HPE ProLiant DL360 G3 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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SAS hard drives
Drive blank
Drive blank-SAS
CD-ROM
Diskette drive-SCSI or SATA models
Processor Fan Assembly
Access Panel lever

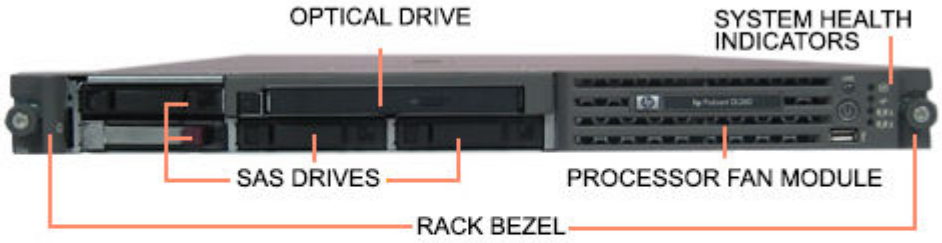
Front SAS



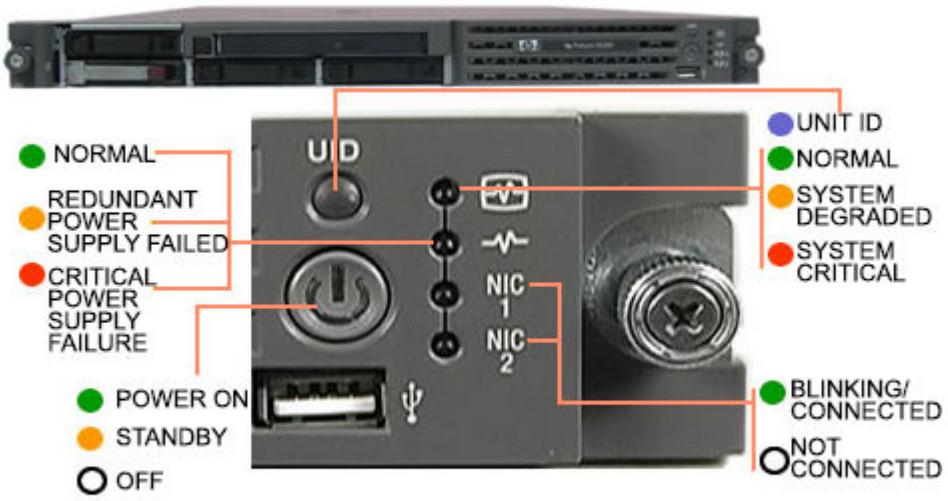
Front labeled SCSI



Front labeled SAS



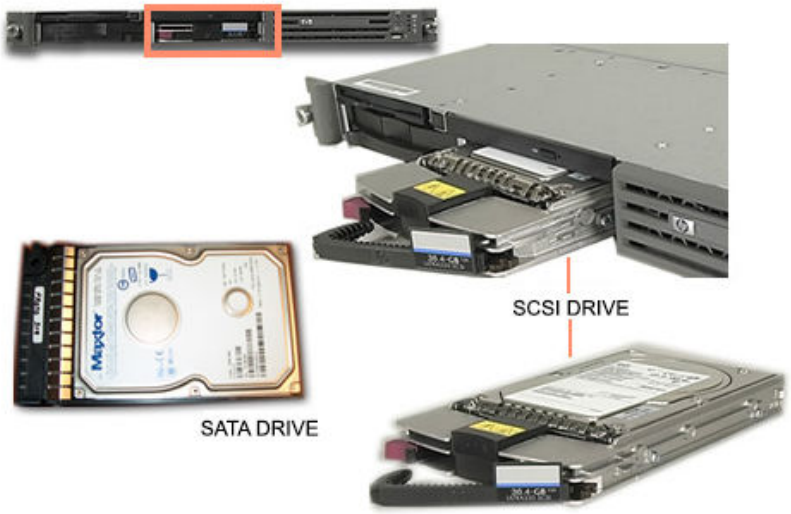
Front LED


UID
NORMAL
REDUNDANT POWER SUPPLY FAILED
CRITICAL POWER SUPPLY FAILURE
POWER ON
STANDBY
OFF
NIC 1
NIC 2
UNIT ID
NORMAL
SYSTEM DEGRADED
SYSTEM CRITICAL
BLINKING/ CONNECTED
NOT CONNECTED

USB port



SCSI and Sata hard drives



SAS hard drives



Drive blank



Drive blank-SAS



CD-ROM



Diskette drive-SCSI or SATA models



Processor Fan Assembly



Access Panel lever



Object Missing

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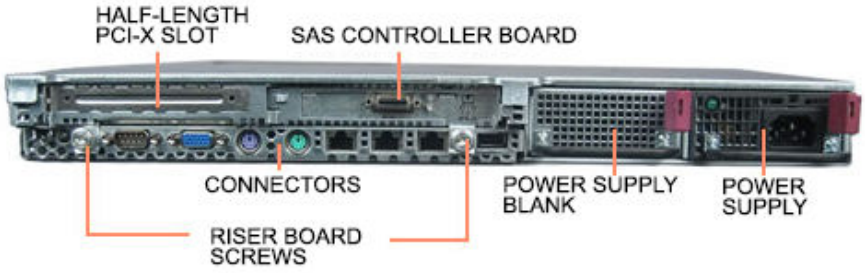
Subtopics

