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HPE ProLiant DL360 Gen10 Server - Parts Support Guide

Part Number: External
Published: 2020
Edition: 1

HPE ProLiant DL360 Gen10 Server - Parts Support Guide

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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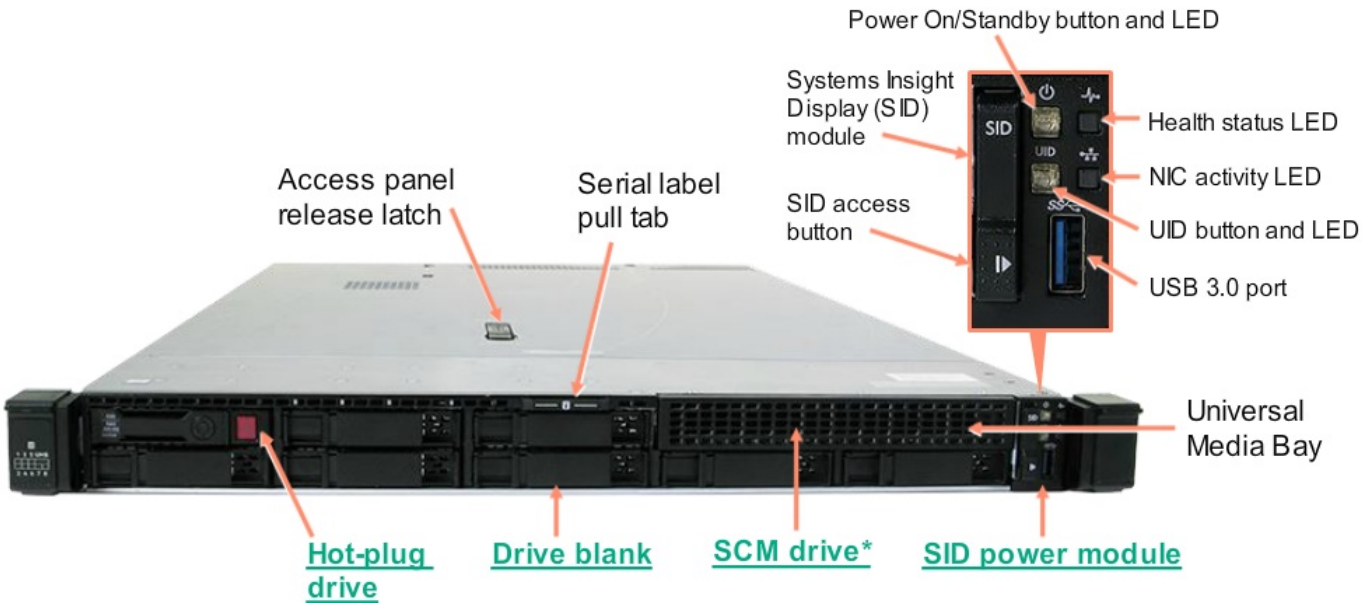
Front view



