HPE ProLiant BL460c G6 Server Blade - Parts Support Guide

Part Number: External
Published: 2020
Edition: 1

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Abstract

This document will help you identify parts of the product and also gives a step-by-step instruction on how to remove and replace the components.

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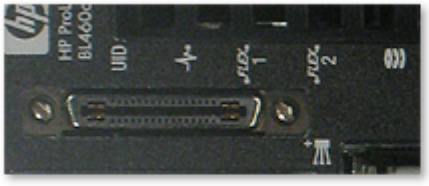
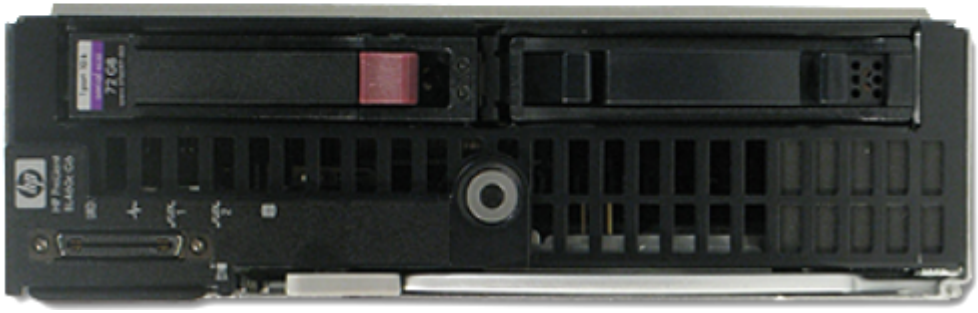
Front view