- **Rear**
- **Rear-labeled**
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- **Rear connectors**

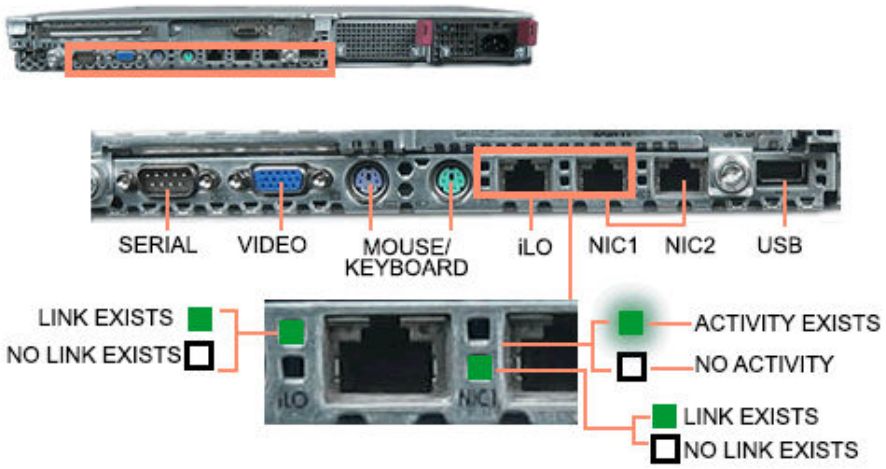
Rear



Rear-labeled



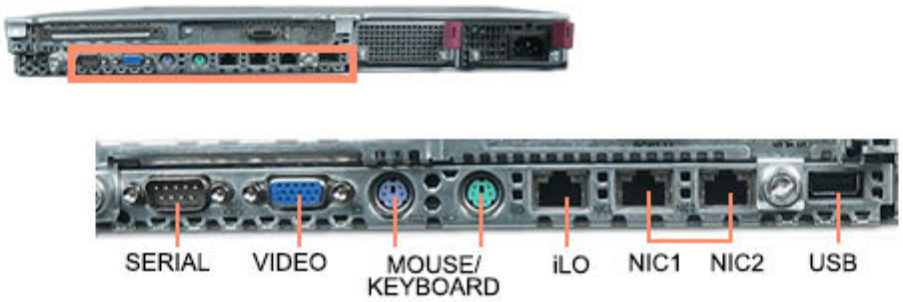
Rear-LEDs



Hot plug power supply



Rear connectors



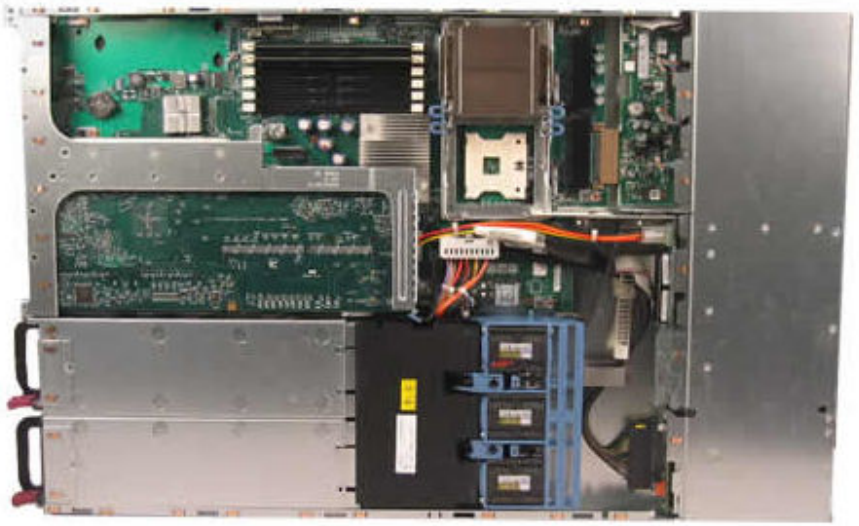
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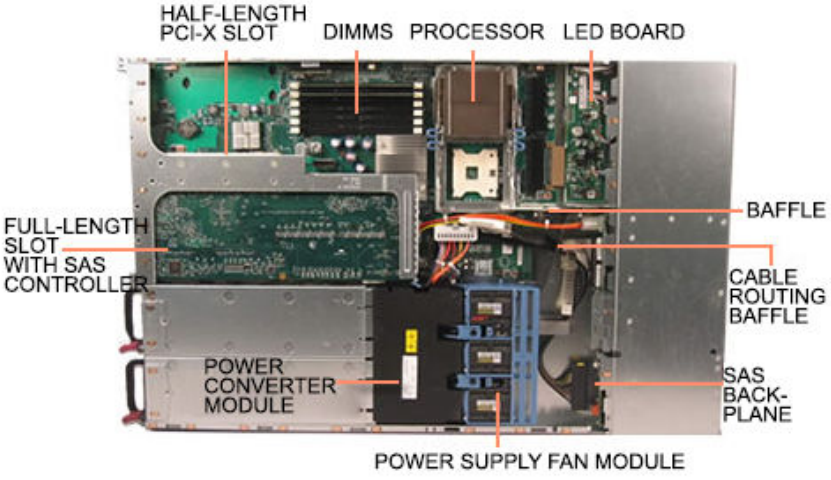
Subtopics