SID Power module

SCM Drive

Smart Carrier M.2 (SCM) drive

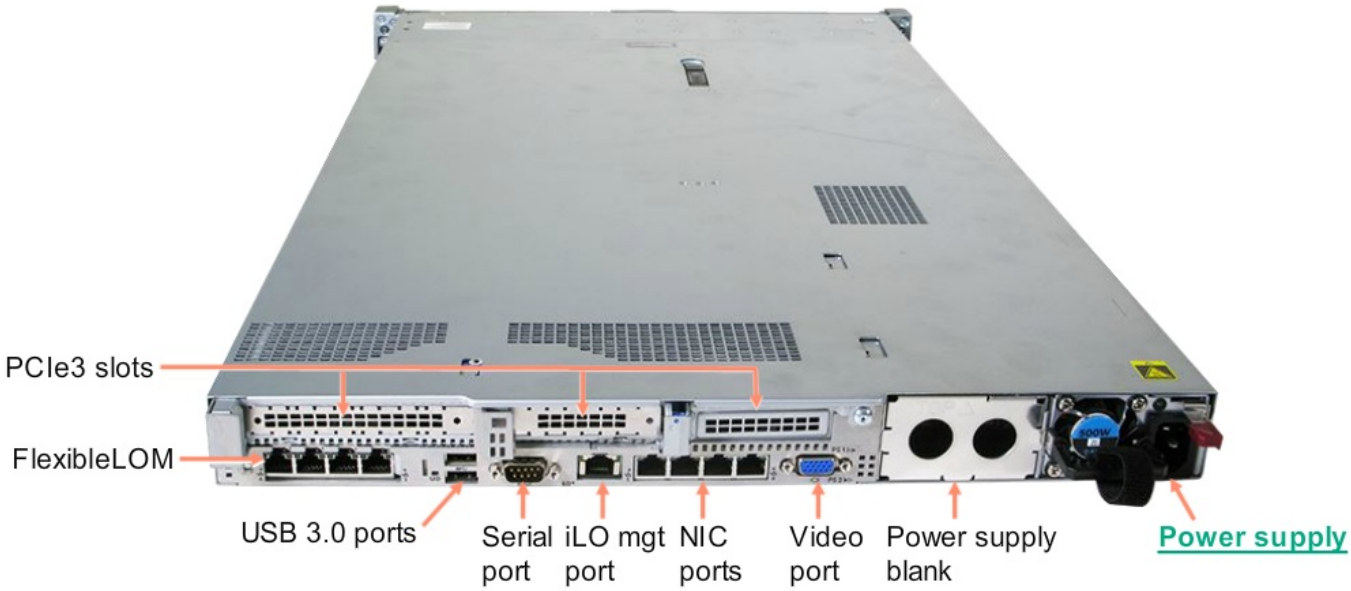
Drive blank

Drive blank

Hot-plug drive

Hot plug hard drive

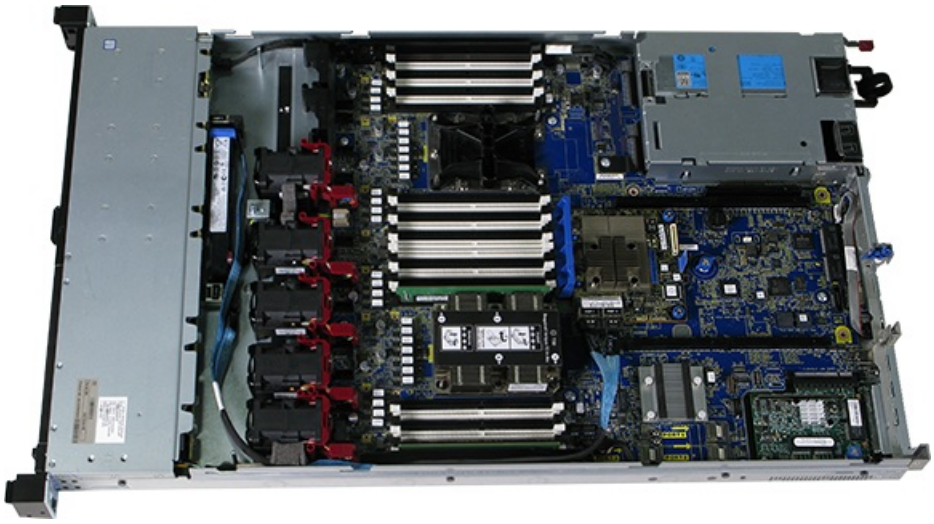
Back view



Power supply

Power supply

Internal view

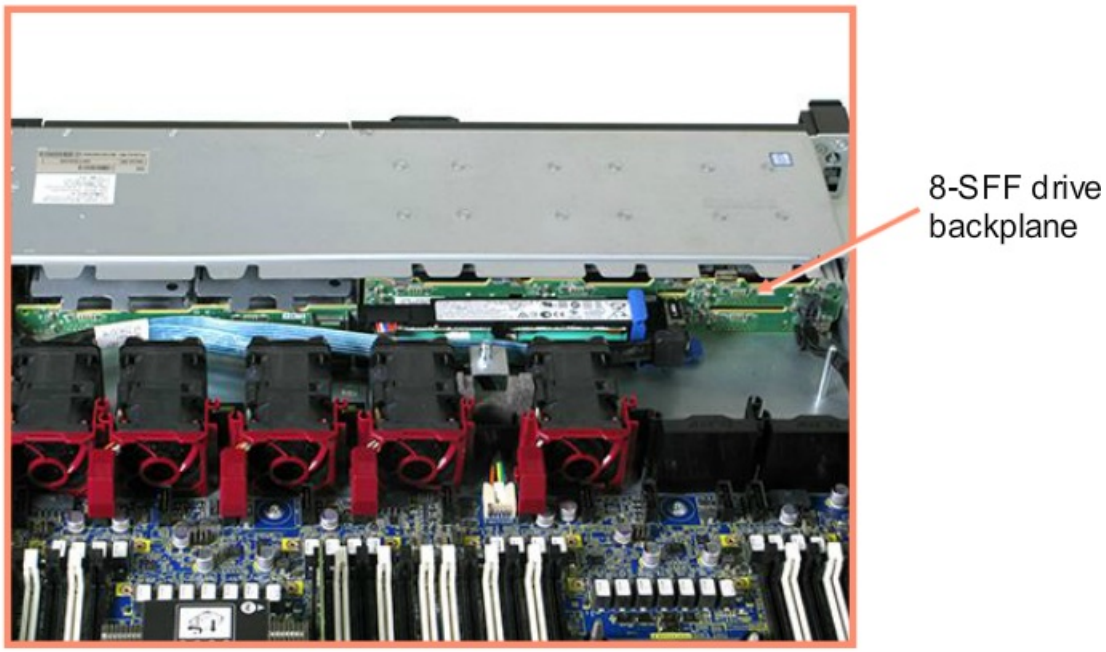


Power supply

Power supply

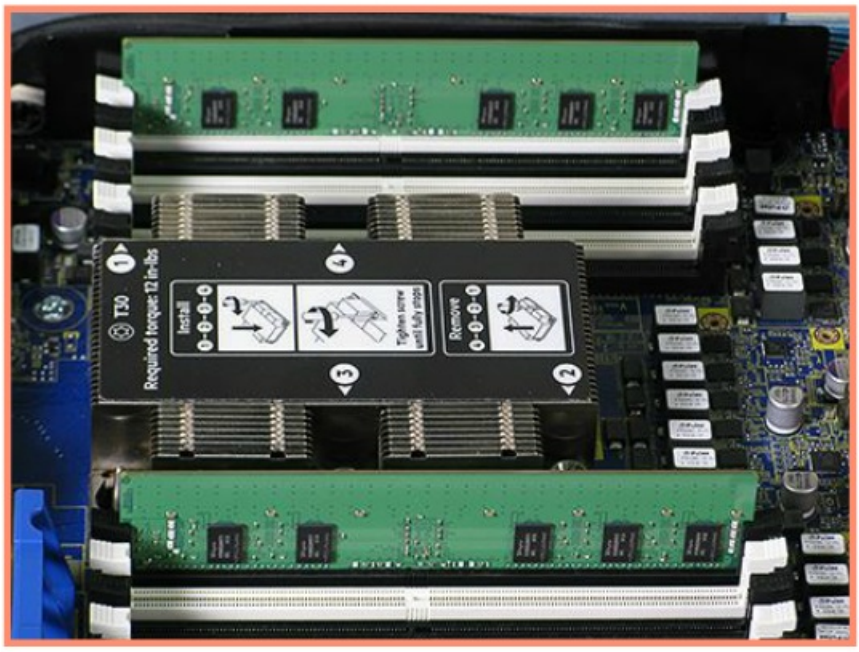