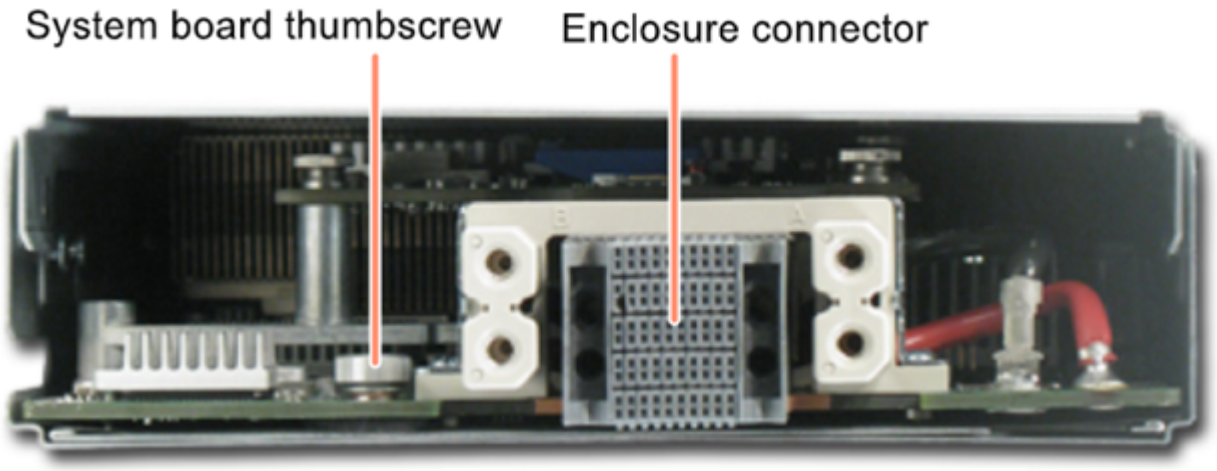
Subtopics

Access Panel

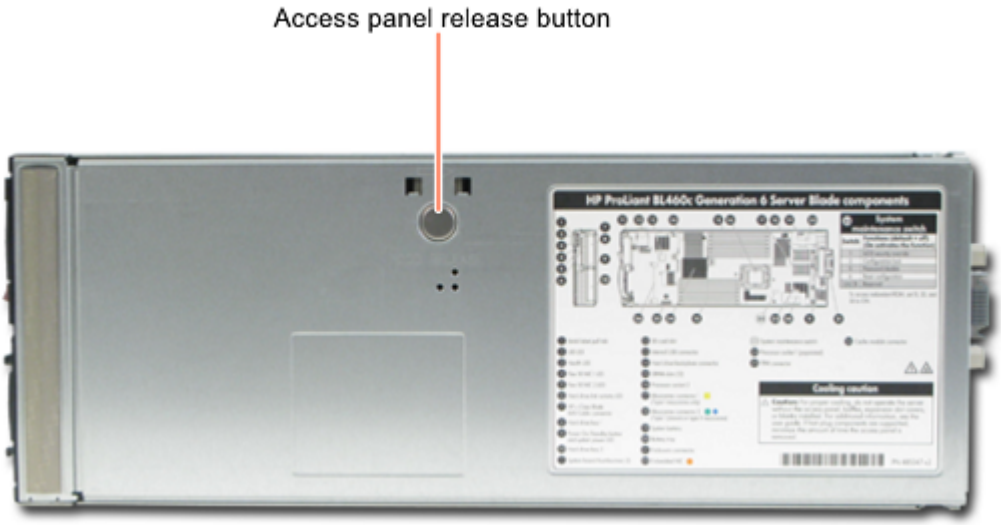
Access Panel



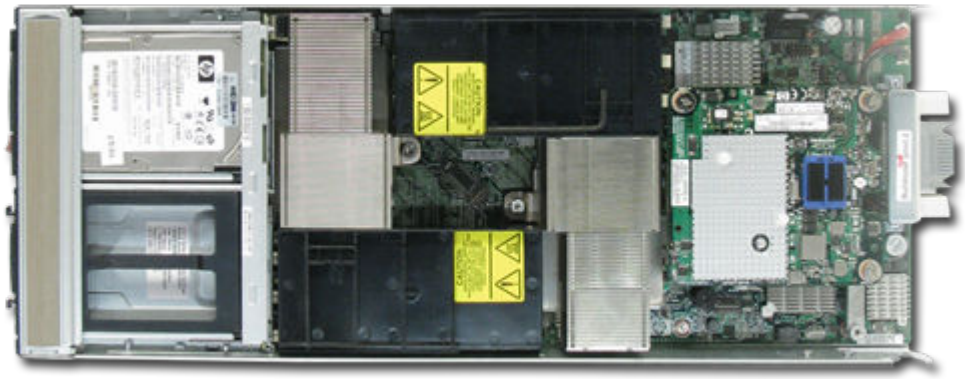
Back view



Top view



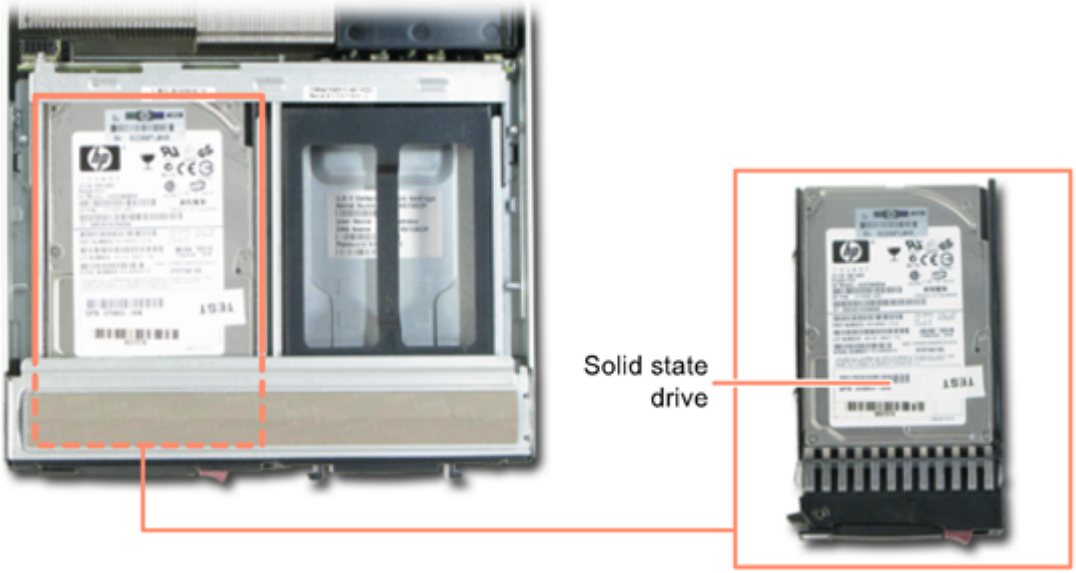
Intenal view 1



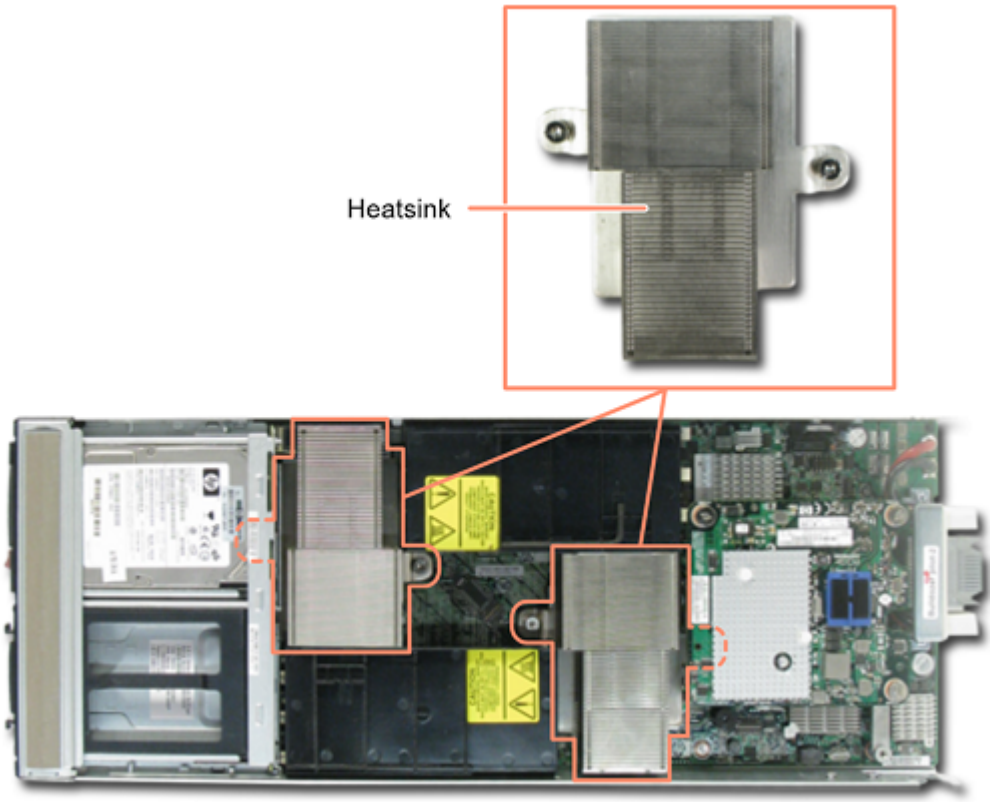
Subtopics

- **Solid State drive**
- **Heatsinks**
- **Battery-backed write cache battery pack**
- **Battery tray**
- **Mezzanine card**
- **DIMM baffles**
- **Hard drive backplane**
- **Server release lever and release button**
- **Front panel and Hard drive cage assembly**

