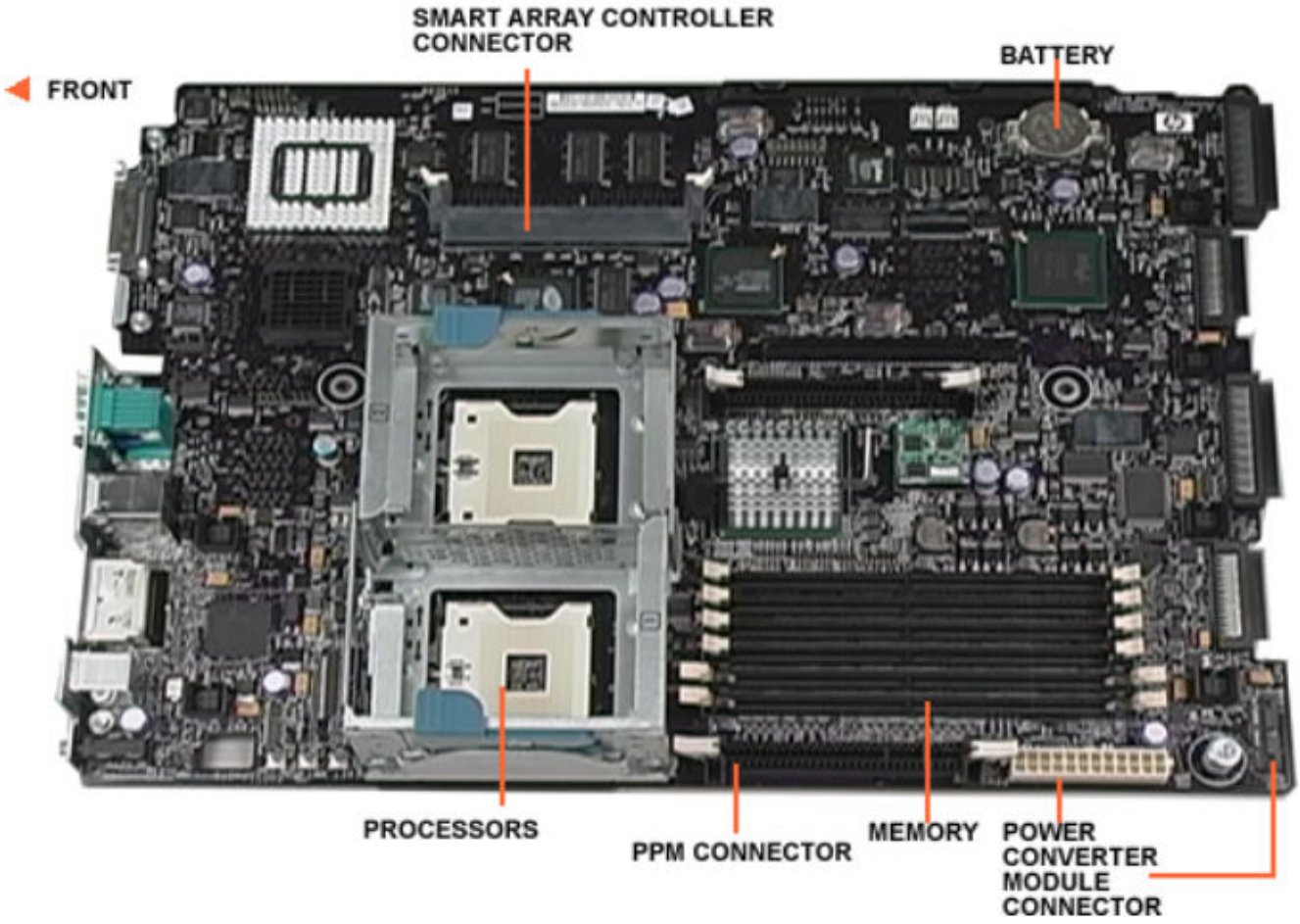
Processor PPM



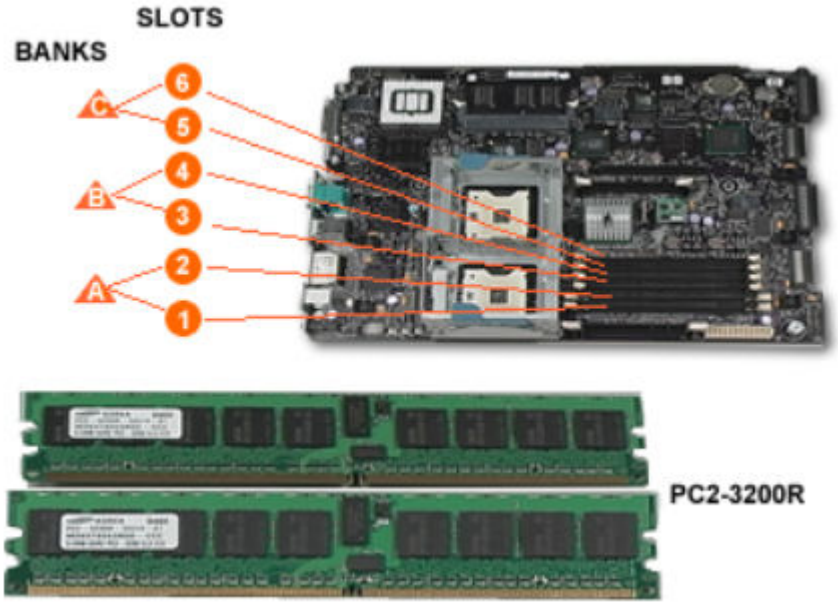
USB Cable



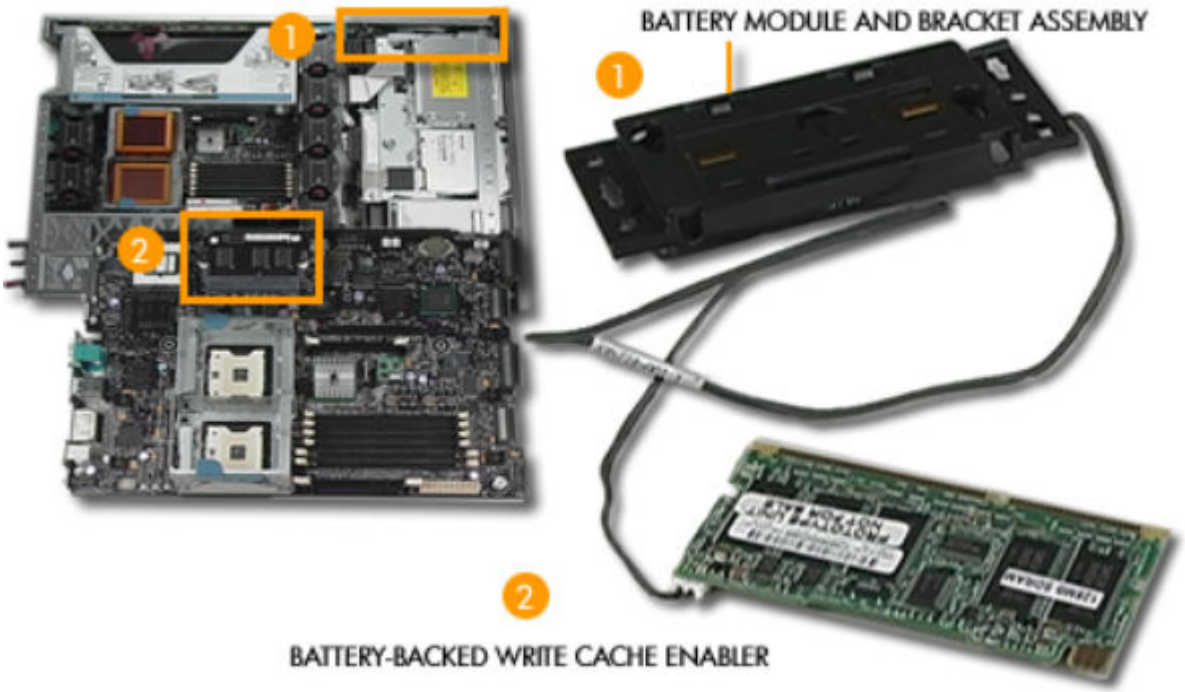
System board


SMART ARRAY CONTROLLER CONNECTOR
BATTERY
FRONT
PROCESSORS
PPM CONNECTOR
MEMORY
POWER CONVERTER MODULE CONNECTOR

DIMMs



BBWC and battery module bracket assembly



Precautions

Blanking panels and blanks

Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

To prevent improper cooling and thermal damage, do not operate the server unless all bays including power supply and hard disk drive bays are populated with either a component or a blank.

