HPE ProLiant BL680c G5 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

- **Front panel LEDs**
- **Front panel hard drive cage**
- **Hot plug hard drive**

Front panel LEDs



Front panel hard drive cage



Hot plug hard drive





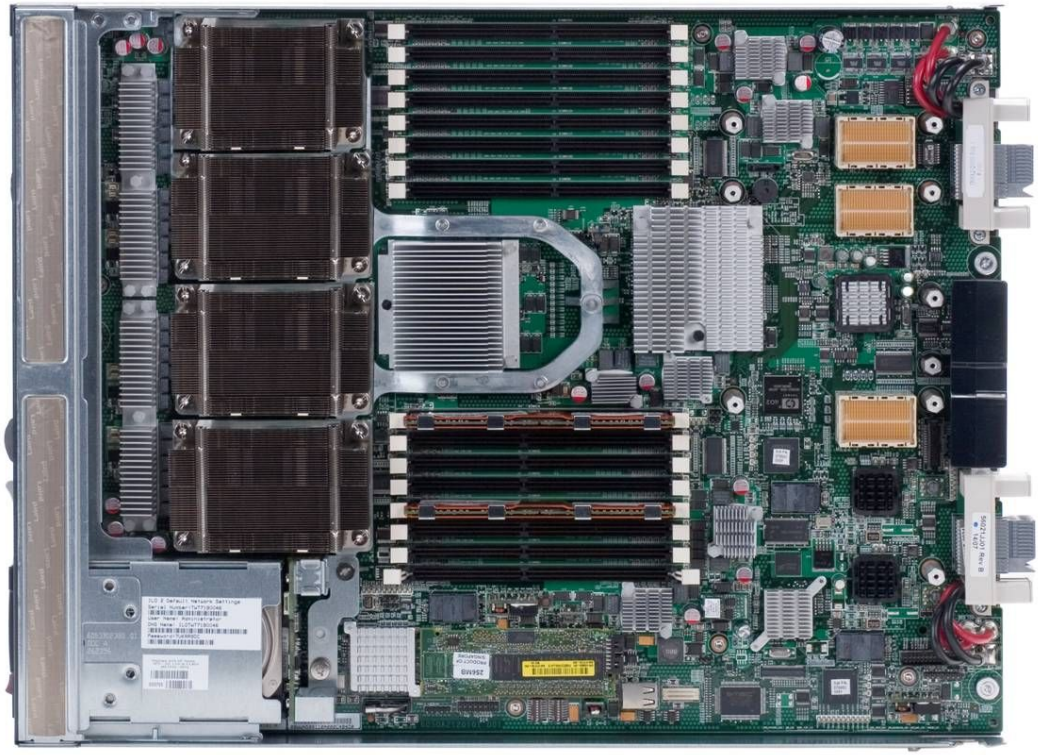
Back view



Right view



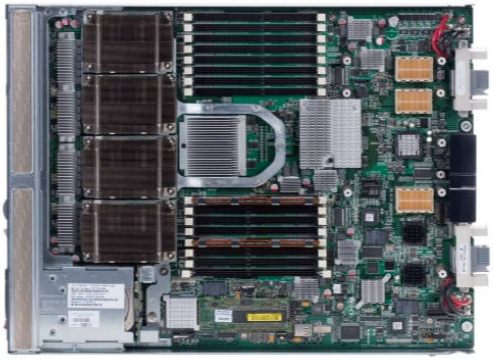
Internal view



Subtopics

- **DIMM**
- **IO mezzanine connectors**
- **System board**
- **System array E200i cache module**
- **System battery**
- **Processor and heatsink**

