Maintaining and Troubleshooting the HP ProLiant DL360 G9 Server

Release 3.0
Issue 1
November 2015

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Contents

Chapter 1: Maintaining and Troubleshooting the HP ProLiant DL360 G9 Server

HP Server overview

The Avaya Common Servers category includes HP servers that support several Avaya software solutions, some requiring more hardware, and memory requirements beyond the standard configuration. This document covers the standard configuration only—consult specific Avaya product documentation for application-specific or solution-specific server configurations.

- Avaya Common Servers are supplied under an OEM relationship and Avaya servers are treated differently than other commercially available servers from the vendors.
- Avaya Common Servers are turnkey appliances. No server designed for a particular application can be repurposed for use with another application. The only exception to this is when an application has provided an upgrade or migration path from one server state to a different server state with the appropriate kits, tools, documentation, and training materials. For example, System Platform is providing a kit plus documentation for migrating a server running System Platform to Appliance Virtualization Platform.
- Neither customers, business partners, distributors, nor Avaya Associates interacting with customers and business partners, should get BIOS or other firmware updates for any third-party OEM servers forming part of Avaya's turnkey appliance offers. Only consult Avaya-provided downloads, information and support. All BIOS or firmware updates are provided through Avaya. Go to the Avaya Support website at http://support.avaya.com for additional information.
- Remote access and use of HP iLO hardware management tools for the HP servers are employed by a limited number of Avaya applications. If HP iLO is supported, that application's documentation will define its configuration and use. Please check with the Avaya application product manager or appropriate documentation to confirm support.
- Do not contact HP for Service; all support, warranty, repair, and maintenance are through the Avaya processes. If the server is purchased from Avaya, customer first point of contact is Avaya to troubleshoot hardware issues.

  Service and repair of consumable accessories and cables are not covered under maintenance. Customers must purchase these items.

- Avaya strongly recommends that all servers are protected with an Uninterruptable Power Supply for power surge and interruption protection. Avaya is not responsible for servers damaged by power surges, brown outs, black outs etc.
- Substitution of a DC power supply for a server must be approved by the Application Product Manager before substitution. If there is a significant demand for a turnkey solution with a DC power supply, an Avaya GRIP (Global Requirements Integration Process) request must be submitted. Partners registered to use this process can submit a GRIP request at https://portal.avaya.com/apps/grip/partner.asp. Avaya Associates may assist and can find information about this process at http://spark4.avaya.com/grip. Note, a GRIP request must be made for the Avaya application product, not the server model. The decision on whether to include a turnkey offer with a DC power supply is the responsibility of each Avaya application Product Manager. The name of the Product Managers for each application is at the bottom of the application page on the Avaya Global Sales portal.
- Product labels on the servers themselves have the 9-digit base server codes and a base server description for Avaya Services in service and support. These 9-digit codes differ from the 6-digit orderable codes under which servers are ordered. On every server package, there is a Packing Label and a Hierarchy Label. The Hierarchy Label itemizes the stock list in the box of the 6-digit orderable code and Avaya recommends retaining them for reference.
- Quality assurance – product integrity testing and environmental international restrictions were completed by HP and verified with Avaya using Design for Environmental Checklists. The list includes: batteries, printed wiring boards, plastic parts, product packaging, RoHS, green requirements, and energy efficiency.

How to use this document

This guide contains information for installing the HP ProLiant DL360 G9 server as part of an Avaya deployment and provides:

- Instructions for how to find the appropriate online server documentation from HP.
- References to specific topics in standard HP documentation
- Suggested changes, details, and notes to assist the user in interpreting the manufacturer’s documentation and to clarify Avaya's recommended implementation of the equipment
- Topics not covered in standard HP documentation, but which are necessary for successful installation and maintenance of Avaya products

Downloading HP documentation

Use this procedure to find and download the HP ProLiant DL360 G9 documentation.

Procedure

1. Use a browser to navigate to the Avaya Support website at http://support.avaya.com/.
2. At the top of the screen, enter your username and password and click **Login**.
3. Put your cursor over **Support by Product**.
4. Click **Documents**.
5. In the **Enter Your Product Here** search box, type `Common Servers` and then select 3.0.x from the drop-down list.

   If there is more than one release, select the appropriate release number from the **Choose Release** drop-down list.
6. Use the **Content Type** filter on the left to select the type of document you are looking for, or click **Select All** to see a list of all available documents.

   For example, if you are looking for user guides, select **User Guides** in the **Content Type** filter. Only documents in the selected category will appear in the list of documents.
7. Click **Enter**.

HP ProLiant DL360 G9 document set

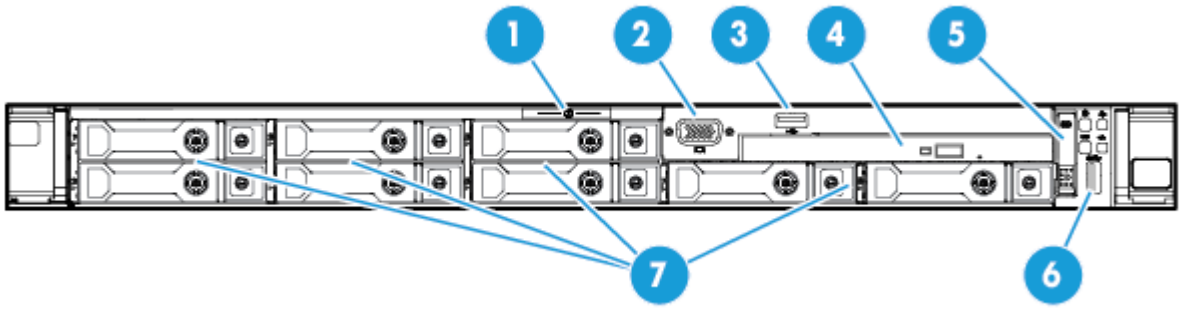
Documents

- HP ProLiant DL360 G9 Server User Guide
- HP ProLiant DL360 G9 Server Maintenance and Service Guide
- HP ProLiant DL360 G9 Troubleshooting Guide, Volume I: Troubleshooting
- HP ProLiant DL360 G9 Troubleshooting Guide, Volume II: Error Messages
- HP Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products

Documents included in the shipping container

Title	Part number
Safety, Compliance, and Warranty Information	703828 - 023
Quick Deploy Rail System Installation Instructions (located in rail kit box)	740122-002