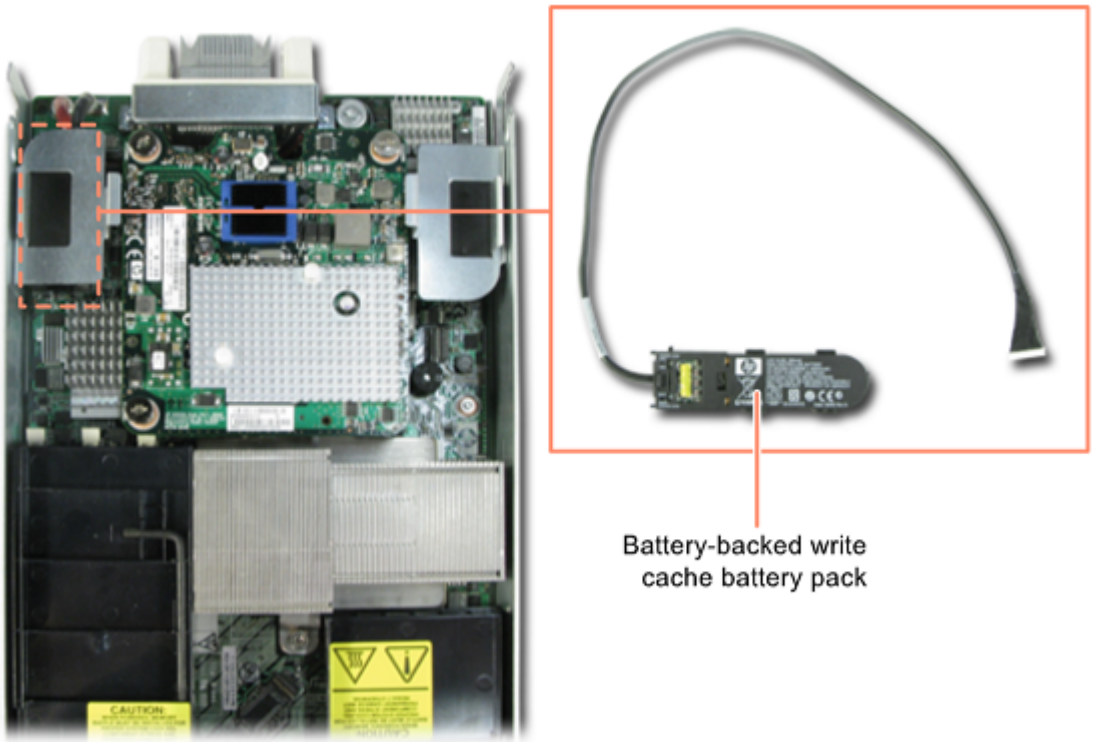
Solid State drive



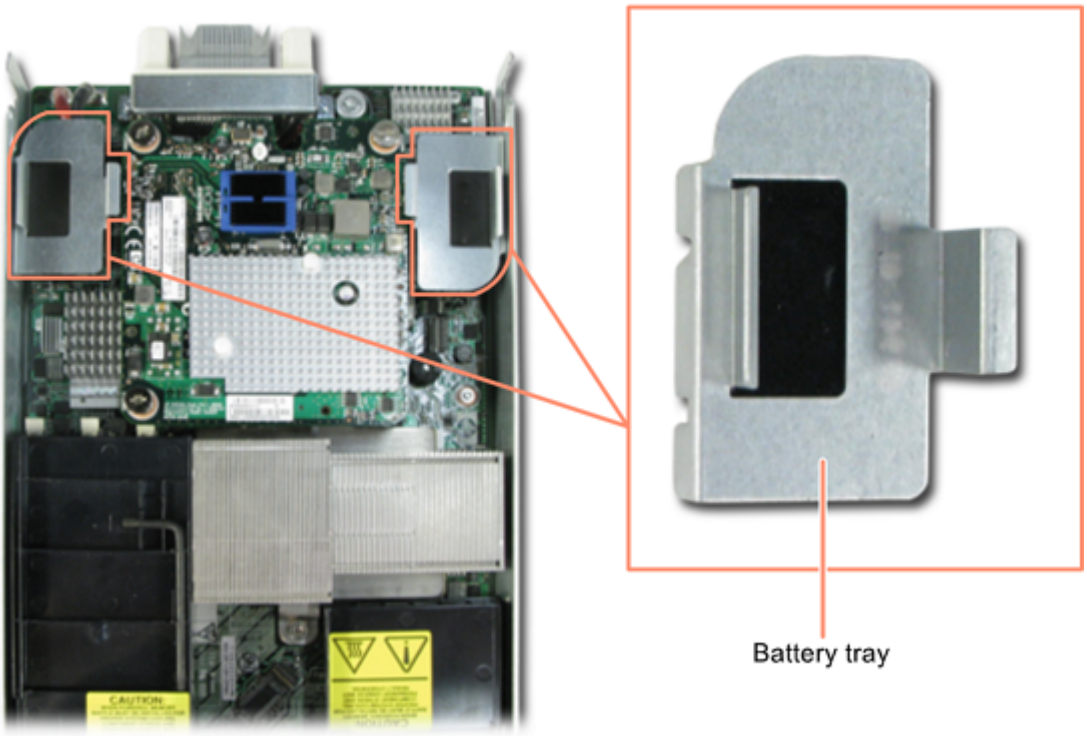
Heatsinks



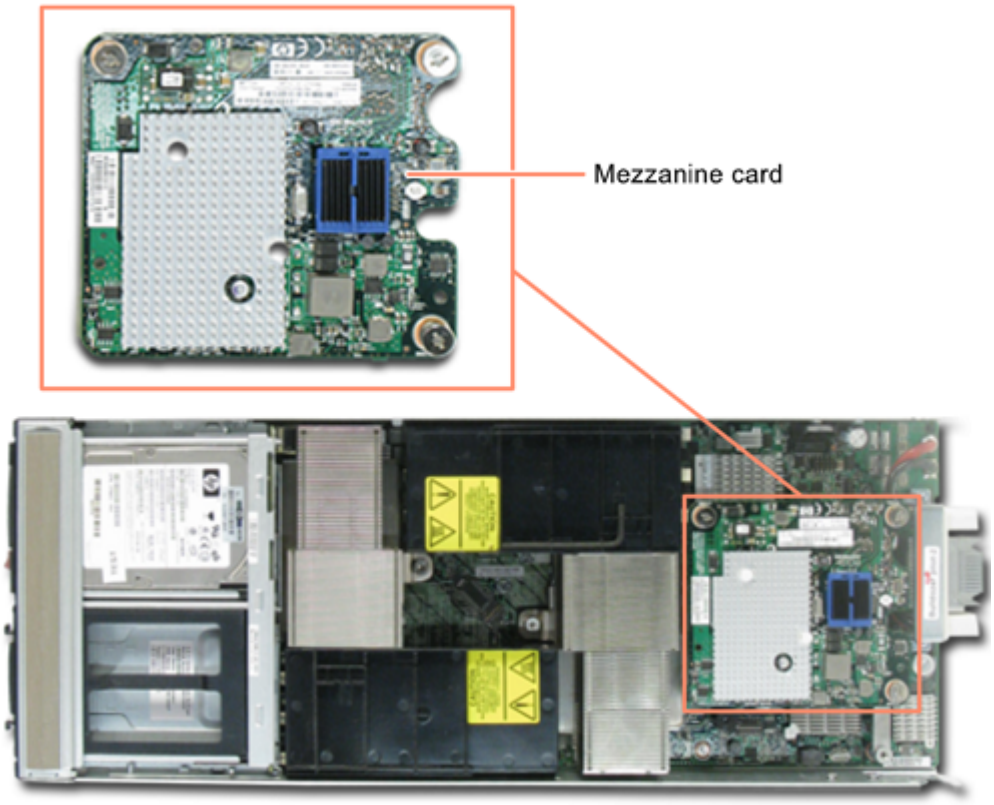
Battery-backed write cache battery pack



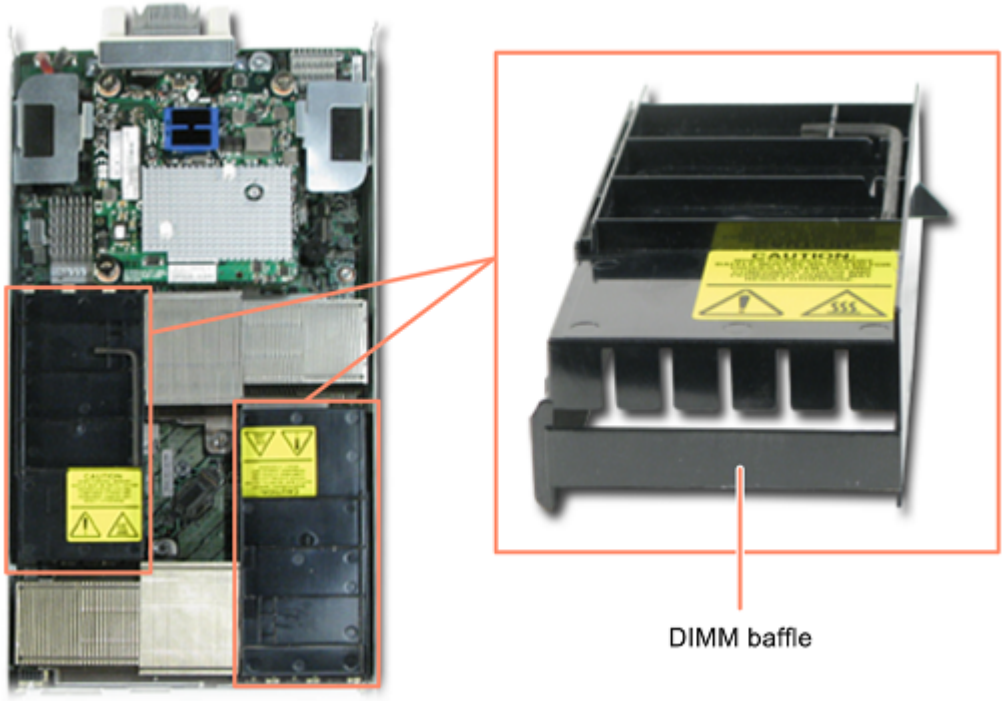
Battery tray