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- **Internal-SAS labeled**
- **Internal-SCSI labeled**
- **Power Converter module**
- **Power Supply fan assembly**
- **PCI riser board and bracket**
- **SAS controller**
- **Processor Heatsink Assembly**
- **SAS backplane**
- **SATA backplane**
- **SATA connections**
- **SCSI backplane**
- **LED board-SAS**
- **Multi-bay device diskette drive interface-SCSI models only**
- **DIMMS**
- **System board-SAS**

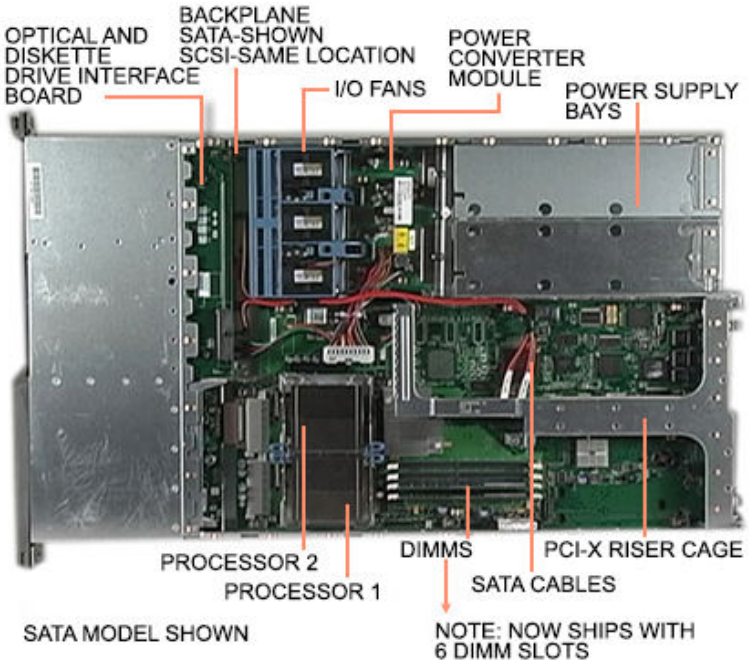
Internal-SAS



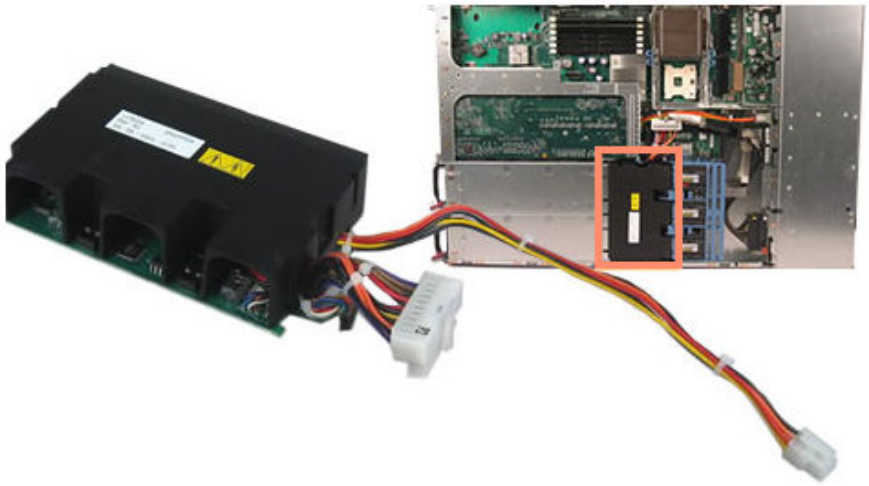
Internal-SAS labeled



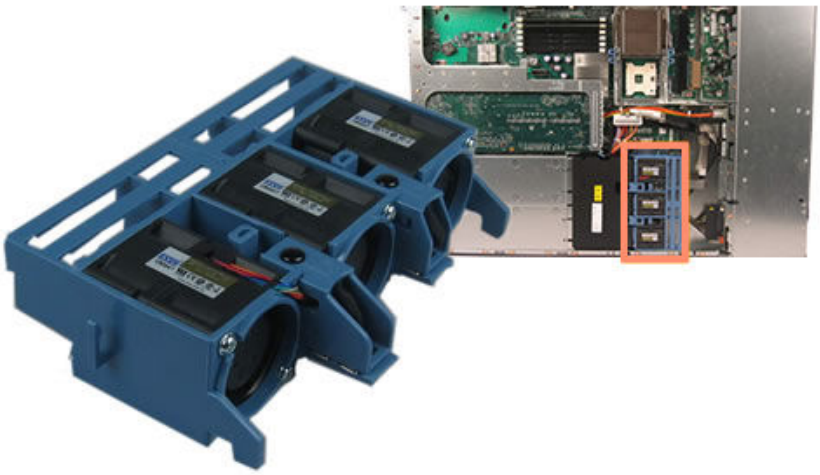
Internal-SCSI labeled



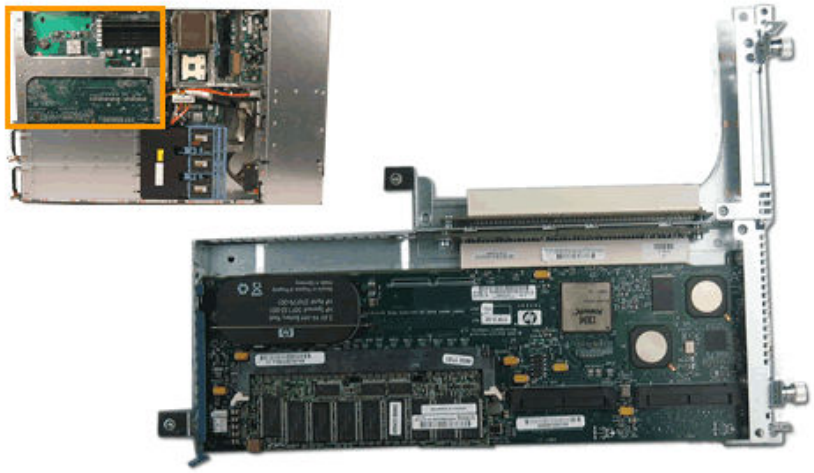