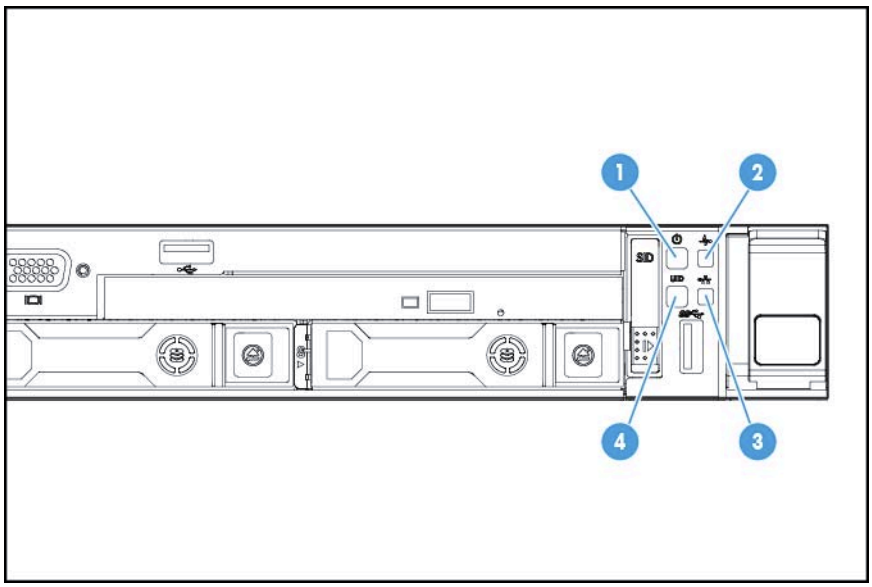
Front view of HP ProLiant DL360 G9 Server



No.	Description
1	Serial label pull tab
2	Front video connector
3	USB 2.0 connector
4	Optical drive
5	Systems Insight Display (Not used in Avaya configurations)
6	USB 3.0 connector
7	Hard Drive bays* * The HDDs read starting with top left, then bottom left, and continues to the right.

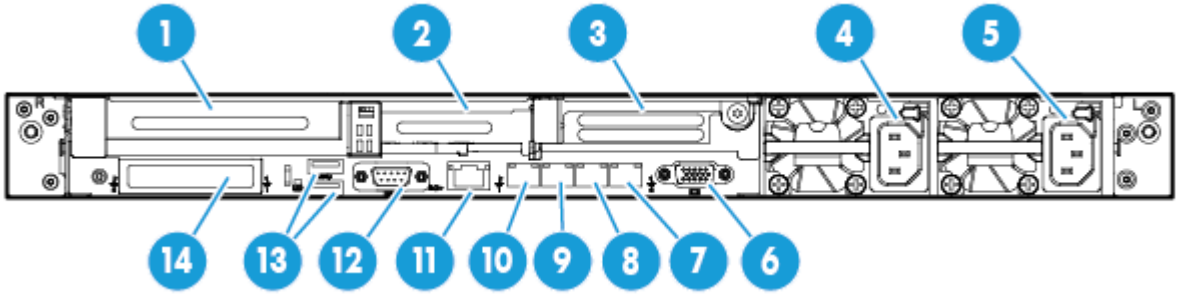
Front panel LEDs of HP ProLiant DL360 G9 Server

Use these LEDs to identify hardware status and problems.



Item	Description	Status
1	Power On/Standby Button/LED	Solid Green = System is on Flashing Green = Waiting for server power sequence Solid Amber = System is in standby, but power is still applied Off = Power cord is not attached, power supply failure has occurred, no power supplies are installed, facility power is not available or the power button cable is disconnected
2	Health LED	Solid Green = System health is normal Flashing Green = Power fault (check system and devices). See *HP ProLiant DL360 Gen9 Server User Guide*. Flashing Amber = System health is degraded. To identify the component in a degraded state, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12. Flashing Red = System health is critical. To identify the component in a critical state, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12. If possible check iLO/BIOS logs. Also check application's system log and SEL log from IPMI interface if possible.
3	NIC Status LED	Solid Green = Link to network Flashing Green = Network active Off = No network connection or activity
4	UID button/LED	Solid Blue = Identification is activated Flashing Blue = System is being managed remotely or firmware upgrade is in progress Off = Identification is deactivated

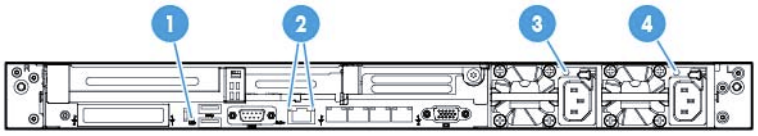
Rear view of HP ProLiant DL360 G9 Server



No.	Description
1	Slot 1 PCIe3 x16 (16, 8, 4, 1)
2	Slot 2 PCIe 3 x8 (8, 4, 1)
3	Slot 3 PCIe 3 x16 (16, 8, 4, 1) (Not used in Avaya configurations)
4	Power supply 2
5	Power supply 1
6	Video connector
7	NIC connector 4
8	NIC connector 3
9	NIC connector 2
10	NIC connector 1
11	iLO 4 connector
12	Serial connector
13	USB 3.0 connectors
14	FlexibleLOM bay (Not used in Avaya configurations)

Rear panel LEDs of HP ProLiant DL360 G9 Server

Use these LEDs to identify hardware status and problems.



Item	Description	Status
1	UID button/LED	Solid Blue = Identification is activated Flashing Blue = System is being managed remotely Off = Identification is deactivated
2 (left)	HP iLO/Standard NIC activity LED	Solid Green = Activity exists Flashing Green = Activity exists Off = No activity exists
2 (right)	HP iLO/Standard NIC link LED	Solid Green = Link exists Off = No link exists
3	Power supply 2 LED	Solid Green = Normal Off = One or more of the following conditions exists: • AC power unavailable • Power supply failed • Power supply in standby mode • Power supply exceeded current limit
4	Power supply 1 LED	Solid Green = Normal Off = One or more of the following conditions exists: • AC power unavailable • Power supply failed • Power supply in standby mode • Power supply exceeded current limit

Diagnosing system faults using HP ProLiant DL360 G9 Server console

About this task

Use this procedure to view health status, run system tests, run component tests, and view test logs. Individual component troubleshooting steps are discussed throughout this document, but this section will be referenced often for querying system health status and running component tests.

Note:

Before performing any maintenance or tests on the server and its components, ensure that you take full backup of your system data.