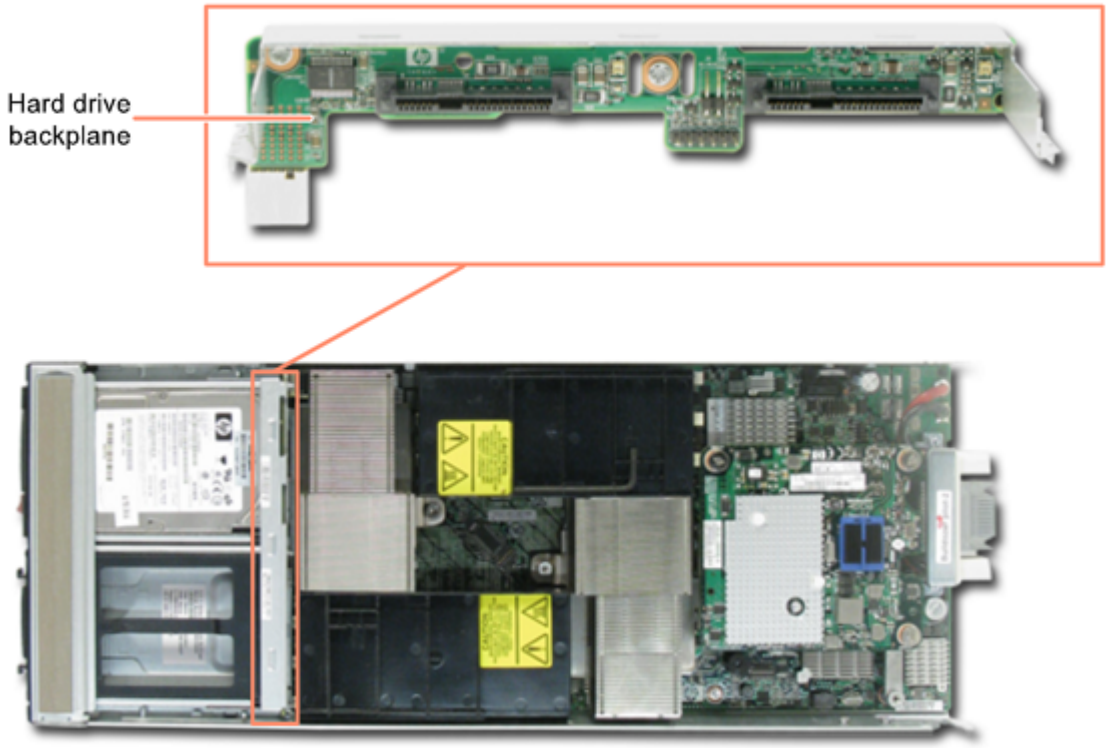
Mezzanine card



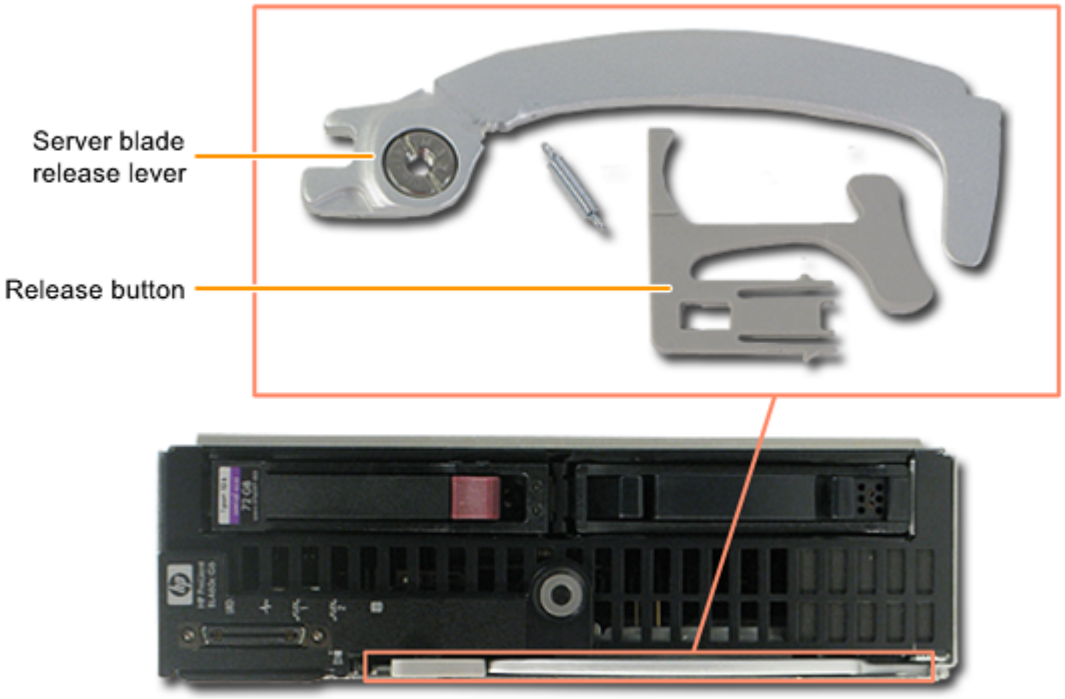
DIMM baffles



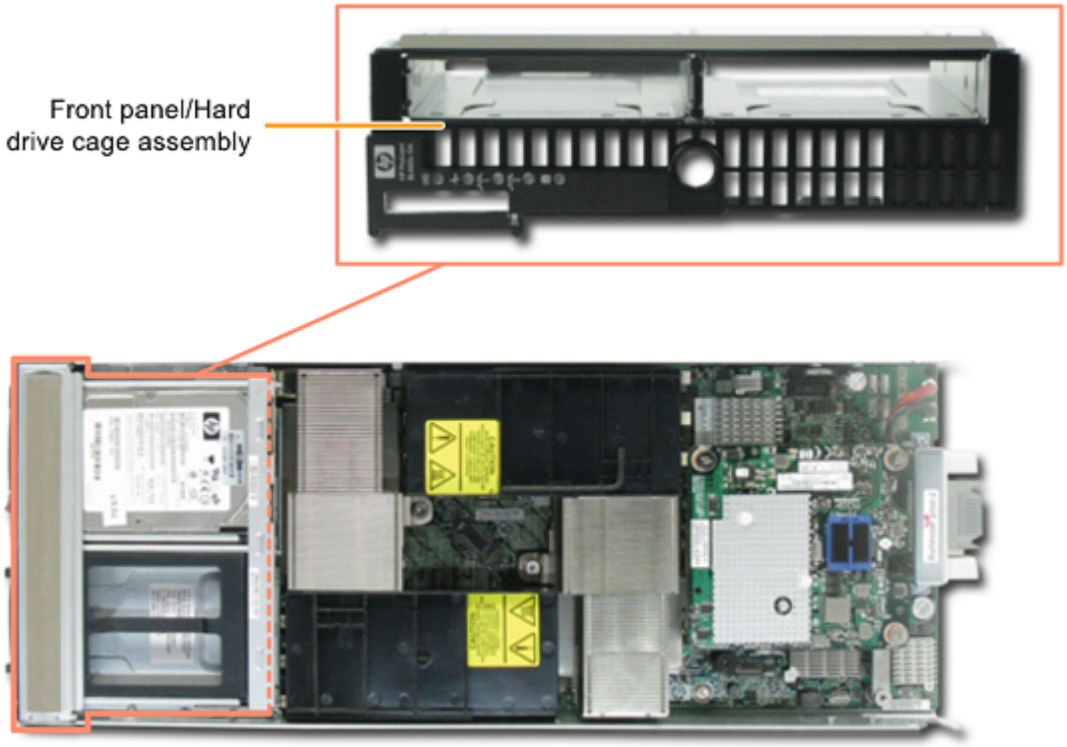
Hard drive backplane



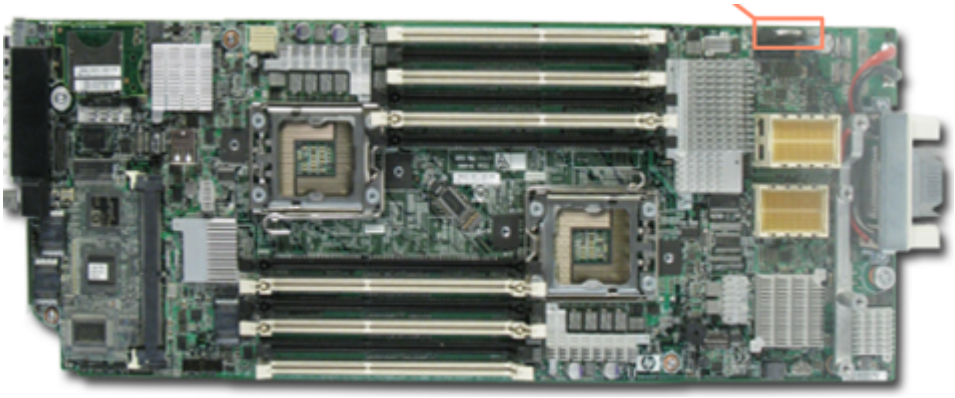
Server release lever and release button