Power Converter module



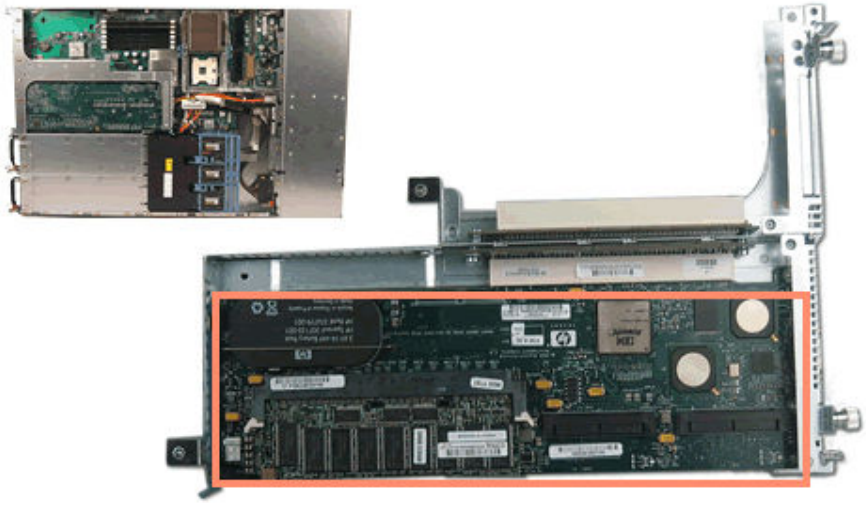
Power Supply fan assembly



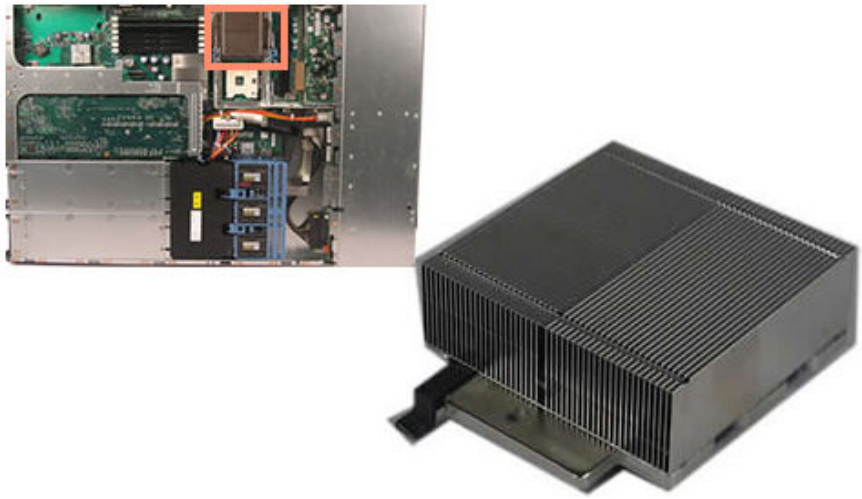
PCI riser board and bracket



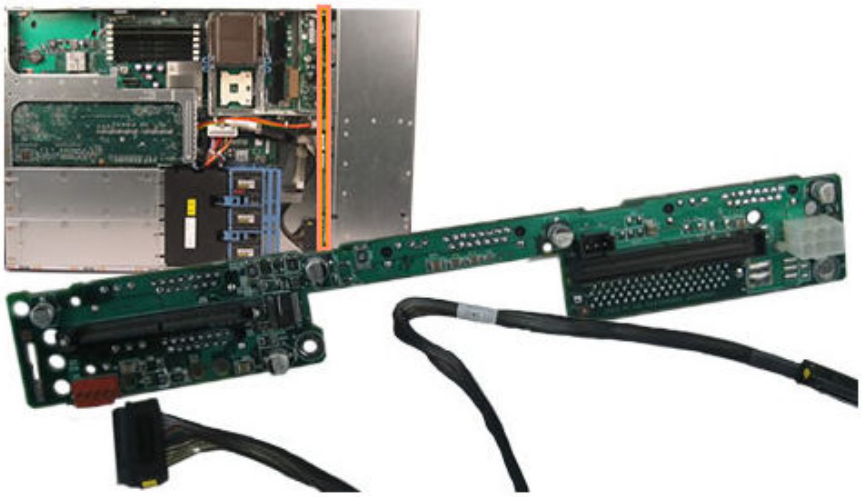
SAS controller



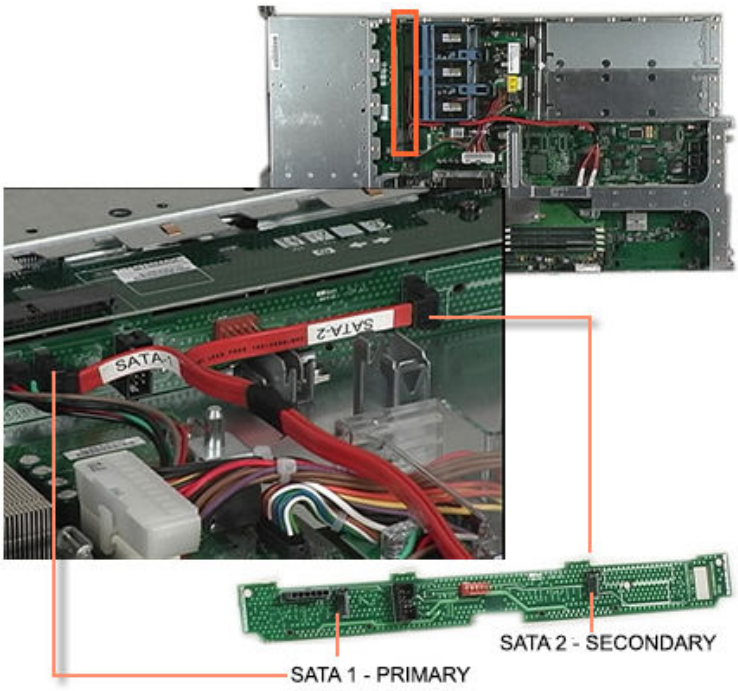
Processor Heatsink Assembly



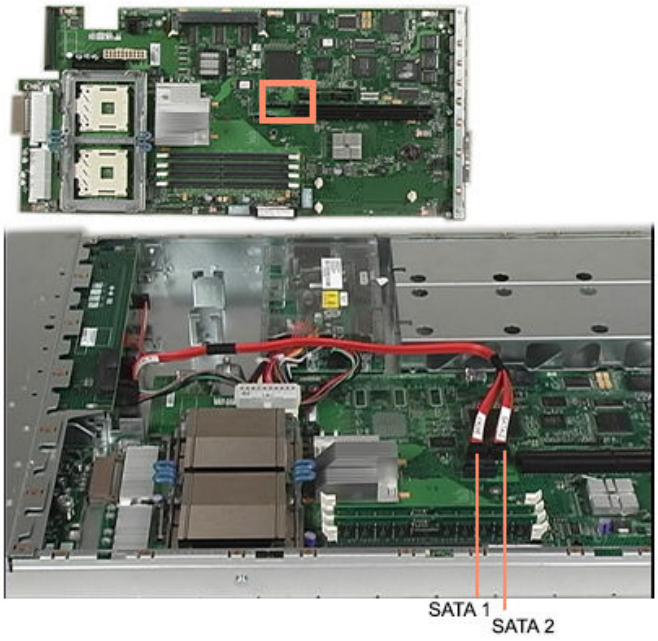
SAS backplane



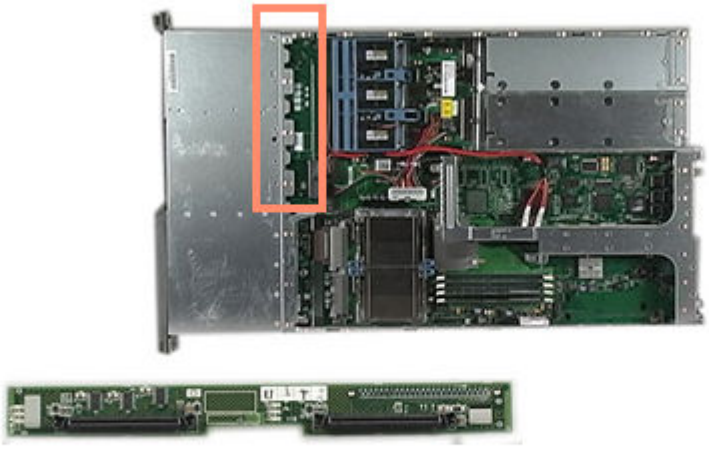
SATA backplane



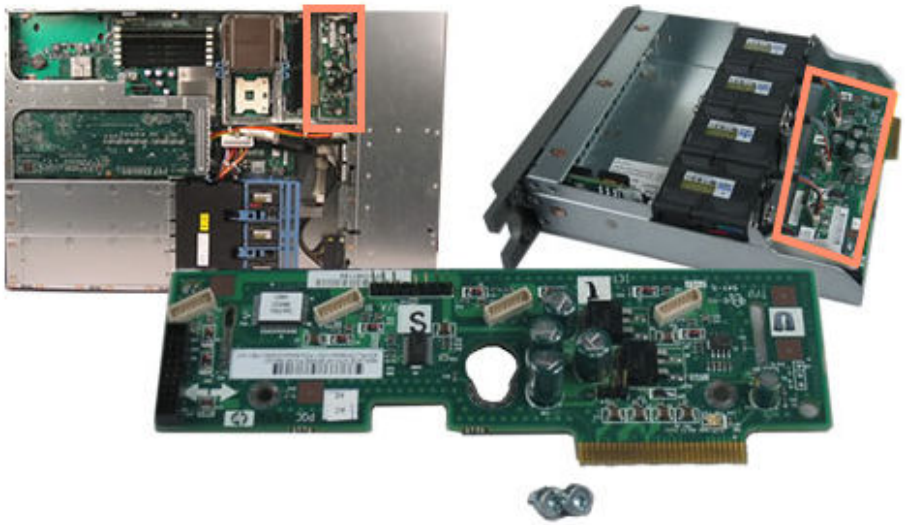
SATA connections



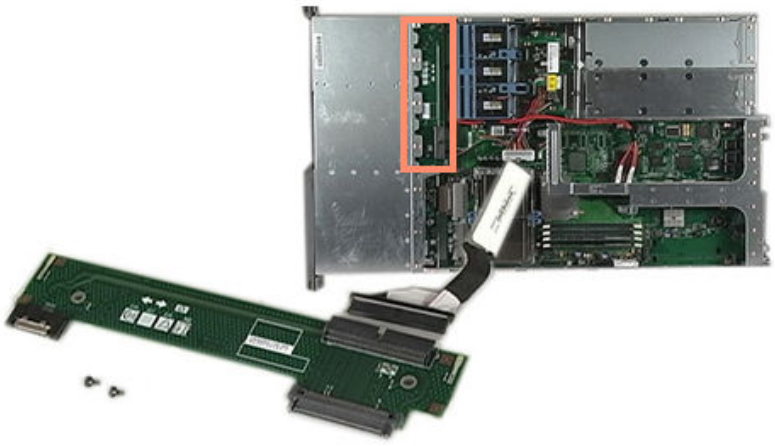
SCSI backplane



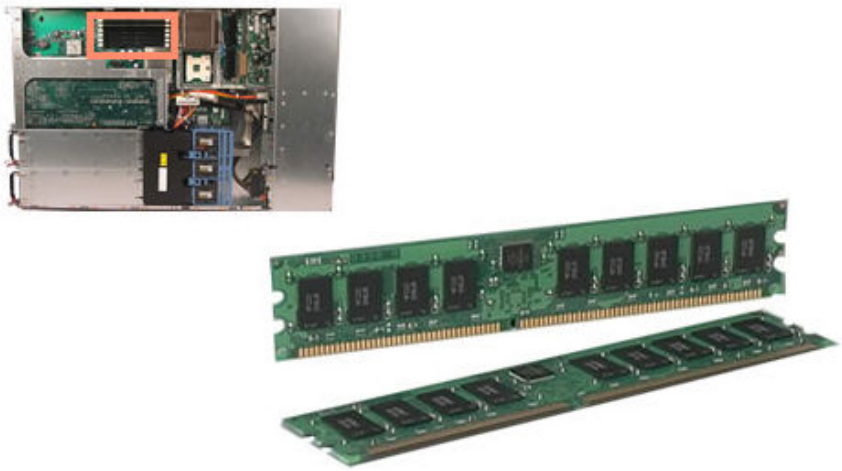
LED board-SAS



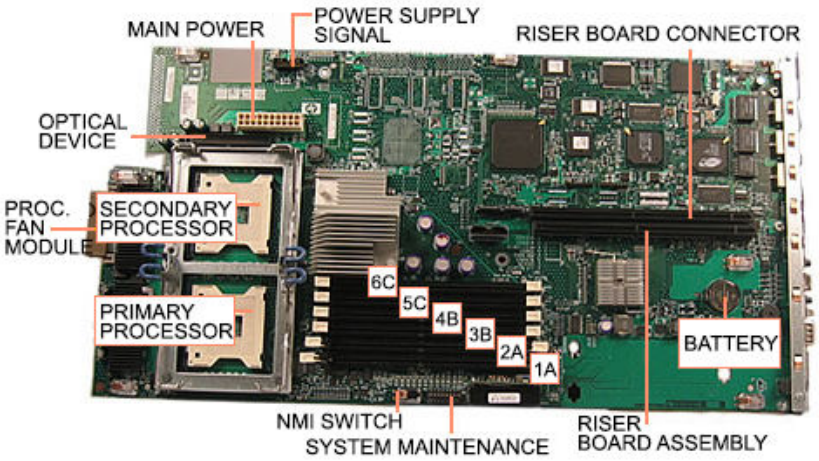
Multi-bay device diskette drive interface-SCSI models only



DIMMS



System board-SAS



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.

Dissassembly

- 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.

Blanks

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

This means that:

- Unused SCSI hard drive bays require a blank.
- Unused PCI slots require a slot cover.
- An unused power supply bay requires a blank.
- Unused rack shelves require blanking panels.

Tools And Materials

Tools used in removal and replacement

- Torx-15

Screws

Torx-15 screws





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

Service Preparation

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Service preparation

Before removing any serviceable parts, determine whether the part is a hot-plug or non-hot-plug device.

- The hot-plug devices on the ProLiant DL360 G3 server are the U320 SCSI hard drives and the power supplies. You can service U320 SCSI hard drives and power supplies without removing the server from the rack.
- You do not need to power off the server to replace hot-plug hard drives or power supplies that are not in active use.
- Optical devices and the low-profile diskette drives are non-hot-pluggable, but can be replaced with the server power in standby mode and without removing the server from the rack.
- To service all other non-hot-plug devices, the server must be powered down completely and removed from the rack.