Procedure

1. Connect a monitor, USB keyboard, and mouse to HP ProLiant DL360 G9 Server.

   Note:

   Avaya customer must provide a keyboard, mouse, and monitor for the system when an Avaya or Business Partner tech must do work on-site.

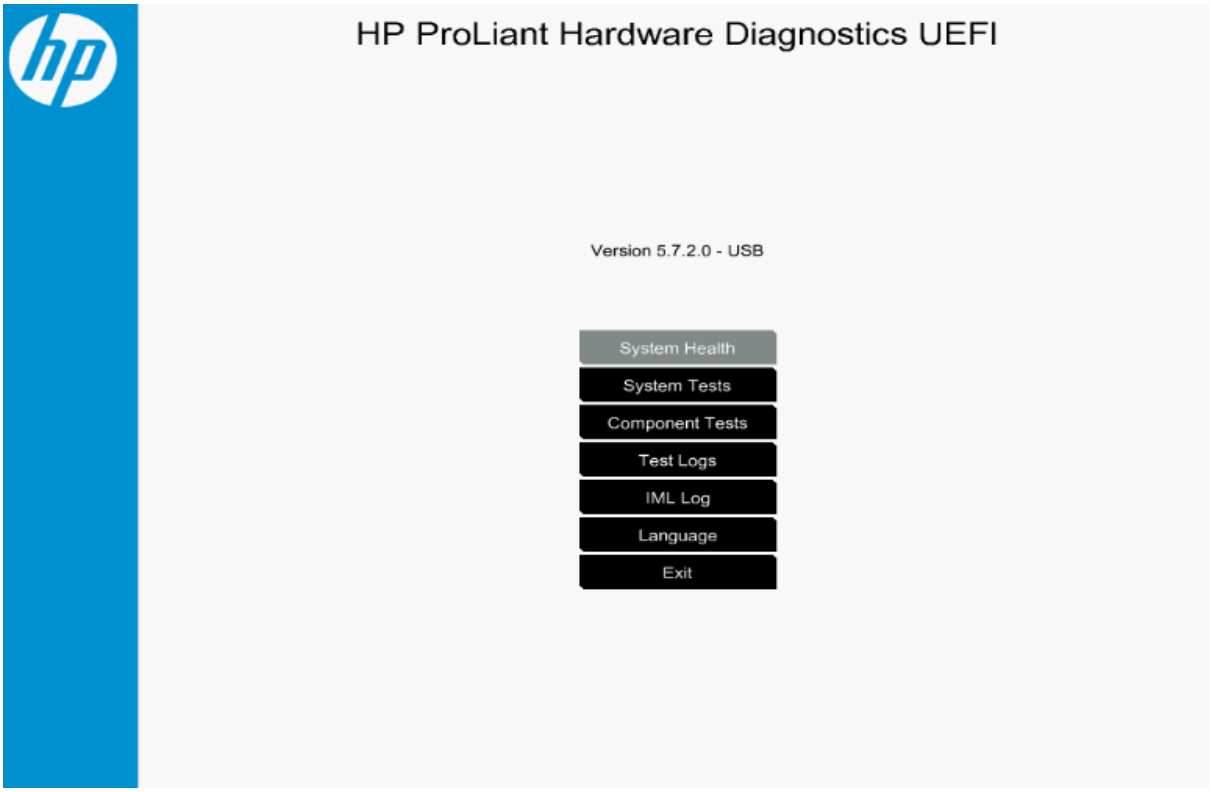
2. Power up or reboot the server.

   Follow Avaya application procedure, if applicable.

3. When the system displays the HP splash screen, press `F9` to go to **System Utilities**.

4. From **System Utilities**, navigate to **Embedded Applications** > **Embedded Diagnostics** and press **ENTER**.

   The system displays the HP ProLiant Hardware Diagnostics UEFI screen.



5. On the HP ProLiant Hardware Diagnostics UEFI screen, select one of the following options:
   - **System Health** to diagnose the health status of BIOS Hardware, Fans, Temperature, Power Supplies, Battery, Processors, Memory, NIC and Network information, Storage, and Firmware information. You can run a query to know the state of health for each of these components.

     The system displays the health analysis. Based on the analysis of any failed components, the component must be identified and replaced.
   - **System Tests** to diagnose the function of hardware subsystems. You can run a quick test of the hardware for 10 minutes or an extensive hardware test that might take two or more hours to complete.
   - **Component Tests** to diagnose Processor, Memory, Hard Drive, Keyboard, Mouse, Network, Optical Drive, System Board, USB Port, and Video.
   - **Test Logs** displays test logs that includes Start Time, type, Result, Failure ID, and description.
   - **IML Log** displays IML logs that includes severity, class, initial time, and update time information.
   - **Language** to select the language to perform the Embedded Diagnostics.
   - **Exit** to close the Embedded Applications and go back to **System Utilities**.

External Maintenance Field Replaceable Units

Note:

HDD Field Replaceable Units (FRUs) are Hot Swappable assuming you have RAID 1 configuration with 2 HDDs, and 1 of the HDDs is in working order. A RAID 5 Configuration is hot-swappable only if you are swapping 1 HDD, and the other 2 through 7 HDDs are in working order.

Description	Hot-swappable?
DL360/380G9 300GB 10K SAS 2.5" HDD	Y
DL360/380G9 300GB 15K SAS 2.5" HDD	Y
DL360/380G9 600GB 10K SAS 2.5" HDD	Y
DL360/380G9 900GB 10K SAS 2.5" HDD	Y
DL360/380G9 1.2TB 10K SAS 2.5" HDD	Y
DL360/380G9 200GB SATA 2.5" SSD	Y, if redundant
DL360/380G9 500 WAC PWR SUP	Y, if redundant
DL360/380G9 800 WAC PWR SUP	Y, if redundant
DL360/380G9 800 WDC PWR SUP	Y, if redundant

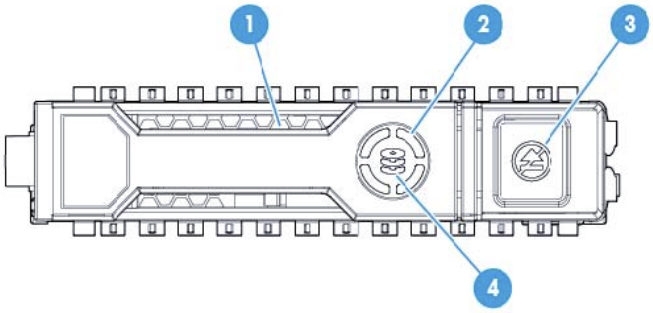
Related links

Power supply problems on page 18

Hard disk drive problems

Hard drive LEDs

Use these indicators to identify status and problems with a hard drive.