8-SFF Drive backplane

8-SFF drive backplane



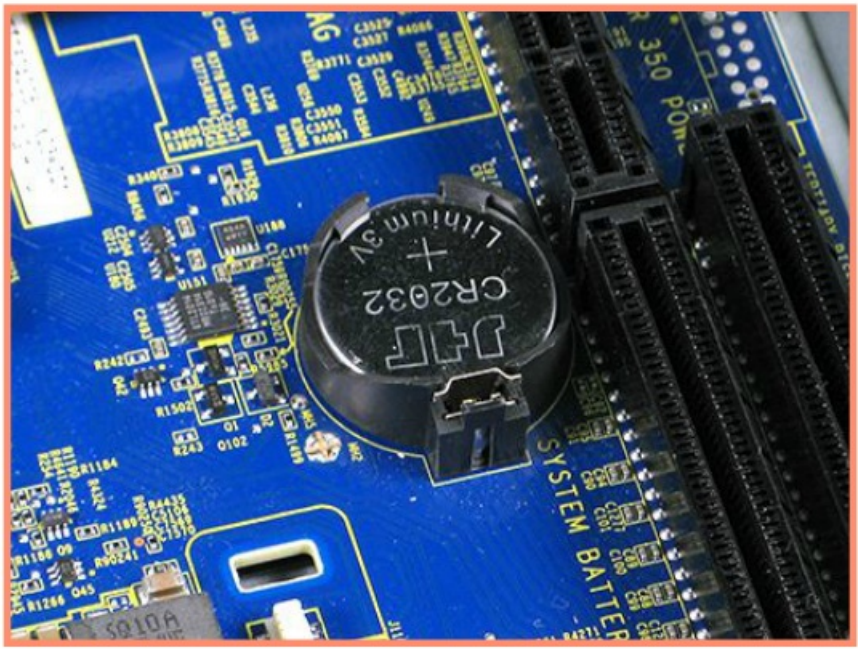
DIMMs

DIMMs



RTC Battery

RTC battery



Smart Array controller

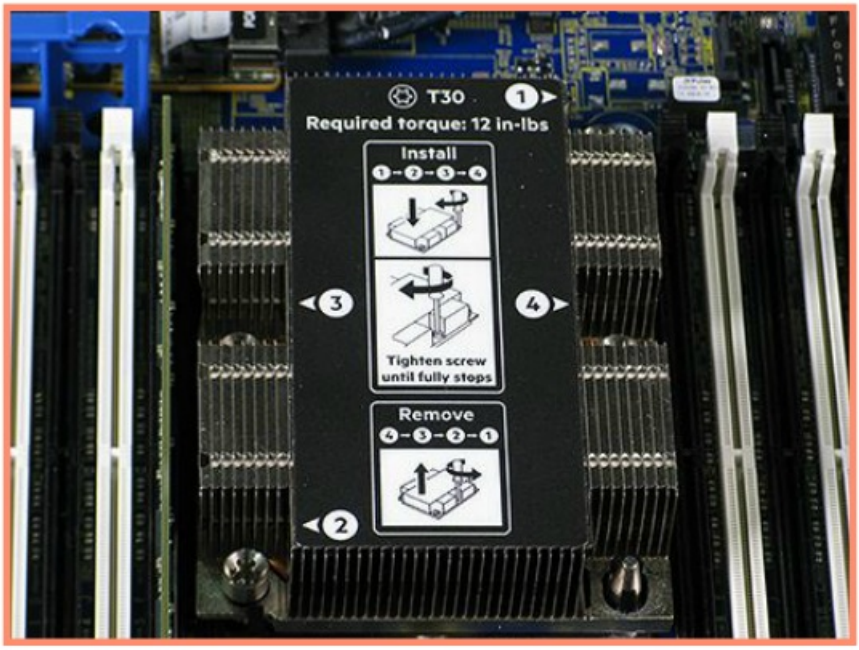
Smart array controller

PCI Riser cage

PCI riser cage

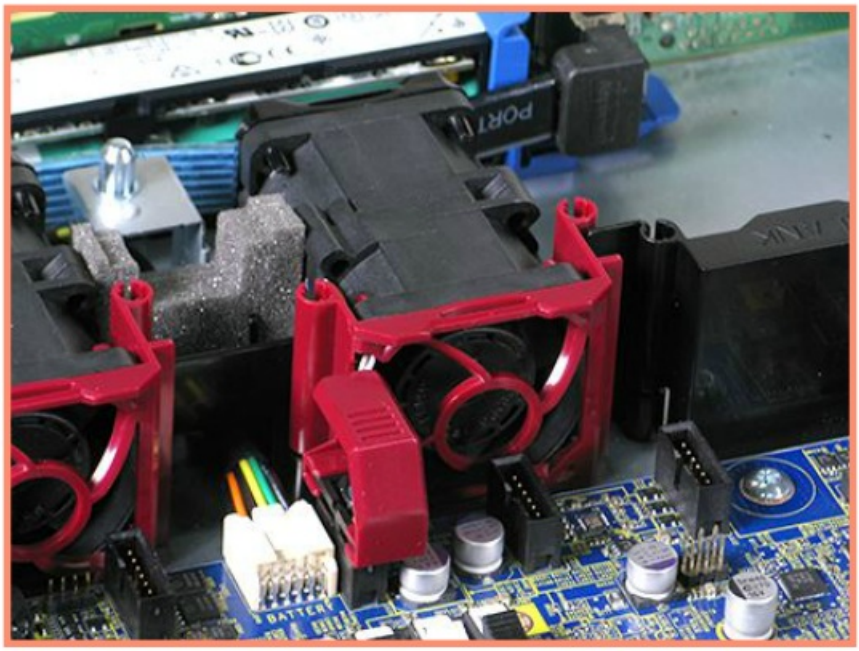
Heatsink processor assembly

Heatsink/processor assembly