Shutting Down the Unit

To shut down the unit, follow these steps:

1. Press the unit identification switch on the server front panel. The blue LED lights on the front panel and on the rear panel to identify the unit you are servicing.
2. Press the server Power On/Standby switch to power down the server. The Power On/Off LED turns from green to amber to indicate standby mode. Standby mode does not completely shut off power to the server. It removes power from most electronics and the drives, but portions of the power supply and some internal circuitry remain active.
3. To completely remove all power from the unit, disconnect all power cords. If an optional power supply is installed in hot-plug power supply bay 2, you must disconnect this power cord as well.

Rack Removal And Interior Access

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Rack removal and interior

The DL360G3 ships standard with new universal rack rails that provide tool-free support of both round-hole and square-hole racks. To remove the server from the rack:

1. Disconnect all cables from the rear of the server.
2. Loosen the two thumbscrews on the front of the server.
3. Slide the server until the rail stops click and lock which occurs when the server is approximately halfway out of the rack.
4. Push in the two rail stop latches and slide the server completely out of the rack.

For detailed installation instructions on rack options, refer to the Service and Installation Guide.

In this service video, all maintenance and service procedures are performed with the unit removed from the rack.

Removing the Access Panel

Before performing any service on the unit, always use a grounding system, such as a grounding mat and wrist strap, before touching static-sensitive components.

To gain access to many of the internal components, you must remove the server access panel.

1. Lift up on the hood latch which slides the panel toward the rear of the unit.
2. Lift up to remove the panel.

Notice that system configuration details are printed on the inside of the panel.

Processor Fan Module

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Processor fan module

The processor fan module is located in front of the processors and under the chassis frame.

To remove the processor fan module:

1. Loosen the single thumbscrew securing it to the chassis.
2. Press from the rear of the processor fan module to release it from the system board connectors.
3. Remove the processor fan module from the chassis.

Hot Plug Hard Drive

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Hot plug hard drives

To remove a hot-plug U320 SCSI hard drive:

1. Open the drive latch on the hard drive.
2. Pull the hard drive to remove it from the server.

To replace a hot-plug U320 SCSI hard drive:

1. Simply reverse this procedure.
2. Remember to firmly close the drive latch to secure the hard drive in the drive bay.

To remove a hard drive blank:

1. Press the blank release button.
2. Remove the blank from the drive bay.

Caution! Do not operate the server without a hard drive or a hard drive blank installed. Failure to install a hard drive or a hard drive blank can lead to improper cooling and system damage.

Optical Devices And Diskette Drive

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Optical devices and diskette drives

The server features a low-profile diskette drive and a low-profile optical device. Both can be removed independently.

Caution! Do not operate the server without both installed because this could lead to improper cooling and system damage.

To remove the optical device:

1. Push the optical device ejector button using a small, blunt object such as a screwdriver, key, or pen.
2. Slide the device out of the optical device bay.

To remove the low-profile diskette drive:

1. Remove the diskette drive retaining screw at the rear of the drive.

2. Pull the diskette drive forward to release it from the connector.
3. Slide it out of the chassis.

To reinstall the low-profile diskette drive:

1. Carefully align the connector on the rear of the drive with the connector on the optical device/diskette drive interface board before sliding it into its bay.
2. Replace the diskette drive retaining screw.

Diskette Drive Interface Board

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Diskette drive interface board

To remove the optical device/diskette drive interface board:

1. Disconnect the optical device/diskette drive cable.
2. Remove the Torx screw securing the interface board to the server chassis.
3. Pull the interface board toward the front of the chassis, tip it, and remove it from the server chassis.

Hot Plug Power Supply

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Hot plug power supply

To remove a hot plug power supply:

1. Grasp the handle on the power supply.
2. Push the power supply ejector button above the handle on the right side.
3. Pull the power supply from the server.

To install a power supply in hot plug power supply bay 1:

1. Remove the protective cover from the connector on the power supply.
2. Slide the power supply into the hot plug power supply bay until it snaps into place.

To remove a redundant hot plug power supply located in hot-plug power supply bay 2, follow the same procedure used for the required supply.

When adding a second power supply, you must first configure the server for hot plug power redundancy by removing the PCI-X riser board assembly in PCI-X slot 2.

1. Loosen the PCI-X riser board assembly thumbscrew and lift the assembly straight out of the chassis.
2. Loosen the PCI-X bracket thumbscrew and lift the bracket out of the server.
3. Install the power supply bracket in power supply bay 2 by tightening this single thumbscrew.
4. Install the required power supply fan baffle to the power converter housing by pushing in until the tabs on the baffle snap into place on the housing.
5. Slide the power supply into the hot plug power supply bay until it snaps into place.

Refer to the documentation for the specific detailed steps when actually removing and replacing server components.

PCI Riser Board

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PCI riser board assembly

There are two PCI-X expansion board slots in the ProLiant DL360 G3 server. Only 3.3-volt or universal PCI-X style cards are supported. Before removing the expansion board, ensure that all cables are disconnected.

To remove the PCI-X riser board assembly from either of the PCI-X expansion board slots:

1. Loosen the PCI riser board thumbscrew.
2. Lift the front of the assembly up and out from the PCI-X expansion board slot.

To remove an expansion card from the riser board assembly, simply slide the board out of the assembly.