Item	LED	Status	Definition	Avaya recommendations and information
1	Locate	Solid blue	The drive is being identified by a host application	This is normal operation if application supports this feature or if disk array is being created/ selected.
		Flashing blue	The drive carrier firmware is being updated or requires an update	Check support.avaya.com for HP DL360 G9 firmware updates. View release notes for Avaya firmware update inclusions for HDD update.
2	Activity ring	Rotating green	Drive activity	This is normal operation and indicates that the drive is currently operating as part of the RAID array.
		Off	No drive activity	This indicates that the drive may currently have no activity or is not part of the RAID array.
3	Do not remove	Solid white	Do not remove the drive. Removing the drive causes one or more of the logical drives to fail.	This indicates that the RAID array is operating in degraded mode because one of the drives in the array has failed or is currently rebuilding. Removing a drive in this state will destroy the logical drive array. If the array is currently rebuilding this status will clear when the new replacement drive has rebuilt. Rebuild can take from 20 minutes up to 2 hours depending on the size of drive and activity of the system.
		Off	Removing the drive does not cause a logical drive to fail.	If an active drive is removed, the other drives that are part of the array will indicate a status of “do not remove”.
4	Drive status	Solid green	The drive is a member of one or more logical drives	This indicates normal operation.
		Flashing green	The drive is rebuilding or performing a RAID migration, stripe size migrations, capacity expansion, or logical drive extension, or is erasing.	A newly inserted replacement drive should start this LED pattern within 10-15 seconds of insertion to indicate a rebuild of the logical drive. If action does not start, unplugging and reinserting new drive can be performed.
		Flashing amber/ green	The drive is a member of one or more logical drives and predicts the drive will fail.	This signature indicates future failure and drive should be replaced asap.

Table continues…

Item	LED	Status	Definition	Avaya recommendations and information
		Flashing amber	The drive is not configured and predicts the drive will fail	The drive must be replaced ASAP if it is needed for current array.
		Solid amber	The drive has failed	The drive must be replaced ASAP.
		Off	The drive is not configured by a RAID controller	Reinsert drive if expected to rebuild as part of array. If no LED activity continues, try another unused drive if possible. Tools to recreate the RAID array can be accessed at support.avaya.com. If a new array is created all data from the previous array will be destroyed.

Related links

External Maintenance Field Replaceable Units on page 14

Hard disk drive problems

Symptoms

Some possible symptoms indicating hard drive problems are:

- Drives have failed as indicated by HDD LEDs (Hard drive LEDs on page 14) or alarmed by Avaya application.
- There is an active disk drive failure alarm from an Avaya application
- Drives are not recognized by Avaya application
- Data is inaccessible
- Server response time is slower than usual

HP documentation references

- Troubleshooting Guide Volume 1: SAS, SATA, and SSD drive guidelines
- Troubleshooting Guide Volume 1: Drive problems (hard drives and solid state drives)

Helpful guidelines

When adding drives to the server, observe the following general guidelines:

- Drives must be of the same capacity to provide the greatest storage space efficiency when drives are grouped together into the same drive array. Larger capacity drives can be used, but will only utilize their capacity to match the size of the smallest drive in the array.
- Drives in the same logical volume must be of the same type. ACU does not support mixing SAS, SATA, and SSD drives in the same logical volume.

Related links

External Maintenance Field Replaceable Units on page 14
Troubleshooting a hard disk drive on page 17
Replacing a hard disk drive on page 17

Troubleshooting a hard disk drive

About this task

Follow the steps below to troubleshoot hard drive problems on one of these drives:

- DL360/380G9 300GB 10K SAS 2.5" HDD
- DL360/380G9 300GB 15K SAS 2.5" HDD
- DL360/380G9 600GB 10K SAS 2.5" HDD
- DL360/380G9 900GB 10K SAS 2.5" HDD
- DL360/380G9 1.2TB 10K SAS 2.5" HDD
- DL360/380G9 200GB SATA 2.5" SSD

Procedure

1. Ensure there are no loose connections, and all drives are fully seated.
2. Check HDD/SSD LEDs for indication of possible problems. See Hard drive LEDs on page 14.
3. Ensure drive blanks are installed properly when the server is operating. Drives might overheat and cause sluggish response or drive failure.
4. Ensure the replacement drives within an array are the same size or larger.
5. Ensure the replacement drives within an array are the same drive type, such as SAS, SATA, or SSD.
6. Power cycle the server. Shutdown server according to Avaya application procedures.
7. Go to **System Health** > **Storage**, to diagnose the hard drive problem, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12.

   Running **Component Tests** > **Hard Drive tests** might not work because a RAID controller is installed in this server. However, you can view the Hard Drive status and health from **System Health** > **Storage**.
8. Check the Avaya Support website: http://support.avaya.com to see if a firmware update is available from Avaya for this model of server. View notes to see if firmware update is applicable to the observed problem before applying the update.

Next steps

If the part is defective, continue with the following removal and replacement procedures.

Related links

Hard disk drive problems on page 16

Replacing a hard disk drive

Before you begin

Best practice is to ensure the customer has a good separate backup of their system data before performing any maintenance on the server.

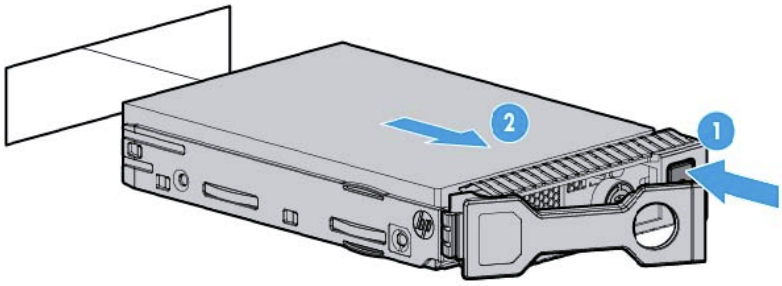
About this task

Follow the steps below to replace one of these drives:

- DL360/380G9 300GB 10K SAS 2.5" HDD
- DL360/380G9 300GB 15K SAS 2.5" HDD
- DL360/380G9 600GB 10K SAS 2.5" HDD
- DL360/380G9 900GB 10K SAS 2.5" HDD
- DL360/380G9 1.2TB 10K SAS 2.5" HDD
- DL360/380G9 200GB SATA 2.5" SSD

Procedure

1. Remove the drive.
   a. Push button to release locking latch. (#1 in the following image)
   b. Pull on unlocked latch to remove HDD/SSD. (#2 in the following image)



   Drives are hot-swappable so power down of server is not recommended. However, only one drive must be replaced at a time until RAID array rebuild is complete.
2. Replace the drive.
   a. Insert HDD/SSD into empty drive slot.
   b. Secure HDD/SSD by closing the latch.
   c. Refer to the Hard Drive LED table for the drive rebuild status.
   d. Check using Avaya application tools for RAID status if available.