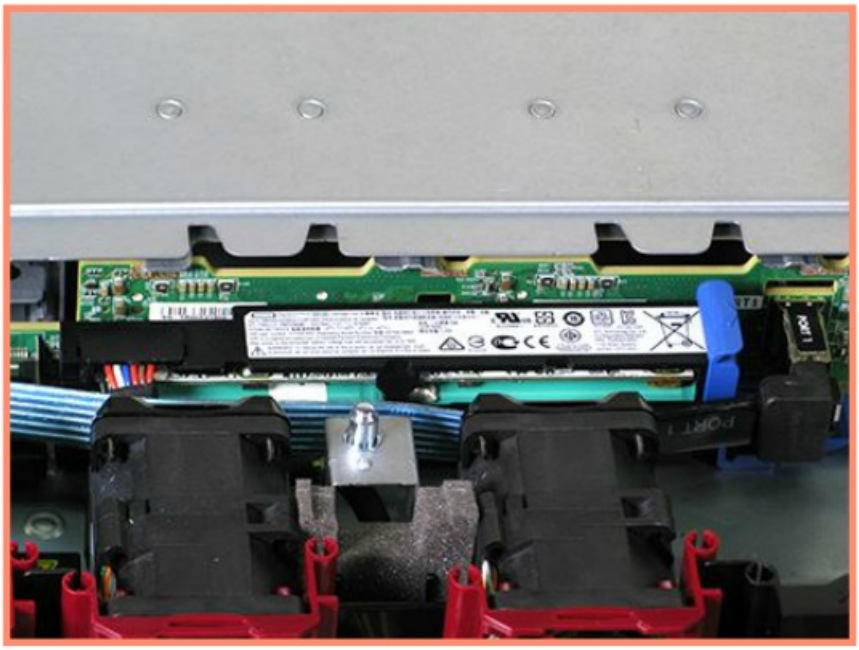
Fans

Fan



Smart storage battery

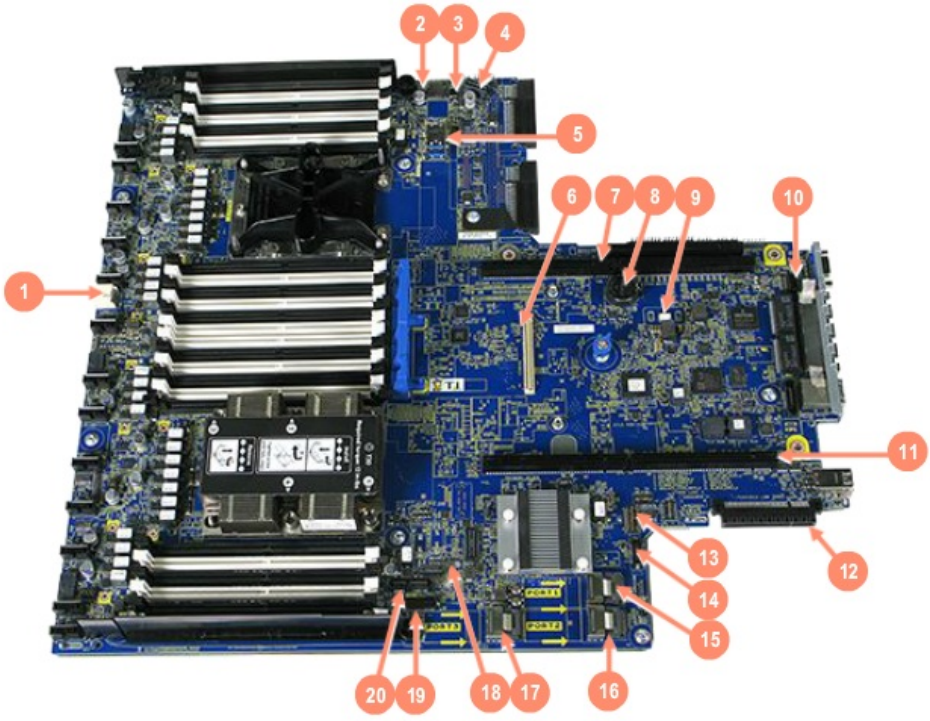
Smart storage battery



System board

System board

1. Smart storage battery
2. Micro SD card slot
3. Chassis intrusion detector
4. Drive backplane power
5. Dual internal USB 3.0
6. Type A Smart array
7. Secondary PCIe riser
8. System battery
9. TPM
10. Serial port
11. Primary PCIe riser
12. FlexibleLOM
13. System maint. switch
14. Front display port/USB 2.0
15. x4 SAS/SATA1
16. x4 SAS/SATA2
17. x2 SAS/SATA3
18. x1 SAS/SATA4
19. Optical/SATA5
20. Front power/USB 3.0



FlexibleLOM

FlexibleLOM

Precautions

To prevent damage to the unit, protect data, and avoid personal injury, review and follow these precautions.