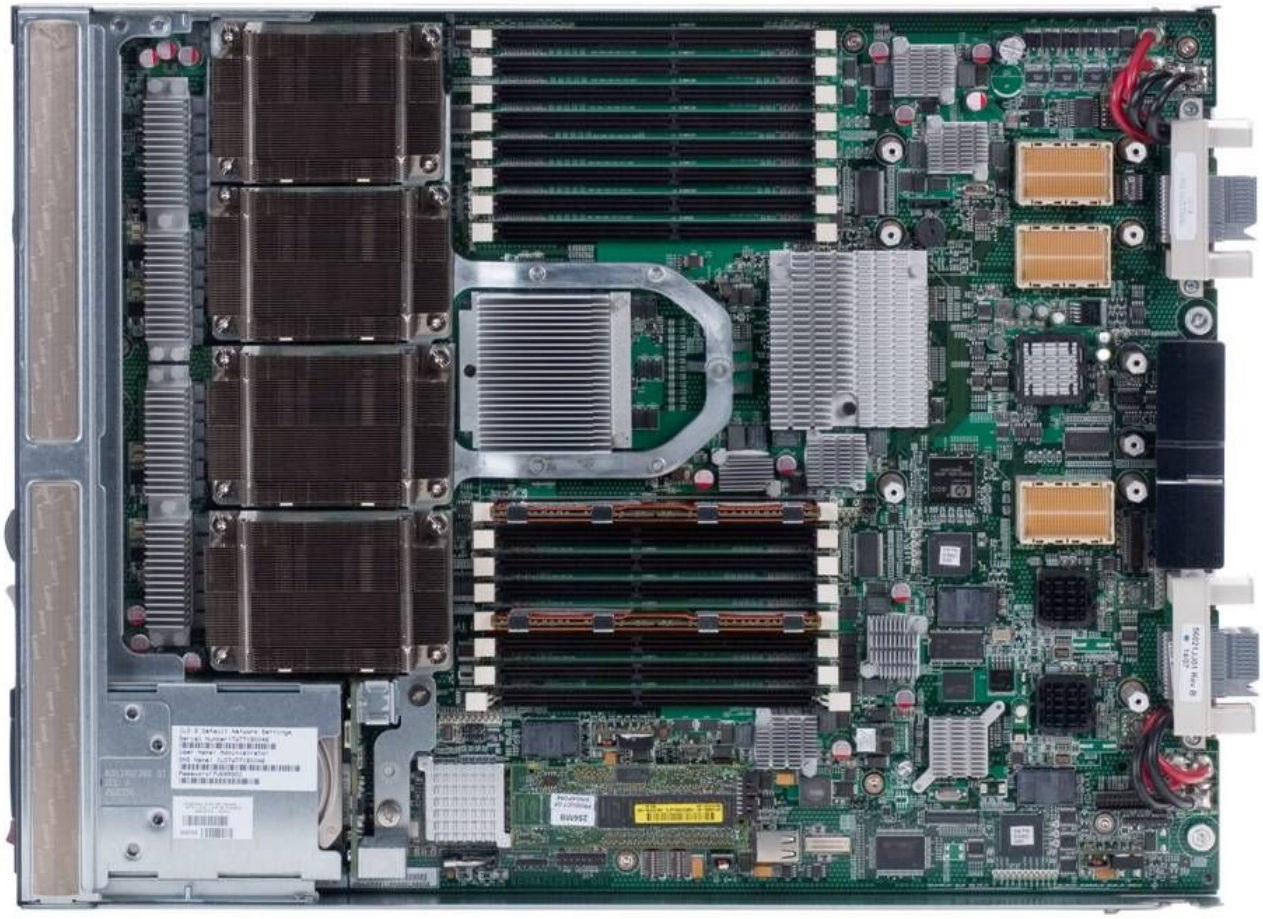
DIMM



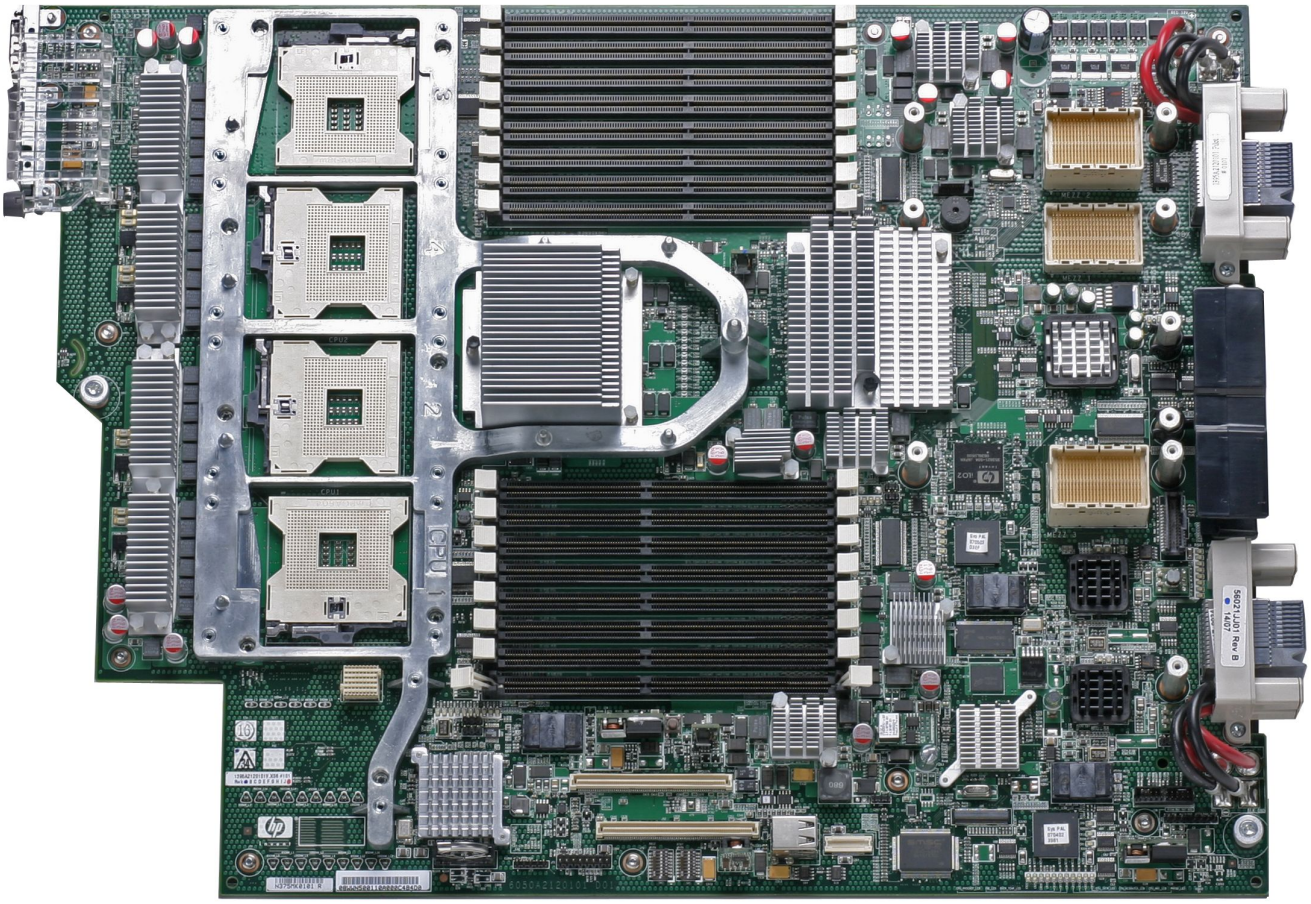

TOP
DIMMs
16H
15F
14D
13B
12H
11F
10D
9B
BOTTOM
DIMMs
1A
2C
3E
4G
5A
6C
7E
8G



IO mezzanine connectors



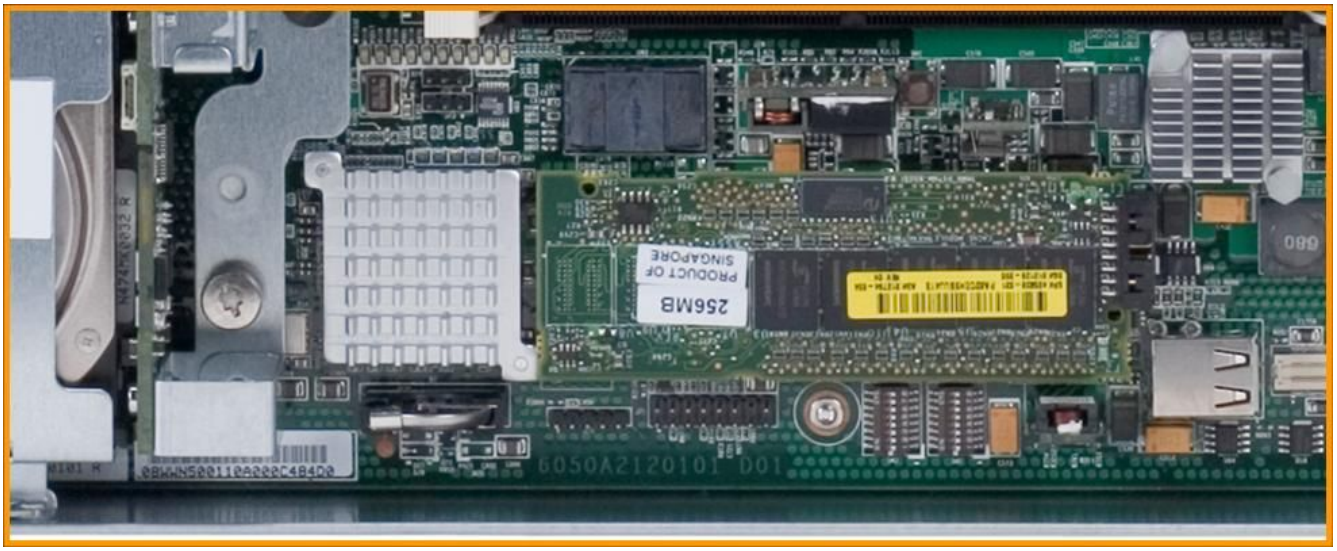
System board



System array E200i cache module



System battery



Processor and heatsink



Precautions

Before you begin

1. Put on your electrostatic discharge (ESD) wrist strap to avoid damaging any circuitry.
2. Remove all devices (such as diskettes and CD-ROMs) from the computer.
3. Power off the computer and any peripheral devices that are connected to it.
4. Disconnect the power cord from the electrical outlet and then from the computer. When the computer is plugged into an AC power source, there is always voltage applied to the system board. You must disconnect the power cord from the power source before opening the computer to prevent system board or component damage.
5. Disconnect all peripheral device cables from the computer.

Static electricity

Static electricity can damage electrical components. Before removing or replacing a component, touch a grounded metal object to discharge static electricity. Also observe the following precautions to prevent damage to electric components and accessories:

- To avoid hand contact, transport products in static-safe containers such as tubes, bags, or boxes.
- Protect all electrostatic parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.
- Avoid contact with pins, leads, or circuitry.
- Place reusable electrostatic-sensitive parts from assemblies in protective packaging or conductive foam.

Disassembly

- During disassembly, label each cable as you remove it, noting its position and routing. This will make the replacement of the cables much easier, and will ensure that the cables are rerouted properly to protect the cables.
- Keep all screws with the units removed. The screws used in the computer are of different thread sizes and lengths; using the wrong screw in a component could damage the unit.

Tools And Materials

Tools used in removal and replacement

- T-15 Torx screwdriver
- Flat-head screwdriver

Screws

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

Preparation

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Preparation

With the exception of hard disk drives, the server blade must be powered down and removed from the enclosure.

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

Use one of the following methods to power down the server blade:

1. Use a virtual power button selection through the Onboard Administrator. This method initiates a controlled remote shutdown of applications and the operating system before the server blade enters standby mode.