Related links

Hard disk drive problems on page 16

Power supply problems

Symptoms

Some possible symptoms indicating power supply problems are:

- The server does not power on.

- The system power LED is Off or Solid Amber. See Front panel LEDs of HP ProLiant DL360 G9 Server on page 8.
- The health LED is Flashing Green, Flashing Amber, or Flashing Red. See Front panel LEDs of HP ProLiant DL360 G9 Server on page 8.

HP documentation references

- Troubleshooting Guide Volume 1: Power Source Problems
- Troubleshooting Guide Volume 1: Power Supply Problems
- Troubleshooting Guide Volume 1: Power-on problems flowchart

Possible Causes

List of possible causes for the above symptoms:

- Improperly seated or faulty power supply
- Loose or faulty power cord
- Power source problem
- Improperly seated component or interlock problem

If the power supply LED is off, it could mean any of the following:

- AC power unavailable
- Power supply failed
- Power supply in standby mode
- Power supply exceeded current limit

Related links

External Maintenance Field Replaceable Units on page 14
Troubleshooting a power supply on page 19
Replacing a power supply on page 20

Troubleshooting a power supply

About this task

Follow the steps below to troubleshoot and replace one of these power supplies:

- DL360/380G9 500 W AC PWR SUP
- DL360/380G9 800 W AC PWR SUP
- DL360/380G9 800 W DC PWR SUP

Table 1: Power supply LEDs

System Power LED	Definition
Off (Server)	System has no power.
Solid Amber	System is in standby, **Power On**/**Standby** button service is initialized.

Table continues…

System Power LED	Definition
Flashing Green	System is waiting to power on; **Power On**/**Standby** button is pressed.
Solid Green	System is powered on.

Procedure

1. To troubleshoot possible power source problems:
   a. Plug another device into the grounded power outlet to be sure the outlet works. Also, be sure the power source meets applicable standards.
   b. Replace the power cord with a known functional power cord to be sure it is not faulty.
   c. Replace the power strip with a known functional power strip to be sure it is not faulty.
   d. Have a qualified electrician check the line voltage to be sure it meets the required specifications.
   e. Ensure the proper circuit breaker is in the On position.

   If power source is not the problem, continue with steps below to troubleshoot power supplies.
2. Ensure no loose connections exist.
3. Press the **Power On**/**Standby** button to be sure it is on. If the server has a **Power On**/**Standby** button that returns to its original position after being pressed, be sure you press the switch firmly. For more information about system power LED status, see Rear panel LEDs of HP ProLiant DL360 G9 Server on page 10.
4. Check the power supply LEDs, ensure they indicate that each power supply is working properly. If the LEDs indicate a problem with a power supply (red, amber, or off), then check the power source. If the power source is working properly, then replace the power supply.
5. If running a redundant configuration, be sure that all of the power supplies in the system have the same spare part number and are supported by the server.
6. If power supplies are redundant and server is powered up, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12. Go to **System Health** > **Power Supplies** and view power supply health.

Next steps

If the part is defective, continue with the following removal and replacement procedures.

Related links

Power supply problems on page 18

Replacing a power supply

About this task

Follow the steps below to replace one of these power supplies:

- DL360/380G9 500 W AC PWR SUP

- DL360/380G9 800 W AC PWR SUP
- DL360/380G9 800 W DC PWR SUP

Procedure

1. If system does not have redundant power, shut down the server according to Avaya application procedures. Server might already be down because of failed power supply. If server power is redundant, proceed to step 2.
   - If server does not power down according to normal shutdown procedures, press and release the **Power On/Standby** button. This method initiates a controlled shutdown of applications and the OS before the server enters standby mode.
   - Press and hold the **Power On/Standby** button for more than 4 seconds to force the server to enter standby mode. This method forces the server to enter standby mode without properly exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown, but be aware that file corruption could occur using this method.
2. Replace failed power supply.
   a. Press tab (1 in the following figure).
   b. Pull supply out (2 in the following figure).
   c. Install new supply.

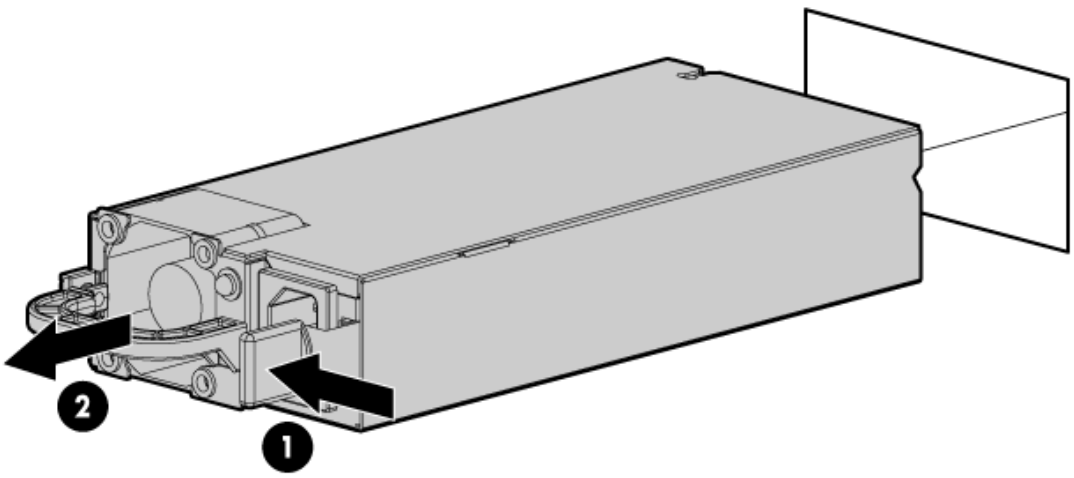


Figure 1: Replacing power supply

3. If disconnected, connect the power cables to the power supply.
4. If powered down, power up the server.

Related links

Power supply problems on page 18

Internal Field Replaceable Units

Note:

Internal Field Replaceable Units (FRUs) require the server to be shutdown and the cover removed to access and replace the FRU.