Before you begin

1. If the unit contains heated components, wait until the components have cooled off before proceeding. Refer to the service manual for details on how long each component requires to adequately cool off.
2. Put on your electrostatic discharge (ESD) wrist or shoe strap to avoid damaging any circuitry.
3. Place an ESD mat on a suitably grounded surface, and then place the unit on the mat.
4. Remove any devices from the unit being serviced, such as diskettes, tape cartridges, or CD-ROMs.
5. Power off the unit and any peripheral devices that are connected to it.
   Note: Replacing a hot-plug device does not require powering down the unit.
6. Disconnect the power cord from the electrical outlet and then from the unit. When a unit is plugged into an AC power source, voltage is always applied to the unit. You must therefore disconnect the power cord from the power source before opening the unit.
7. Disconnect all peripheral device cables from the unit.

Static electricity

Static electricity can damage electrical components. Before removing or replacing a component, observe the following precautions to prevent damage to electric components and accessories:

- Remove all ESD-generating materials from your work area.
- To avoid hand contact, transport and store all electrostatic parts and assemblies in conductive or approved ESD packaging such as ESD tubes, bags, or boxes.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations. Before removing items from their containers, place the containers on a grounded surface.
- Do not take the new component out of its ESD package or handle any component before connecting your ESD wrist or shoe strap to a suitably grounded surface.

- Always use an ESD-protected work station when servicing the unit. If an ESD work station is not available, ground yourself to discharge body static by touching the metal chassis of the unit you are servicing.
- Avoid contact with pins, leads, or circuitry.
- Use the ESD package provided with the new part to return the old part.

Disassembly

Ensure that you take the following precautions when disassembling a unit:

- Label each cable as you remove it, noting its position and routing. This will make replacing the cables much easier and will ensure that the cables are rerouted properly.
- Keep all screws with the component removed, if applicable. The screws used in each component can be of different thread sizes and lengths. Using the wrong screw in a component could damage the unit.
- If the unit contains light-sensitive components such as toner cartridges, store the component in its original packaging or in a dark location to avoid damage.

Tools And Materials

Tools used in removal and replacement

Ensure that you have the tools you need before you begin. These should include:

- T-10 Torx screwdriver
- T-15 Torx screwdriver
- T-30 Torx screwdriver
- Insight Diagnostics

SATA/SAS Drive

SATA/SAS Drive

Before you begin:

1. Review and follow Precautions
2. Determine the status of the drive from the drive LED definitions.
3. Back up all data on the drive.

SATA/SAS Drive removal

1. Press the ejector button to release the handle.
2. Grasp the handle and slide the drive out of the bay.

SATA/SAS Drive replacement

1. With the handle extended, slide the drive into the bay until the handle starts to engage.
2. Push the handle in to lock the drive in place.

NVMe Drive

NVMe Drive

Before you begin:

1. Review and follow Precautions
2. Determine the status of the drive from the drive LED definitions.
3. Back up all data on the drive

NVMe Drive removal

Warning: The NVMe SSD is a PCIe BUS device. A device attached to a PCIe bus cannot be removed without allowing the device and bus to complete and cease the signal/traffic flow.

1. Push the Power button.
2. The Do Not Remove button will illuminate and flash. Do not push the ejector button while it is illuminated.
3. Wait until the flashing stops and the icon on the button is no longer illuminated.
4. Press the ejector button to release the handle.
5. Grasp the handle and slide the NVMe drive out of the bay.

NVMe Drive replacement

1. With the handle extended, slide the NVMe drive into the bay until the handle starts to engage.
2. Push the handle in to lock the NVMe drive in place.

Smart Carrier M.2

Note: The following video shows the Smart Carrier M.2 installed in an alternate server. However, the remove and replacement procedures are still accurate.

Smart Carrier M.2

Before you begin:

1. Review and follow Precautions.
2. Power down the server.

Smart Carrier M.2 removal

1. Push up on the ejection handle release latch to release the handle.

2. Grasp the handle and slide the Smart Carrier M.2 out of the bay.

Smart Carrier M.2 replacement

1. Slide the Smart Carrier M.2 into the bay until the handle starts to engage.
2. Push the handle in to lock the adapter in place.

UFF Drive

Note: The following video shows the uFF drive installed in an alternate server. However, the remove and replacement procedures are still accurate.

uFF Drive

Before you begin: Review and follow precautions

uFF Drive removal

1. Pull back on the drive ejection latch to release the drive.
2. Grasp the drive and slide it out of the bay.
3. Remove the screw that secures the SSD card to the sled and allow it to rise to the spring tension position.
4. Pull the card out of the socket.

uFF Drive replacement

1. Match the notch on the SSD card with the key in the socket.
2. Push the card firmly into the socket.
3. Press the card down and replace the screw.
4. Slide the drive into the bay until it locks in place.

Drive Blank

Drive Blank

Before you begin: Review and follow precautions

Drive Blank removal

1. Grasp the drive blank by the finger slots
2. Squeeze the release latch and slide the drive blank out of the bay.

Drive Blank replacement

1. Squeeze the release latch and slide the drive blank into the bay until it is fully seated.

AC Power Supply

AC power supply

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.