2. Press and release the Power On/Standby button. This method initiates a controlled shutdown of applications and the OS before the server blade enters standby mode.
3. Press and hold the Power On/Standby button for more than 4 seconds to force the server blade to shut down.This method forces the server blade to enter standby mode without properly exiting applications and the OS.

Hard Disk Drive

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Hard Disk Drive removal

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

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

Hard Disk Drive replacement

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

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

Access Panel

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Access panel

Before you begin:

- Power down the server blade and remove it from the enclosure.

Access panel removal

1. Using the Torx-15 screwdriver located under the access panel at the rear of the server, unlock the latch.
2. Lift up on the latch to slide the access panel back.
3. Lift the panel off of the server.

Access panel replacement

1. With the release latch open, align the guides on the access panel with the notches in the rear of the server blade chassis
2. Close the release latch. The access panel will slide to a closed position.
3. Using the Torx-15 screwdriver, lock the release latch.

Memory Baffle

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Memory baffle

Before you begin:

- Power down the server blade and remove it from the enclosure.
- Remove the access panel

Memory baffle removal

1. If the controller battery pack is populated in the memory baffle, lift the battery out of baffle tray ensuring the controller battery cable remains connected.
2. Lift the baffle up and out of the server.**Caution!** The memory baffles must be installed for proper system cooling.

Memory baffle replacement

1. Align the round holes in the baffle with the pins on the system board bracket.
2. Lower the baffle into place and replace the controller battery pack if necessary.

FBDIMM Memory

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FBDIMM memory

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure
- Remove the access panel
- Remove the Memory baffle

FBDIMM memory removal

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

FBDIMM memory replacement

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

Mezzanine Card

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Mezzanine card

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure
- Remove the access panel

Mezzanine card removal

1. Using the supplied Torx-15 screwdriver, loosen the three captive thumbscrews.
2. Lift the mezzanine card up and out of the server.

Mezzanine card replacement

1. Align the card connector with the mezzanine socket on the system board.
2. Push the card connector into the socket and tighten the thumbscrews.

Controller Battery Pack

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Controller battery pack

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure
- Remove the access panel

Controller battery pack removal

1. Lift the controller battery pack out of the memory baffle tray.
2. Disconnect the battery cable from the controller battery pack.
3. Remove the battery pack.
   Caution! If replacing either the cache module or battery do not allow the loose end of the battery cable to contact the system board. Contact may result in a system damaging short circuit.

Controller battery pack replacement

1. Connect the battery cable to the controller battery pack.
2. Place the controller battery pack into the memory baffle tray.

Controller Cache Module

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Controller cache module

Before you begin:

- Power down the server blade

- Remove the server blade from the enclosure
- Remove the access panel
- Remove the memory baffles
  Caution! To retain any write-cache data in the cache module, do not remove the battery or cable.

Controller cache module removal

1. Lift up on the cache module until it releases from the system board connectors.
2. Lift the cache module up and out of the server.
   Caution! If replacing either the cache module or battery do not allow the loose end of the battery cable to contact the system board. Contact may result in a system damaging short circuit.

Controller cache module replacement

1. With the battery cable facing the rear of the server blade, align the module connectors with the sockets on the system board.
2. Press the cache module into place.

Hard Disk Drive Backplane

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Hard Disk Drive Backplane

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure
- Remove the access panel
- Remove all hard drives and blanks

Hard Disk Drive Backplane removal

1. Using the Torx-15 screwdriver, loosen the two captive thumbscrews.
2. Lift the hard disk drive backplane up and out of the server.

Hard Disk Drive Backplane replacement

1. Align the hard disk backplane data connector with the socket on the system board.

2. Press the backplane until it snaps into place.
3. Tighten the two Torx-15 captive thumbscrews.

Front Panel/Hard Drive Cage Assembly

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Front Panel/Hard Drive Cage Assembly

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure
- Remove the access panel
- Remove all hard drives and blanks
- Remove the hard disk drive backplane

Front Panel/Hard Drive Cage Assembly removal

1. Remove the Torx-15 screws from the top and bottom of the server blade chassis.
2. Slide the front panel out of the front of the server.