Front panel and Hard drive cage assembly



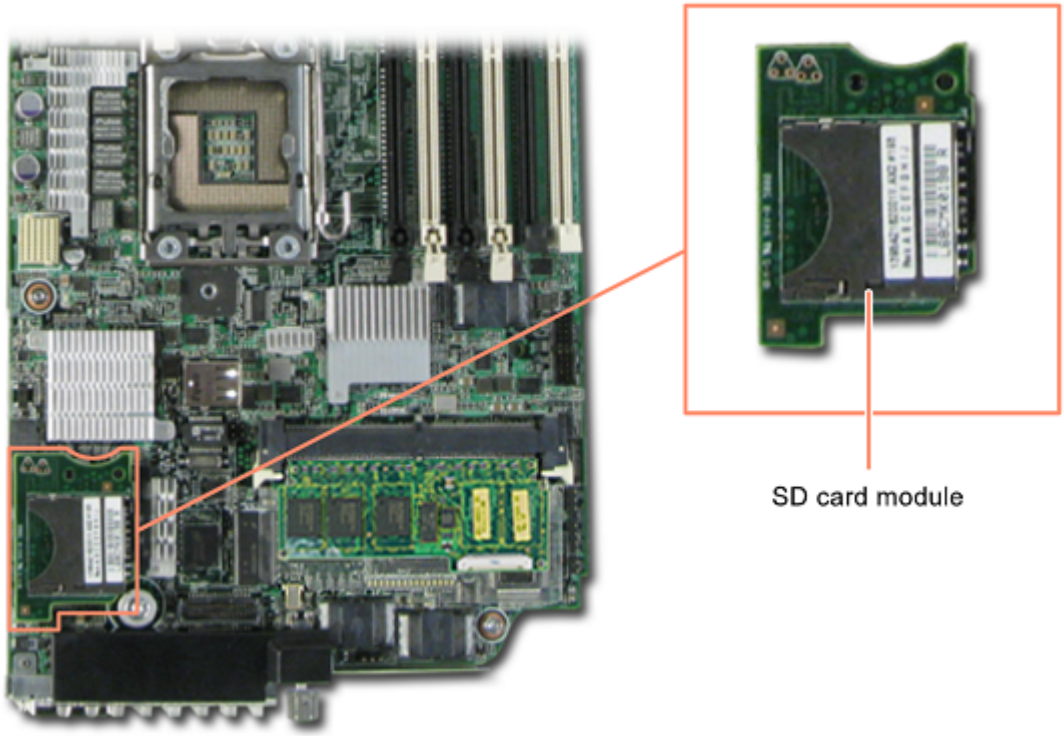
Internal view 2



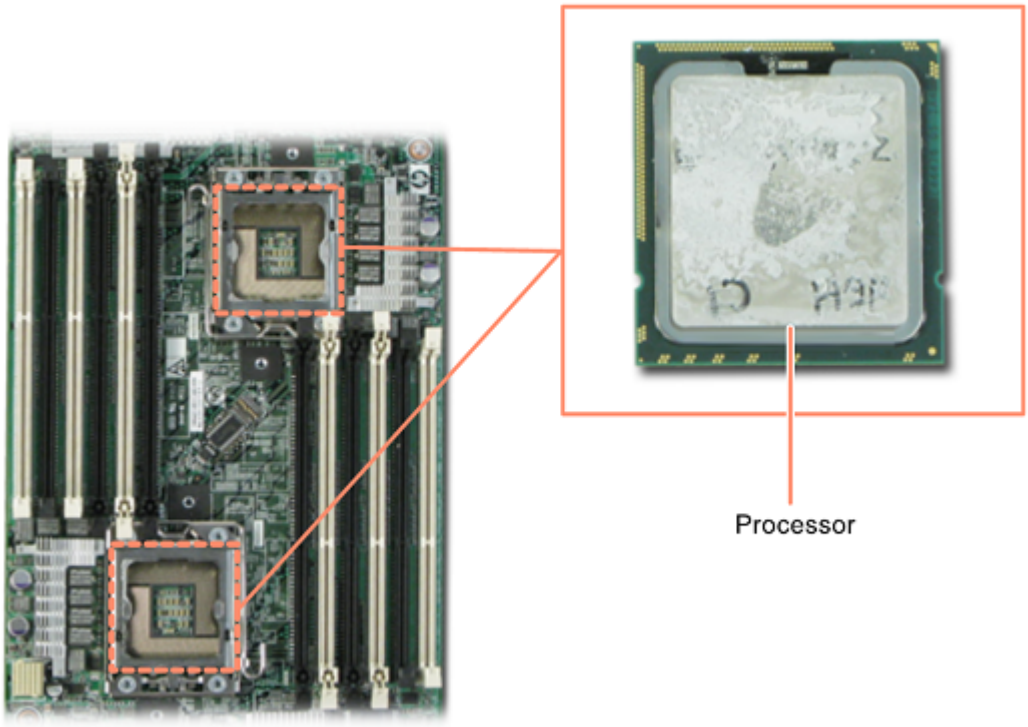
Subtopics

- **SD card module**
- **Processor**
- **System battery**
- **System board**
- **DIMMs**
- **Battery-backed write cache module**