AC power supply removal

1. Push and hold the release latch to the left.
2. Grasp the handle and slide the power supply out of the bay.

AC power supply replacement

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

1. Slide the power supply into the bay until it locks in place.

Access Panel

Access panel

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Extend the server from the rack.

Access panel removal

1. If necessary, unlock the access panel latch with a Torx-15 screwdriver.
2. Press the release button and pull up on the latch to disengage the access panel from the chassis.
3. Lift the access panel up and off the server.

Access panel replacement

1. Ensure the access panel latch is in the open position.
2. Align the access panel guide pins with the slots in the module sides.
3. Lower the access panel onto the chassis and push the latch down to close.
4. If necessary, lock the access panel latch with a Torx-15 screwdriver.

Hot-Plug Fan

Hot-plug fan

Before you begin:

1. Review and follow Precautions.
2. Extend the server from the rack.
3. Remove the access panel

Hot-plug fan removal

CAUTION: Do not operate the server for long periods with the access panel open or removed as this can lead to lead to thermal damage. If removing a high performance or dual rotor fan you have 1 minute to replace the fan before the server begins automatic shutdown.

1. Pull the hot-plug fan straight up and out of the fan cage.

Note: Once you remove a fan, the rest of the fans will go to blowout.

Hot-plug fan replacement

1. Lower the fan onto the fan guide pins and press down to pull seat the hot-plug fan.

Fan Blank

Fan blank

Before you begin:

1. Review and follow Precautions.
2. Extend the server from the rack.
3. Remove the access panel

Fan blank removal

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. Pull the Fan blank straight up and out of the fan cage.

Fan blank replacement

1. Lower the Fan blank onto the guide pins and press down to pull seat the hot-plug fan.

Universal Media Bay Blank

Universal media bay blank

Before you begin:

1. Review and follow Precautions.

Universal media bay removal

1. Remove the 3 Torx-10 screws securing the Universal Media Bay blank to the server chassis.
2. Grasp the Universal Media Bay blank and pull out to remove it from the server.

Universal media bay replacement

1. Push the Universal Media Bay blank into the server until it is fully seated.
2. Replace the 3 Torx-10 screws securing the Universal Media Bay blank to the server chassis.

Drive Backplane

Drive backplane

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the access panel.
6. Remove the drives.
7. Remove the smart storage battery.

Drive backplane removal

Note: There are different drive backplane configurations available for this unit. This video depicts the 8 SFF drive cage.

1. Remove all cables connected to the drive backplane.
2. Lift up at the edge and remove the Smart Storage Battery retaining clip.

3. Lift up the tab and slide the drive backplane towards the left of the chassis until it stops.
4. Remove the drive backplane.

Drive backplane replacement

1. Position the drive backplane under the retaining tabs and reinsert it into the chassis.
2. Slide the drive backplane towards the right of the chassis until it stops.
3. Reconnect all the cables back to the drive backplane.

DIMMs

DIMM

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.
6. Remove the access panel.

DIMM removal

1. Push down and out on the DIMM slot latches to release the DIMM.
2. Remove the DIMM from the slot.

DIMM replacement

IMPORTANT: This server does not support mixing RDIMMs and UDIMMs. Attempting to mix these two types causes the server to halt during BIOS initialization.

1. Ensure the DIMM slot latches are open.
2. Align the notch in the DIMM with the DIMM slot key.
3. Push the DIMM down firmly into the slot until the latches snap into place and the module is fully seated.

PCI Riser Cage

PCI riser cage

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the access panel.

PCI riser cage removal

1. Disconnect any cables attached to the expansion boards.
2. Grasp the riser cage at the touch points and lift it out of the chassis.

PCI riser cage replacement

1. Align the flanges on the riser cage with the slots on the back of the chassis.
2. Slide the riser cage down into the slots until the guide pins enter the notches in the chassis.
3. Press down on the riser cage until the board is fully seated.
4. Connect any cables needed to expansion boards in the riser cage.

PCI Riser Card

PCI riser card

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the access panel.
6. Remove the PCI riser cage.
7. Remove any expansion boards from the riser cage.

PCI riser board removal

1. Remove the two Torx-15 screws that secure the riser card to the riser cage.
2. Slide the card away from the retaining pins on the cage and remove.

PCI riser board replacement

1. Making sure to align with the retaining pins, lower the riser card onto the riser cage.
2. Replace the two Torx-15 screws that secure the riser card to the riser cage.