Front Panel/Hard Drive Cage Assembly replacement

1. Slide the front panel into the front of the server blade.
2. Replace the Torx-15 screws in the top and bottom of the server blade chassis, securing the front panel.

Server Blade Handle And Release Button

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Server blade handle and release button

Before you begin:

- Power down the server blade
- Remove the server blade from the enclosure

- Remove the access panel
- Remove all hard drives and blanks
- Remove the hard disk drive backplane
- Remove the server front panel/hard drive cage

Server blade handle removal

1. Open the server blade handle.
2. While holding the screw from underneath, remove the slotted nut screw which secures the serverblade handle in place.
3. Lift the handle and nut away from the chassis.

Release button removal

1. Remove the (2) T-15 screws from the release button.
2. Lift the release button away

Release button replacement

1. Align the T-15 holes in the release button with the holes in the server chassis.
2. Replace the two T-15 screws.

Server blade handle replacement

1. While holding the screw in place underneath, align and firmly hold in place the serverblade handle wth the slotted nut screw.
2. Tighten the slotted nut screw.
3. Close the server blade handle.

Heatsink/Processor

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Heatsink and processor

Before you begin

- Power down the server blade and remove it from the enclosure.
- Remove the access panel.

Heatsink and processor removal

1. Loosen (4) T-15 captive thumbscrews on the heatsink in a diagonal pattern.
2. Lift the heatsink up and out of the server.
3. Lift up on the processor retaining latch until it is fully open.
4. Lift the processor up and out of the server.

Heatsink and processor replacement

1. With the processor retaining latch fully open, hold the processor by its edges and align it over the empty processor socket. Make sure that you align the gold triangle on the processor with the triangle marking on the socket.
2. Carefully place the processor into the socket.
3. Lower the processor retaining latch completely.
4. If you are reinstalling the original processor or heatsink:
   a. Use an alcohol swab to remove any thermal grease residue from the processor and the heatsink. Allow the alcohol on the processor and heatsink to dry completely before proceeding.
   b. Use a thermal grease applicator to apply the proper amount of grease along one edge of the processor.
   c. Use a straight edge to spread a thin film of new thermal grease evenly over the top of the processor.
5. Position the heatsink so that the slot aligns with the tab on the heatsink bracket.
6. Set the heatsink in place.
7. Tighten the thumbscrews in a diagonal pattern.

System Battery

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System battery

Before you begin

- Power down the server blade and remove it from the enclosure.
- Remove the access panel.

System battery removal

1. Temporarily set the memory baffle aside for access to the system battery.
2. Push the locking clip away from the battery.
3. Lift the battery out of the holder.

System battery replacement

1. Place the battery in the holder so that the plus (+) sign faces the locking clip.
2. Press the battery down until the clip locks it in place.
3. Re-position the memory baffle in place.

System Board

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System board

Before you begin:

- Power down the server blade
- Remove the server blade
- Remove the access panel
- Remove all hard disk drives and blanks
- Disconnect the battery pack, if applicable.
- Remove all memory baffles.
- Remove all FBDIMMs
- Remove the battery-backed write cache module, if applicable.
- Remove any mezzanine cards
- Remove the heatsinks and processors
- Remove the hard disk drive backplane
- Remove the front panel/hard drive cage

System board removal

1. Remove the access panel support by pulling it away from the back of the server.
2. Loosen the three thumbscrews that secure the system board to the server chassis.
3. Push the system board towards the rear of the chassis and lift it up and out of the chassis.

System board replacement

1. Insert the system board into the blade chassis from the rear of the server until the three thumbscrews align with the holes in the chassis.
2. Tighten the three thumbscrews.
3. Replace the access panel support by sliding it into the rear of the chassis, ensuring the two clips attach to the mezzanine card stand-offs.
4. Replace all system components.
   Important ! After you replace the system board, you must re-enter the server serial number and the product ID in the ROM Based Setup Utility.