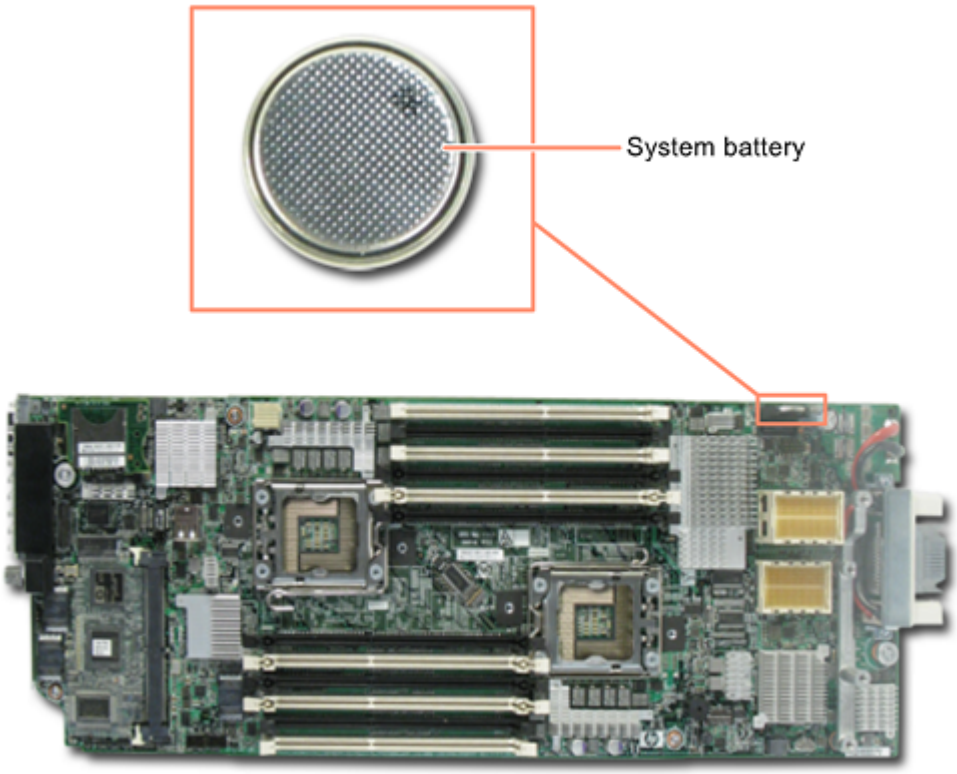
SD card module



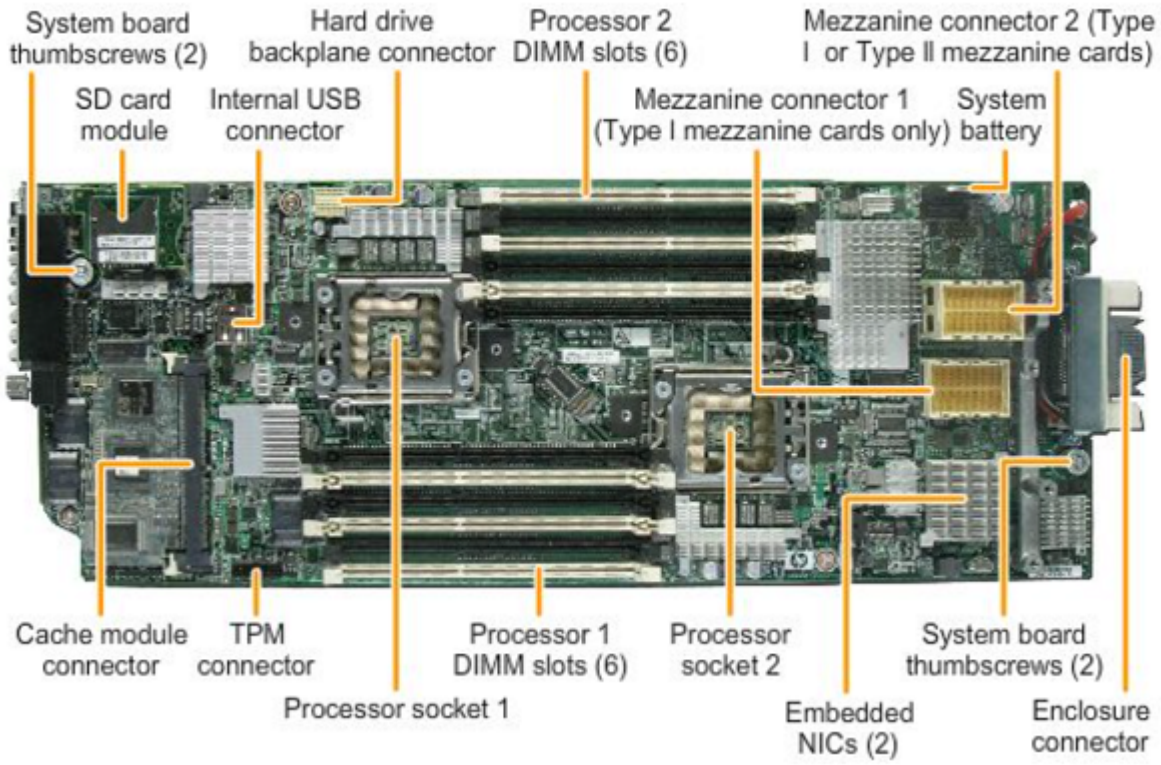
Processor



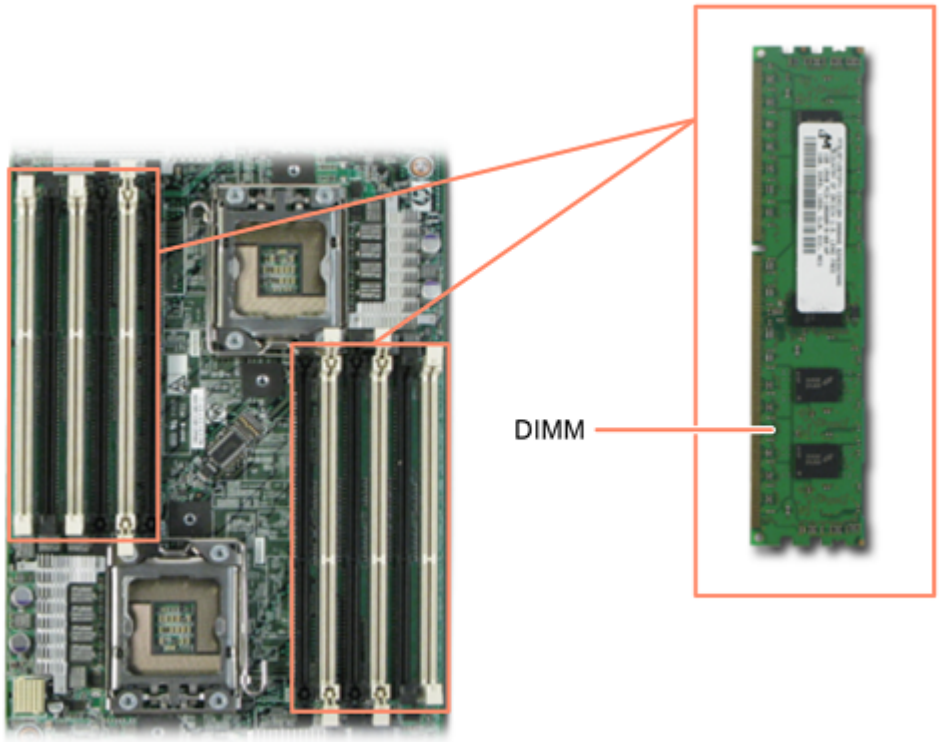
System battery



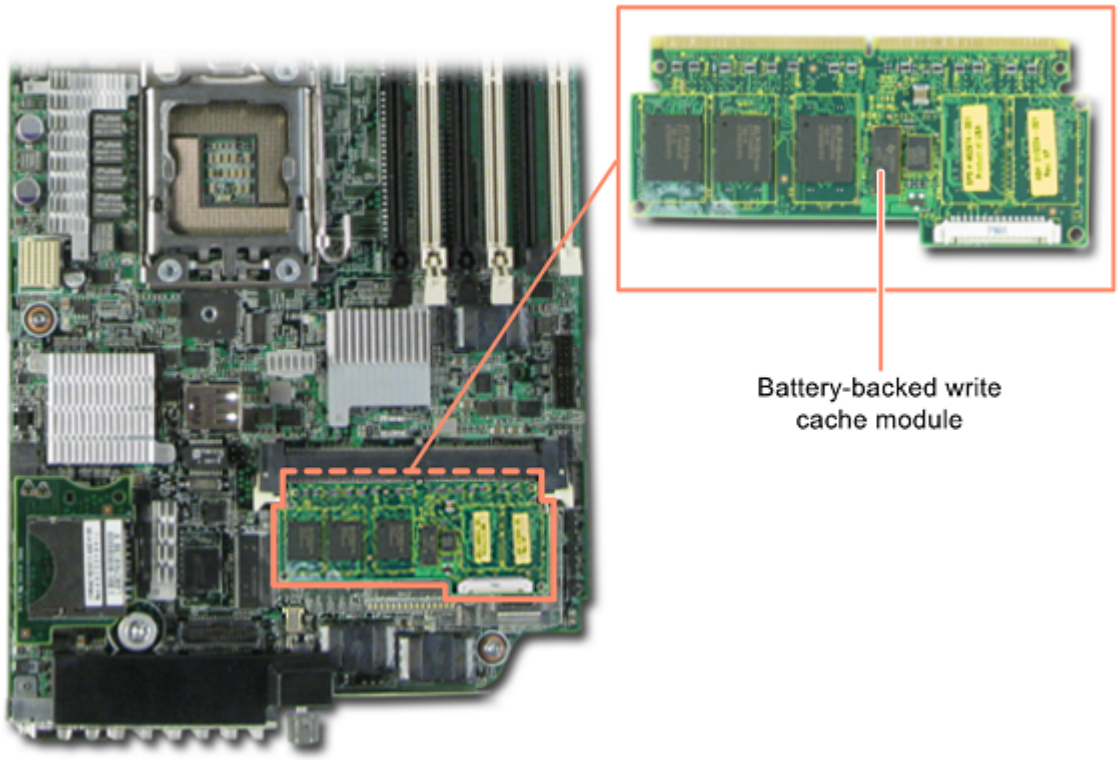
System board



DIMMs



Battery-backed write cache module



Required Tools

You need the following items for certain procedures:

- T15 Torx screwdriver (provided inside the access panel)
- HP Insight Diagnostics software ("HP Insight Diagnostics")
- Alcohol swab
- Thermal grease

Preparation Procedures

To service any internal server blade component, power down the server blade and remove it from the enclosure.

Power down the server blade

Before powering down the server blade for any upgrade or maintenance procedures, perform a backup of critical server data and programs.

Depending on the Onboard Administrator configuration, use one of the following methods to power down the server blade:

- Use a virtual power button selection through iLO 2
- Press and release the Power on/Standby button
- Press and hold the Power on/Standby button for more than 4 seconds to force the server blade to enter Standby mode
- Execute one of the following commands using the Onboard Administrator CLI:
  - poweroff server all, or
  - poweroff server all force
- Use the Onboard Administrator GUI to initiate a shutdown

After initiating a virtual power down command, be sure that the server blade goes into Standby mode by observing that the system power LED is amber.

Remove the server blade

Caution! Do not use the server blade release lever to lift or carry the server blade. Always support the weight of the server blade by handling the chassis directly. Improper use can damage the release lever and the server blade.

1. Identify the proper server blade ("Front panel LEDs" on page 56 of the MSG).
2. Power down the server blade (on page 23).
3. Remove the server blade.
4. Place the server blade on a flat, level work surface.

Safety Considerations

Before installing a server, be sure that you understand the following warnings and cautions.

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device. To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Server blade warnings and cautions

WARNING! To reduce the risk of shock or injury from high-current electrical energy, do not remove the server blade access panel and then install the server blade into the enclosure.

WARNING! To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

WARNING! Do not operate the server blade with the access panel removed. Operating the server blade in this manner results in improper airflow and improper cooling that can lead to thermal damage.