Description
DL360G9 DVD-RW DRIVE W/BRKT
DL360/380G9 1Gb PCIE DUAL PT NIC
DL360/380G9 CHASSIS FAN
DL360/380G9 4GB RDIMM
DL360/380G9 10Gb ETH PCIe DUAL PT NIC
DL360/380G9 TAPE DRV SAS HBA ADPTR

Related links

DVD-RW problems on page 22
NIC problems on page 25
Thermal (fan) problems on page 29
DIMM problems on page 33

DVD-RW problems

Symptoms

- System does not boot from the drive.
- Data read from the drive is inconsistent, or drive cannot read data.
- Drive is not detected.

HP documentation references

- Troubleshooting Guide Volume 1: Internal system problems
- Troubleshooting Guide Volume 1: CD-ROM and DVD drive problems

Related links

Internal Field Replaceable Units on page 22
Troubleshooting a DVD-R/W drive on page 23
Replacing a DVD-R/W drive on page 23

Troubleshooting a DVD-R/W drive

About this task

Follow the steps below to troubleshoot a DL360G9 DVD-RW DRIVE W/BRKT.

Warning:

Eliminate the risk of electric shock by removing all AC power from the system before installing or replacing any non hot-plug hardware option. Disconnect all power cords to completely remove power from the server. Always follow Avaya's application procedures when shutting down the server.

Warning:

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

Procedure

1. If system is not booting from drive:
   a. Ensure there are no loose connections.
   b. Ensure the media from which you are attempting to boot is not damaged and is a bootable CD or DVD.
   c. If possible, be sure the drive boot order in BIOS is set so that the server boots from the CD -ROM drive first.
2. If data read from drive is inconsistent:
   a. Clean the drive and media.
   b. If a paper or plastic label has been applied to the surface of the CD or DVD in use, remove the label and any adhesive residue.
3. If drive is not detected:
   a. Ensure there are no loose connections.
   b. Ensure the cables are working properly. If possible, replace with known functional cables to test whether the original cables were faulty.
4. Go to **Component Tests** > **Optical Drive**, run the component test, and test the optical drives. See Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12.

Next steps

If the part is defective, continue with the following removal and replacement procedures.

Related links

DVD-RW problems on page 22

Replacing a DVD-R/W drive

About this task

Follow the steps below to replace a DL360G9 DVD-RW DRIVE W/BRKT.

Warning:

Eliminate the risk of electric shock by removing all AC power from the system before installing or replacing any non hot-plug hardware option. Disconnect all power cords to completely remove power from the server. Always follow Avaya's application procedures when shutting down the server.

Warning:

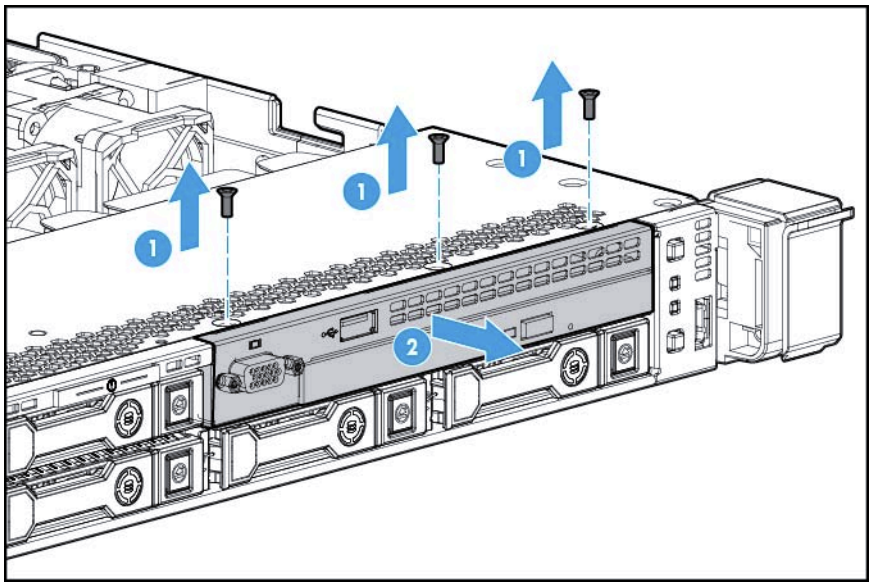
To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

Procedure

1. Power down the server.

   Follow Application power down procedures, if applicable.

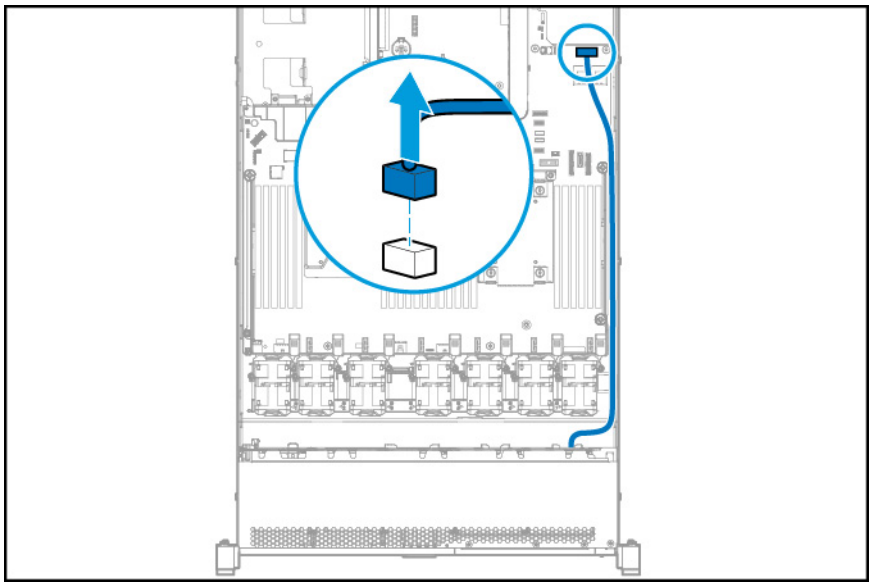
2. Remove all power:
   - Disconnect each power cord from the power source.
   - Disconnect each power cord from the server.
3. Extend the server from the rack.
4. Remove the access panel.
5. If installed, remove the FBWC capacitor pack.
6. To remove the DVD drive, do the following:
   a. Remove 3 Torx screws by using a T-10/T-15 Torx screwdriver as shown in the below illustration.
   b. Disconnect the SATA DVD cable from rear of DVD drive. Disconnect VGA/USB cables from rear of system board to fully remove the DVD drive from the bay.
   c. Remove the DVD drive from the server.



d. Disconnect the SATA DVD cable from the rear of the DVD drive.