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

- A Torx tool with a T-15 tip ships with the server.

Screws

Torx-15 screws



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

Power To The Server

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Power to the server

For all non-hot plug procedures, you must power down the server.

1. Do this by pressing the Power ON/Standby button.

2. Be sure that the front panel power LED indicator is amber and that the fans are off.
3. Disconnect all AC power cords.

Access Panel

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Access panel

Access panel removal

1. Lift the release latch handle. The panel slides back.
2. Lift the panel off the chassis.

Access panel replacement

1. Set access panel on chassis.
2. Align pins on chassis with access panel.
3. Slide access panel firmly in place.
4. Push release latch down.

Bezel

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Front bezel

Before you begin

1. Remove any hard drives.

Front bezel removal

1. Remove the two screws.
2. Pull down on latch on either side of server.
3. Lift up and remove bezel.

Front bezel replacement

1. Set in place.
2. Replace the two screws.

Optical Drives

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Optical drive

Before you begin

This is a non-hot plug procedure. The procedure for removing the CD-ROM and DVD-ROM are the same.

1. Power down the server.

Optical drive removal

1. Push the release button with the Torx tool.
2. Pull the drive out of the front of the chassis.

Optical drive replacement

1. Slide the drive into the slot until it engages the connector.

Diskette Drive

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Diskette drive

Note: this was filmed on the DL380 G4 SCSI model. The diskette drive option is different on the DL380 G4 SAS model.

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.

Diskette drive removal

1. Unplug cable from SCSI backplane.
2. Loosen thumbscrew that secures drive to chassis.
3. Pull the drive assembly back and lift out of the chassis.

Diskette drive replacement

1. Place drive assembly in chassis. the diskette drive ejector tab is at the top.
2. Slide in place.
3. Replace cable.
4. Tighten screw.

SAS Drive

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SAS drive

Before you begin

This is a hot plug procedure if more than one drive is installed.

SAS drive removal

1. Push the hot plug latch. This releases the handle.
2. Grasp the handle and slide the drive out of the server.

SAS drive replacement

1. Slide the drive into the server until it connects with the backplane.
2. Push the handle in until it clips under the hot plug latch.

SAS Blank

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SAS hard drive blank

SAS hard drive blank removal

This is a non hot plug procedure.

1. Squeeze levers on either side of blank.
2. Pull the blank out of the server.

SAS hard drive blank replacement

1. Slide the blank into the server.

SAS Backplane

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001836en_us&noframe

SAS backplane

Before you begin

This is a non-hot plug procedure. The fan bracket was removed for clarity

1. Remove the access panel.
2. Remove hard drives and/or blanks.
3. Remove optical device.

SAS backplane removal

1. Disconnect the power to the system board.
2. Disconnect the SAS cables to the controller.
3. Disconnect the data cables to the system board.
4. Disconnect optical device cable.
5. Disconnect the LED cable.
6. Disconnect the USB cable on the other side of the backplane.
7. Loosen three Torx-15 thumbscrews.
8. Lift up and out of the server.

SAS backplane replacement

1. Holding the backplane so that the hard drive and optical device connections face the front of the server, tilt the backplane to clear the chassis.
2. Rotate so that it is upright.
3. Tighten thumbscrews.
4. Reconnect the cables.

SCSI Backplane

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SCSI backplane

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.
3. Remove SCSI hot plug drives.
4. Remove front fan bracket.

SCSI backplane removal

1. Remove the SCSI short cable from backplane.
2. Disconnect any diskette, universal media board, and LED assembly cables from the backplane.
3. Disconnect any cables connected to the system board.
4. Loosen 2 thumbscrews.
5. Lift the backplane up and out of the server.

SCSI backplane replacement

1. Align the backplane with guides on either side of the chassis.
2. Slide in place.
3. Tighten screws.
4. Reconnect cables.