PCIe Blank

PCIe blank

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the access panel.
6. Remove the PCI riser cage.

PCIe blank removal

1. Grasp the PCIe blank and pull out to remove it.

PCIe blank replacement

1. Push the PCIe blank into the PCI riser cage.

Storage Controller

Storage Controller

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the access panel.

Storage Controller removal

1. Disconnect the cables from the storage controller.
2. Loosen the two Torx-10 captive thumbscrews that secure the storage controller to the system board.
3. Pull up on the blue tab to disconnect the storage controller from the system board and then lift to remove.

Storage Controller replacement

1. Align the holes in the storage controller with the guide pins on the system board and lower it into place.
2. Press the storage controller down at the touch point until it is fully seated.
3. Tighten the two Torx-10 screws.
4. Re-connect the cables to the storage controller.

System Battery

System battery

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. If installed, remove the secondary PCI riser cage.

System battery removal

1. Pull the retaining clip away from the battery.
2. Noting the orientation for replacement, lift the battery out of the socket.

System battery replacement

1. Noting the orientation from removal, insert the battery into the socket.

Smart Storage Battery

Smart Storage Battery

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.
6. Remove the access panel.

7. Remove the fan cage with fans installed.

Smart Storage Battery removal

1. For better access to the smart storage battery, remove the Port 1 cable from the drive backplane.
2. Remove Smart Storage battery cable from the system board.
3. Open the bracket securing the smart storage battery to the server chassis.
4. Noting the orientation for replacement, rotate the smart storage battery away from the latch and remove it.

Smart Storage Battery replacement

1. Noting the orientation from removal, toe the Smart Storage battery into the notch on the server chassis.
2. Press down to secure the smart storage battery into the bracket.
3. Replace the Smart Storage battery cable to the system board.
4. Replace the Port 1 cable to drive backplane.

SFF Power Switch Module

SID module

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.
6. Remove the access panel.

SFF power switch module removal

1. Remove the SID module cable from the system board.
2. Remove the Torx-10 screw securing the SID module to the server chassis.
   NOTE: The SID module should be secured with 3 Torx-10 screws. The unit show in the video is a preproduction unit and did not have the correct number of screws.
3. Grasp the SID module and pull away from the server to remove it.

SID module replacement

1. Guide the SID module cable through the opening on the front of the server.
2. Replace the SID module in the front of the server.
3. Replace the Torx-10 screw securing the SID module to the server chassis.

4. Replace the SID module cable to the system board.

SFF Standard Chassis Ear

SFF standard chassis ear

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.

SFF standard chassis ear removal

1. Remove the three Torx-10 screws securing the SFF standard chassis ear to the server chassis.
2. Grasp the SFF standard chassis ear and pull away from the server to remove it.

SFF standard chassis ear replacement

1. Replace the SFF standard chassis ear in the front of the server.
2. Replace the three Torx-10 screws securing the SFF standard chassis ear to the server chassis.

FlexLOM

FlexLOM

Before you begin:

1. Review and follow Precautions.
2. Power down the server and remove it from the enclosure.
3. Remove the access panel
4. Remove the primary riser cage.

FlexLOM removal

1. Unscrew the Torx-15 captive screw securing the FlexibleLOM to the server chassis.
2. Using the touchpoints, push the FlexibleLOM away from the system board.
3. Remove the FlexibleLOM

FlexLOM replacement

1. Align the FlexibleLOM board with the connectors on the system board.
2. Using the touchpoints, push the FlexibleLOM towards the system board.
3. Tighten the Torx-15 captive screw securing the FlexibleLOM to the server chassis.

System Board

System board

Before you begin:

1. Review and follow Precautions.
2. Power down the server.
3. Disconnect each power cord from the power source.
4. Disconnect each power cord from the server.
5. Remove the server from the rack.
6. Remove the power supplies
7. Remove the access panel.
8. Remove all riser cages.
9. Remove the Flex LOM.
10. Remove all fans.
11. Disconnect the smart storage battery.
12. Remove the storage controller.
13. Remove the DIMMs
14. Remove the system battery.
15. Remove the heatsinks and processors.
16. Remove heatsink blanks.
17. Remove all cables from the system board.
18. Remove all fan blanks.

System board removal

1. Unscrew the Torx-15 captive screw securing the system board to the bottom of the chassis.
2. Slide the system board forward until it stops.
3. Lift the system board up and remove it from the chassis.

System board replacement

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

1. Lower the front of the system board into the chassis.
2. Slide the system board toward the back of the chassis until the board is seated.

3. Tighten the Torx-15 captive screw securing the system board to the bottom of the chassis.