Caution! When performing non-hot-plug operations, you must power down the server blade and/or the system. However, it may be necessary to leave the server blade powered up when performing other operations, such as hot-plug installations or troubleshooting.

Access Panel

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000806en_us&noframe

Access panel removal

To remove the component:

1. Power down the server blade
2. Remove the server blade
3. Press the access panel release button, and then slide the access panel to the rear to remove it.

Access panel replacement

To replace the component:

1. Place the access panel on top of the server blade with the hood latch open. Allow the panel to extend past the rear of the server blade approximately 0.8cm (0.2-inch).
2. Engage the anchoring pin at the rear of the server with the corresponding hole in the latch.
3. Push down on the access panel and slide to a closed position.

Hard Drive

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000807en_us&noframe

Hard drive removal

To remove the component:

1. Back up all data on the hard drive.
2. Power down the server blade.
3. Remove the hard drive by pushing the release button, then pull the release lever to remove the drive.

Hard drive replacement

To replace the component, reverse the removal procedures.

Battery Tray

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000808en_us&noframe

Battery tray removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the battery tray by lifting straight up.

Battery tray replacement

To replace the component, reverse the removal procedure.

Mezzanine Connector Cover

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000809en_us&noframe

Mezzanine connector cover removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the mezzanine connector cover.

Mezzanine connector cover replacement

To replace the component, reverse the removal procedures.

DIMM Baffle

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000810en_us&noframe

DIMM baffle removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the DIMM baffle by lifting straight up.

DIMM baffle replacement

To replace the component, reverse the removal procedures.

DIMM

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000811en_us&noframe

DIMM removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the DIMM baffle covering the appropriate DIMM socket.
5. Remove the DIMM by pressing down on each release latch on both sides of the DIMM, then lifting straight up.

DIMM replacement

To replace the component, reverse the removal procedures.