To replace the board:

1. Carefully line up the board with the grooves.
2. Slide it into the assembly until it firmly seats.

There are no screws or latches that hold the board in the PCI-X board assembly. When the PCI-X riser board assembly is installed in the chassis, nearby tabs hold the card in place.

I/O System Fan

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I/O system fan assembly

To remove the I/O system fan assembly:

1. Disconnect the fan power cables from the optical device/diskette drive interface board.
2. Disconnect the optical device/diskette drive interface board power cable from the optical device/diskette drive interface board and from the clip on the side of the I/O fan assembly.
3. Press the retaining clips in on either side of the I/O system fan assembly and lift the assembly straight up from the chassis.

Power Converter Module

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Power converter module

To remove the power converter module:

1. Loosen the thumbscrew.
2. Slide the power converter module toward the rear of the chassis and lift it up.
3. While holding the power converter module, disconnect the power supply signal cable and the system power cable from the system board.

Refer to documentation for the specific detailed steps when actually removing and replacing server components.

SCSI Backplane

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SCSI backplane

To remove the SCSI backplane board:

1. Remove all hot-plug hard drives.

2. Pull the SCSI backplane board straight up until it clears the server.

Memory

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Memory

The ProLiant DL360 G3 server ships standard with two 256-megabyte, Synchronous DRAM (or SDRAM) Dual Inline Memory Modules (or DIMMs) installed in DIMM sockets 1 and 2 which are referred to as Bank A. Sockets 3 and 4 are open and constitute Bank B.

All installed SDRAM DIMMs must be 266-megahertz, registered, 3.3-volt, 72-bit wide, with Error Correction Code (or ECC). No other DIMMs are compatible with the server.

Caution! Use only HP SDRAM DIMMs because DIMMs from other sources could affect data integrity.

DIMMs must be installed in pairs and be of the same size. Total system memory can be expanded to a maximum of 8 gigabytes.

To remove an SDRAM DIMM:

1. Open the DIMM slot latches.
2. Lift the DIMM from the expansion socket.

When installing new or additional SDRAM DIMMs, insert them one at a time in sequential order. DIMMs must be installed in pairs.

1. Align the key slot in the bottom edge of the DIMM with the tab in the expansion socket.
2. Insert the DIMM at the same angle as the DIMM socket on the system board.
3. Press the DIMM firmly until the latches close.

Processor And PPM

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Processor and PPM

This server can support up to two processors. Each processor has an associated processor power module (or PPM) that must be present for proper operation of the server. The DL360 G3 comes standard with a single processor in socket 1. Socket 1 must be populated at all times for the unit to function properly.

Do not mix processors of different types or speeds. If the processor is replaced or another processor is added, the system automatically detects and configures the processor settings.

To remove a processor:

1. Unlatch the processor heat sink retaining clips and remove the heat sink.**Note : The heat sink is attached to the processor with an adhesive thermal pad, which is broken when the heat sink is separated from the processor.**
2. Unlatch the processor socket locking lever and lift the processor from the socket.

To replace a processor or install an additional one:

1. Carefully install the processor in the processor socket (by aligning the triangle on the processor with the notch on the connector) and close the processor locking lever. The lever should close without resistance. **Caution! Forcing the lever closed could result in damage to the processor socket, requiring replacement of the system board.**
2. Install the processor-s heat sink in two steps: (a.) Remove the plastic covering from the heat sink-s thermal pad to expose the adhesive before mating it to the processor. (b.) Close the heat sink retaining clips.

Each processor has a PPM that must be replaced or installed with the processor. (**Note : the PPM is spared separately.)**

To remove a PPM:

1. Open the two PPM locking latches.
2. Lift the PPM from the socket.

PPMs with the same part number might look different, but they are functionally equivalent.

To replace a PPM:

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.

BBW Cache Enabler

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001637en_us&noframe

Battery-Backed Write Cache Enabler

If the possibility exists of unwritten data still residing on the controller, do not disconnect the Battery-Backed Write Cache Enabler battery module cable.

Caution ! Disconnecting the cable between the battery and the memory could result in data loss.

To remove the BBWC Enabler:

1. Unsnap the battery module by lifting the latch.
2. Slide the battery module toward the front of the chassis and lift the module from the chassis.
3. Unlatch the cache memory and remove the entire assembly.

To replace the battery module of the battery-backed write cache enabler:

1. Carefully line up the arrows on the side of the module with tick marks on the wall of the chassis that indicate the position of the four stand-offs that will attach the module.
2. Slide the battery module toward the back of the server until it clicks into place.
3. Slide the cache into the socket and push down until it latches.

System Battery

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001638en_us&noframe

System battery

The DL360 G3 server has one memory device that requires a battery for retaining stored information. When the server no longer automatically displays the correct date and time, you might need to replace the battery that provides power to the real-time clock. With normal use, battery life is usually about 5 to 10 years. Replace used batteries with HP 540-milliampere-hour lithium, 3-volt replacement batteries.

Removing the battery-backed write cache enabler exposes the system battery. To remove this battery:

1. Release the latch.
2. Lift the battery straight up from its holder on the system board.

To replace the system battery, reverse these steps and then run the ROM-Based Setup Utility to reconfigure the system with the new battery.

System Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00001639en_us&noframe

System board

To remove the system board from the chassis:

1. Loosen the single thumbscrew.
2. Slide the system board toward the front of the chassis.
3. Tip the board to remove it from the chassis.