To insert DVD drive:

7. For an SFF DVD drive, do the following:
   a. Install the DVD drive using the screws from this kit and a T-10/T-15 Torx screwdriver.
   b. Reconnect SATA DVD cable to rear of DVD drive.
   c. Connect VGA and USB cables to connectors at rear of motherboard.



   d. Clip the cable to the power supply air baffle when routing it along the edge of the system board.
8. Install the access panel.
9. Slide the server into the rack.
10. Connect each power cord to the server.
11. Connect each power cord to the power source.
12. Power up the server.

Related links

DVD-RW problems on page 22

NIC problems

Symptoms

- Network controller is installed, but not working.
- Network controller has stopped working.
- Network controller stopped working when an expansion board was added.

HP documentation references

- Troubleshooting Guide Volume 1: Network controller problems

Related links

Internal Field Replaceable Units on page 22
Troubleshooting a NIC on page 26
Replacing a NIC on page 27
PCIe riser card assembly on page 28

Troubleshooting a NIC

Procedure

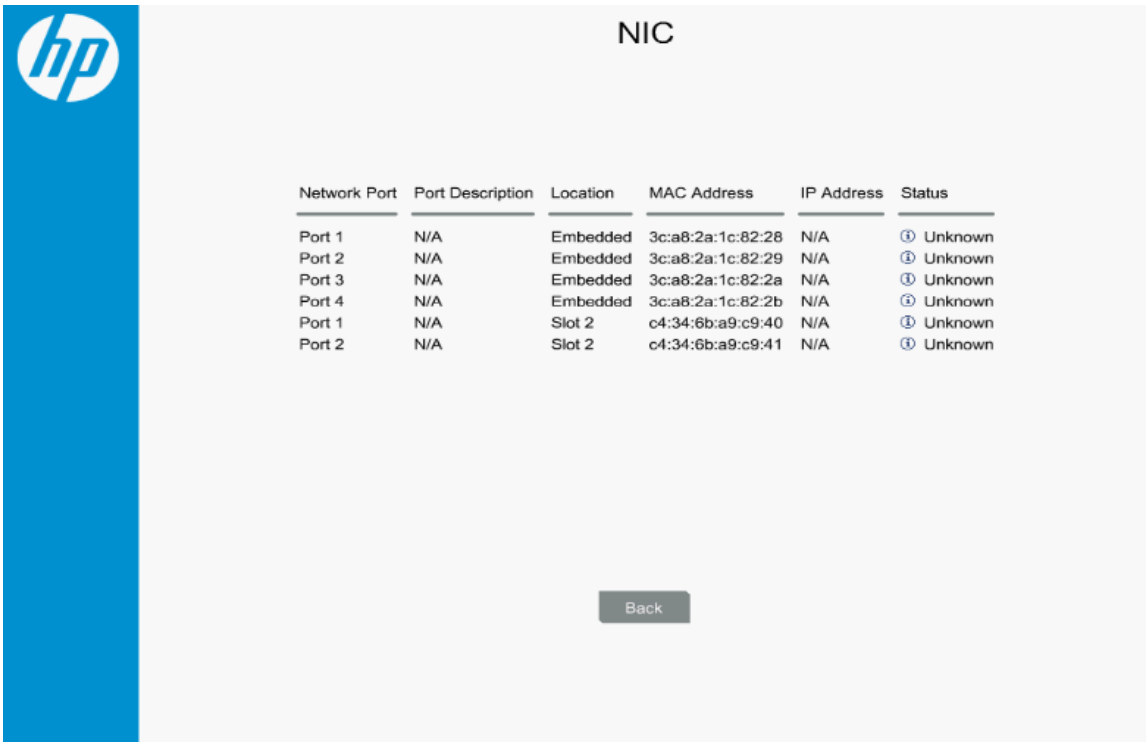
1. Check the network adopter LEDs for status indicating the potential source of the problem. These LEDs are located on each RJ-45 jack. Also, check the NIC Status LED located on the Front Panel of the DL360 G9, see Front panel LEDs of HP ProLiant DL360 G9 Server on page 8.

   Table 2: NIC LED status

Item	Description	Status
RJ-45 Right LED	Activity LED	Solid green = Activity exists. Flashing green = Activity exists. Off = No activity exists.
RJ-45 Left LED	Link LED	Solid green = Link exists. Off = No link exists.

2. Ensure there are no loose connections.
3. Ensure the correct cable type is used for the network speed or that the correct SFP or DAC cable is used. For dual - port 10GB networking devices, both SFP ports must have the same media (for example, DAC cable or equal SFP+ module). Mixing different types of SFP (SR/LR) on a single device is not supported.
4. Ensure the network cable is working by replacing it with a known functional cable.
5. Ensure a valid IP address is assigned to the controller and that the configuration settings are correct according to Avaya's application documentation.
6. If the Avaya application is running utilize built in network test/debugging commands, if available.
7. If Avaya application is not running, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12.
   a. Navigate to **System Health** > **NIC Information** > **NIC**.

b. On the NIC page, the system displays the NIC devices.



c. Ensure that the **Location** field and **MAC Address** field are reported.

d. The **IP Address** field and **Status** field will not report; that is normal.

e. If a Network port is not recognized under **Location** or **MAC address** that NIC device might be bad.

f. If bad Port is located in server slot 1 or slot 2 replace appropriate PCIe NIC card. If bad Port is in the Embedded location, you must replace the server as NIC device is integrated onto server motherboard.

8. If none of the ports are failed, navigate to **HP Diagnostics Menu** > **Component Tests** > **Networks** and follow on-screen directions to perform network tests.

Next steps

If PCIe NIC is defective, continue with the following removal and replacement procedures.

Related links

NIC problems on page 25

Replacing a NIC

About this task

Follow the steps below to replace the DL360/380G9 1Gb PCIE DUAL PT NIC.

Note:

Always follow safe electrostatic discharge practices.