Mezzanine Card

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000812en_us&noframe

Mezzanine card removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the mezzanine card by loosening the thumbscrews then lifting straight up.

Mezzanine card replacement

To replace the component:

1. Install the mezzanine card. Press down on the connector to seat the board.
2. Install the access panel.
3. Install the server blade.

Hard Drive Backplane

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000813en_us&noframe

Hard drive backplane removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane by gripping both sides, then lifting straight up.

Hard drive backplane replacement

To replace the component:

1. Install the hard drive backplane. Press down on the hard drive backplane retainer to seat the board.
2. Install the hard drives.
3. Install the hard drive blanks.
4. Install the access panel.
5. Install the server blade.

Front Panel/Hard Drive Cage Assembly

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000814en_us&noframe

Front panel/Hard drive cage assembly removal

To remove the component:

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

4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the two screws from the front panel/hard drive cage assembly, one on each side of the server blade.
8. Remove the front panel/hard drive cage assembly by lifting straight up.

Front panel/Hard drive cage assembly replacement

To replace the component, reverse the removal procedures.

Battery-Backed Write Cache Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000815en_us&noframe

Battery-backed write cache module removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly
8. Disconnect the BBWC cable from the cache module.
9. Remove the battery-backed write cache module.

Caution! To prevent damage to the cache module during installation, be sure the cache module is fully inserted before pressing down.

Battery-backed write cache module replacement

To replace the component, reverse the removal procedures.

Battery-Backed Write Cache Battery Pack

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000816en_us&noframe

Battery-backed write cache battery pack removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Disconnect the BBWC cable from the cache module.
5. Remove the battery pack.

Battery-backed write cache battery pack replacement

To replace the component, reverse the removal procedures.

SD Card Module

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000817en_us&noframe

SD card module removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly
8. To remove the SD card module grasp firmly by the edges and pull straight up.

SD card module replacement

To replace the component, reverse the removal procedures.

Heat Sink

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000818en_us&noframe

Heat sink removal

WARNING! To reduce the risk of personal injury from hot surfaces, allow the drives and internal system components to cool before touching them.

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly
8. Remove the heat sink by loosening the thumbscrews, then lifting straight up.

Heat sink replacement

To replace the component:

1. Clean the old thermal grease from the processor with an alcohol swab.
2. Apply all grease to the top of the processor in an S pattern to ensure even distribution.
3. Align and install the heat sink. Alternate tightening the screws until the heat sink is seated properly.
4. Install the front panel/hard drive cage assembly.
5. Install the hard drive backplane.
6. Install the hard drives.
7. Install the hard drive blanks.
8. Install the access panel.

9. Install the server blade.

Processor

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000819en_us&noframe

Processor removal

Caution! To avoid damage to the processor: Handle the processor only by the edges. Do not touch the bottom of the processor, especially the contact area.

Caution! THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the system board: - Never install or remove a processor without using the processor installation tool.- Do not touch the processor socket contacts.- Do not tilt or slide the processor when lowering the processor into the socket.- Your processor installation tool may differ from the one shown here. The general procedures and cautions for removal and replacement still apply.

Update the system ROM. Locate and download the latest ROM version from the HP website.

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly.
8. Remove the heat sink.
9. Open the processor locking lever and the processor socket retaining bracket.
.0. Align the processor installation tool over the processor with the locking lever graphic correctly oriented.
.1. Press in on the release tabs on the side of the tool and lower it onto the processor.
.2. With the processor in place, release the tabs to firmly grasp the processor into the mouth of the tool.
.3. Lift the processor straight up and out of the socket.
.4. To help ensure that the processor remains in the tool, carefully rotate the tool, and then push in and release the tabs to secure the processor in the tool.

Processor replacement

To replace the component:

Caution! To avoid damage to the system board, processor socket, and screws, do not overtighten the heat sink screws. Use the wrench supplied with the system to reduce the possibility of overtightening the screws.

Caution! Failure to completely open the processor locking lever prevents the processor from seating during installation, leading to hardware damage.

1. Insert the processor into the processor installation tool. Handle the processor by the edges only, and do not touch the bottom of the processor, especially the contact area.**Caution! Ensure that the alignment pins on the tool are aligned with the cutouts on the processor. If the processor is not inserted correctly, it may be destroyed.Important! Be sure the processor remains inside the processor installation tool.**
2. Align the processor installation tool with the socket, and then install the processor.
3. Press the tabs on the processor installation tool to separate it from the processor, and then remove the tool.
4. Close the processor socket retaining bracket and the processor locking lever.**Caution! Be sure to close the processor socket retaining bracket before closing the processor locking lever. The lever should close without resistance. Forcing the lever closed can damage the processor and socket, requiring system board replacement.**
5. Clean the old thermal grease from the heat sink and the top of the processor with an alcohol swab. Allow the alcohol to evaporate before continuing.
6. Apply thermal grease in an pattern of five big dots on the surface of the processor.
7. Align and install the heat sink. Alternate tightening the screws until the heat sink is seated properly.
8. Install the front panel/hard drive cage assembly.
9. Install the hard drive backplane.
10. Install the hard drives.
11. Install the hard drive blanks.
12. Install the access panel.
13. Install the server blade.

System Board

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000820en_us&noframe

System board removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly.
8. Remove all DIMMs.
9. Remove all mezzanine cards, if installed.
10. Remove the heat sinks, if both are installed.
11. Remove the processor from the failed system board.
12. Repeat the processor removal steps for second processor, if installed.
13. Remove the system board assembly by loosening the two thumbscews, then slide the system board completely to the rear of the server chassis.

System board replacement

To replace the system board:

1. Install the spare system board.
2. Prepare the processor socket on the spare system board:
   a. Open the processor retaining latch and the processor socket retaining bracket.
   b. Remove the processor socket protective cover.
3. Install the processor socket cover onto the processor socket of the failed system board.
4. Install the processor on the spare system board.
5. Repeat the steps for second processor, if installed.

6. Install the heat sinks.
7. Install all components removed from the failed system board.
8. Install the front panel/hard drive cage assembly.
9. Install the hard drive backplane.
10. Install the hard drives.
11. Install the hard drive blanks.
12. Install the access panel.
13. Install the server blade.

System Battery

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000821en_us&noframe

System battery removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove the mezzazine card, if installed.
5. Identify the battery location.
6. Remove the battery.

System battery replacement

To replace the component, reverse the removal procedures.

Server Blade Release Lever

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000822en_us&noframe

Server blade release lever removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly.
8. Remove the server blade release lever by removing the screw then unlatching the spring.

Server blade release lever replacement

To replace the component, reverse the removal procedure.

Release Button

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00000823en_us&noframe

Release button removal

To remove the component:

1. Power down the server blade.
2. Remove the server blade.
3. Remove the access panel.
4. Remove all hard drives.
5. Remove all hard drive blanks.
6. Remove the hard drive backplane.
7. Remove the front panel/hard drive cage assembly.
8. Remove the system board. System board components, such as DIMMs, heat sinks, and mezzanine cards, that do not interfere with the removing of the system board can remain on the system board.

9. Remove the release button by depressing the two release levers and slide it to the rear.

Release button replacement

To replace the component, reverse the removal procedure.