SCSI Terminator Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001838en_us&noframe

SCSI terminator board

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.
3. Remove the front fan bracket. (You do not need to remove fans.)

SCSI terminator board replacement

1. Holding the terminator module, check to be sure that the wider clip is positioned to be inserted closer to the top of the backplane.
2. Insert the top clip in the slot.
3. Insert the bottom clip.
4. Press in place.

Power Converter Module

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Power converter module

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove access panel.
3. Remove the front fan bracket. (You do not need to remove the hot plug fans.)

4. Remove one or both power supplies.

Power converter module removal

1. Disconnect 1 power cable from SCSI backplane and 2 power cables from system board.
2. Loosen the thumbscrew.
3. Slide the module toward the rear of the unit to disengage it from guides.
4. Lift power converter module out of chassis.

Power converter module replacement

1. There are 3 guides on which you will set the module. Set power converter module in chassis about an 1/8 of an inch from holes for thumbscrews.
2. Slide forward to lock onto guides.
3. Tighten thumbscrew.
4. Reconnect the cables.

PCI-X Riser Cage And SAS Adapter

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PCI-X riser cage and SAS adapter

Note : this procedure was filmed on the DL380 G4 SAS. The procedure is the same for the DL380 G4 servers.

Before you begin

This is a non-hot plug procedure for both the non-hot plug and hot plug riser cages.

1. Power down the server.
2. Remove the access panel.

PCI-X riser cage removal

1. Lift the PCI riser cage thumbscrews and turn them counter-clockwise to release them from the screw holes on the chassis.
2. Pull up the riser cage slightly to access and disconnect the SAS cables from the adapter.
   Note : you don't have to open the PCI-X access door as shown here, but it's easier to access the SAS cables when it's open.

3. Lift up and remove the PCI riser cage from the chassis.

SAS adapter removal

1. Push back on the full-length expansion board bracket.
2. Using a Torx-15 screwdriver, remove the thumbscrew.
3. Pull the board out of expansion slot.

SAS adapter replacement

1. Insert the board into the slot.
2. Replace thumbscrew.
3. Push the full-length expansion bracket toward the board to lock it in place.
4. Replace thumbscrew.

PCI-X riser cage replacement

1. Set the PCI riser cage in place. Be sure to line it up with the channel at the top right and lower left of the cage.
2. Tighten thumbscrews.

BBWC-SAS Models

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001841en_us&noframe

BBWC-SAS

Note : This was filmed on the ML370 G4 server. The procedure for removing the BBWC module from the SAS controller on this server is the same.

Before you begin

1. Remove access panel.
2. Disconnect SAS adapter.

BBWC-SAS removal

1. Press the latches back on either side of the BBWC board.
2. Slide the board out of the connector and off of the SAS adapter.

BBWC-SAS replacement

1. Slide the board into the connector until latches snap back.

BBWC And Battery Module Bracket Assembly-SCSI Models

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001842en_us&noframe

BBWC and battery module bracket assembly-SCSI models

This is a non-hot plug procedure.

BBWC and battery module bracket assembly-SCSI models removal

1. Power down the server.
2. Remove the access panel.
3. Remove PCI riser cage.
4. Release levers on either side of the Smart Array 6i memory (BBWC) module.
5. Detach cable from guide on the server board.
6. Pick up the module with one hand and the BBWC with the other, keeping the BBWC cable attached.
7. Lift the memory module out of the server.

BBWC and battery module bracket assembly-SCSI models replacement

1. Insert the BBWC.
2. Insert the memory module firmly in the connector.
3. Close the levers on either side.
4. Replace the cable in the guide.

Processor Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001843en_us&noframe

Processor assembly

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.
3. For a secondary processor, remove the PCI riser cage (not shown.)

Processor assembly

1. Open the processor retaining bracket.
2. Lift up the locking lever.
3. Remove the processor and heatsink assembly.

Processor assembly replacement or installation

1. Set the processor assembly in place on the connector. Be sure that tab for assembly is located on the same side as the processor release lever.
2. Close the processor locking lever.
3. Close the processor retaining bracket.

PPM

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001844en_us&noframe

PPM

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.

PPM removal

1. Press latches back.
2. Lift out PPM.

PPM replacement or installation

1. Locate socket for PPM. (**Note : the PPM is keyed so that it can only be inserted one way.)**
2. Press locking latches back.

3. Insert PPM.

DIMM

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001845en_us&noframe

DIMM

This is a non-hot plug procedure.

Note : The procedure for removing and replacing the DIMM was filmed on the DL360 G4 server. The procedure is the same for this server.

DIMM removal

1. Press down on latches on either side of DIMM.
2. Pull the DIMM up and out of the server.

DIMM replacement

1. Align the DIMM with the slot and insert the DIMM firmly. When fully seated, the DIMM slot latches lock into place.

Fan Bracket-Front

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001846en_us&noframe

Fan bracket-front

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.

Fan bracket-front removal

1. Swing the fan bracket locking levers up and use to lift the bracket up and out of chassis.

Fan bracket-front replacement

1. Align the pins on either side of the bracket to slide down channel on either side of chassis.
2. Slide the fan bracket in place.
3. Close the lever.

Fan Bracket-Rear

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001847en_us&noframe

Fan bracket-rear

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.
3. Remove the PCI riser cage.

Fan bracket-rear removal

1. Remove the fan(s) from the rear fan bracket.
2. Remove front fan bracket.
3. Remove cables from system board.
4. Loosen thumbscrew from system board.
5. Remove the system board.
   Note: You do not need to remove the DIMMs, processors, PPMs, and Smart Array controller from the system board for this procedure.
6. Tip system board over and remove screws securing bracket to chassis using a Torx screwdriver or the Torx tool.
7. Reach under the system board and lift out the fan bracket.

Fan bracket-rear replacement

1. Set fan bracket in place on system board. The bracket standoffs fit over the holes on the system board. There is a tab that fits over the outside of the system board.
2. Tip the system board and tighten screws.

Power Supply

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001848en_us&noframe

Power supply

Before you begin

This is a hot plug procedure if there are dual power supplies. (**Note: As shown, this is a non-hot plug procedure as there is only one power supply installed).**

See the Repair and Troubleshooting Guide for more information on hot plug procedures.

Power supply removal

1. Remove power cord.
2. Squeeze the release lever.
3. Pull the power supply out of the chassis.

Power supply replacement

Slide the power supply into the server until the connector engages and the rear of the power supply is flush with the rear of the chassis.

USB Cable-Front

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001849en_us&noframe

USB cable-front

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove the access panel.
3. Remove any hard drives.
4. Remove front bezel.

USB cable removal

1. Disconnect USB cable from SCSI backplane.
2. Using a small Philips screwdriver, loosen screw.
3. Push USB connector and cable back from the inside of the chassis and lift out of the chassis.

USB cable replacement

1. Replace the cable through the front of the chassis.
2. Set the connector in place.
3. Tighten the screw to secure USB connector to chassis bracket.
4. Connect USB connector to SCSI backplane.

Power Button/LED Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001850en_us&noframe

Power button/LED assembly

Before you begin

This is a non-hot plug procedure.

1. Power down the server.
2. Remove access panel.
3. Remove front bezel.

Power button/LED assembly removal

1. Disconnect the Power Button/LED cable from SCSI backplane.
2. Release clip that holds the assembly in place.
3. Push Power Button/LED out the front of the chassis and lift out of chassis.

Power button/LED assembly replacement

1. Set Power Button/LED assembly in chassis from the front.
2. Reconnect cable to SCSI backplane.

System Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001851en_us&noframe

System board

Before you begin

This is a non-hot plug procedure

1. Power down the server.
2. Remove the access panel.
3. Remove the PCI riser cage.
4. Remove the front fan bracket.
5. Remove the hot plug fans from the rear fan bracket.
6. Remove any DIMMs. (not shown)
7. Remove the processor(s) and PPM(s).
8. Remove the Smart Array 5i Plus memory module.
9. Disconnect all cables connected to the system board.

System board removal

1. Loosen the thumbscrew.
2. Slide the system board toward the rear of chassis to disengage from alignment keys.
3. Lift board up and out of chassis.

System board replacement

1. Verify alignment keys and keyhole locations.
2. Set the system board in place about 1/8 of an inch from the hole for the thumbscrew.
3. Slide the board in place to engage alignment keys.
4. Tighten thumbscrew.