Procedure

1. Power down the server according to Avaya's application instructions.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Remove any attached network cables.
4. Extend the server from the rack.
5. Remove the access panel.
6. Loosen the thumbscrew.
7. To replace the dual port PCIe 1GB NIC follow the expansion board removal instructions. See PCIe riser card assembly on page 28.
8. Install the access panel.
9. Slide the server into the rack.
10. Connect the LAN segment cables.
11. Connect each power cord to the server.
12. Connect each power cord to the power source.
13. Power up the server.

Related links

NIC problems on page 25

PCIe riser card assembly

About this task

Use this procedure when adding or removing NIC cards.

Note:

Always follow safe electrostatic discharge practices.

Procedure

1. Power down the server according to Avaya's application instructions.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Extend the server from the rack.

4. Remove the access panel.
5. Remove the installed expansion boards and PCIe riser board. Remove suspect PCIe NIC card from PCIe riser board connector. Insert replacement NIC card in riser board assembly and insert riser assembly into mother board socket ensuring connections are aligned.

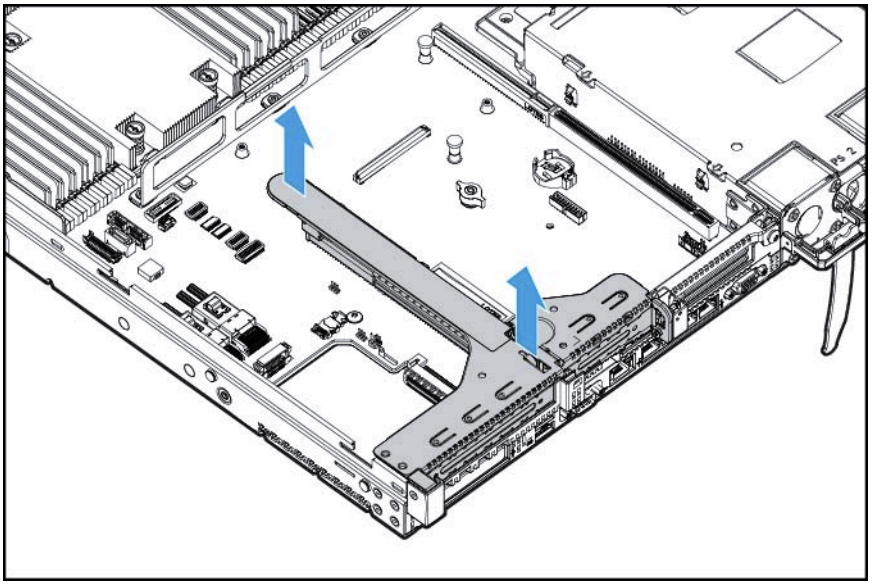


Figure 2: Removing PCIe riser cage

Related links

NIC problems on page 25

Thermal (fan) problems

Symptoms

- Server powers up but quickly shuts down.
- Flashing Amber LED indicates a fan failure. See Front panel LEDs of HP ProLiant DL360 G9 Server on page 8.
- Avaya application alarms fan failure.

Note:

For servers with redundant fans, backup fans might spin up periodically to test functionality. This is part of normal redundant fan operation.

HP documentation references

- Troubleshooting Guide Volume 1: Hot-plug fan problems are occurring
- User Guide: Hot-plug fan

Related links

Internal Field Replaceable Units on page 22
Troubleshooting thermal fans on page 30

Replacing thermal fans on page 30

Troubleshooting thermal fans

About this task

Follow the steps below to troubleshoot the HP DL360 G9 CHASSIS FAN.

Note:

Always follow safe electrostatic discharge practices.

Procedure

1. Ensure that the fans are properly seated and working.
   a. Follow the procedures and warnings in the server documentation for removing the access panels and accessing and replacing fans.
   b. Unseat, and then reseat a fan that has been flagged as failed. Fans are hot swappable. At a time, perform this step on one fan. Before reseating another fan (if required), ensure that the newly reseated fan has spun up.
   c. Replace the access panels, and then attempt to restart the server.
2. Ensure all fan slots have fans or blanks installed.

   Note:

   The server has seven fans. Install fans 1 and 2 only when processor 2 is installed. When only one processor is installed, install the fan blanks in bays 1 and 2.
3. Ensure no ventilation problems exist. If you have been operating the server for an extended period of time with the access panel removed, airflow may have been impeded, causing thermal damage to components.
4. Verify the fan airflow path is not blocked by cables or other material.
5. Ensure no POST error messages are displayed while booting the server that indicate temperature violation or fan failure information.
6. Go to **System Health** > **Fans**, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12.
7. Check the LEDs to be sure the hot-plug fans are working.
8. Ensure hot-plug fan requirements are being met.

Next steps

If the part is defective, continue with the following removal and replacement procedures.

Related links

Thermal (fan) problems on page 29

Replacing thermal fans

About this task

Follow the steps below to replace the DL360G9 CHASSIS FAN.

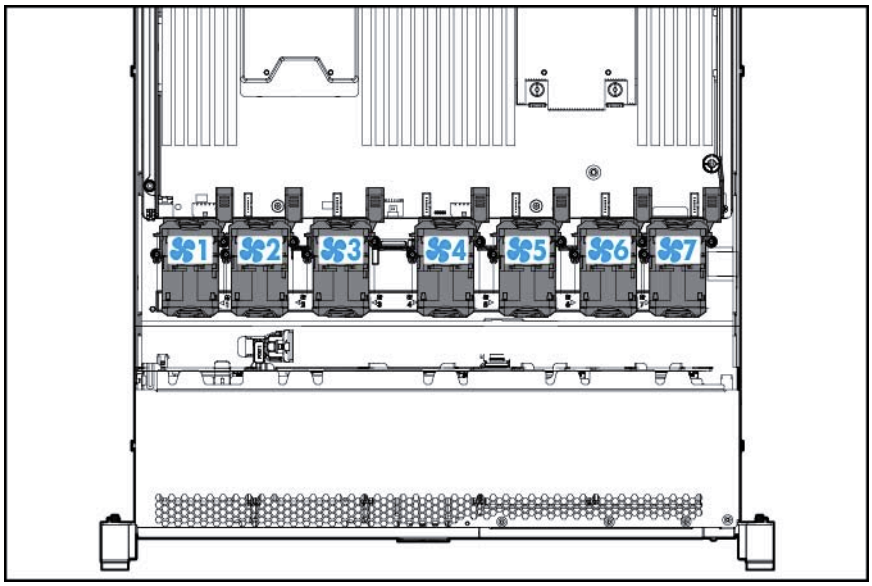
Note:

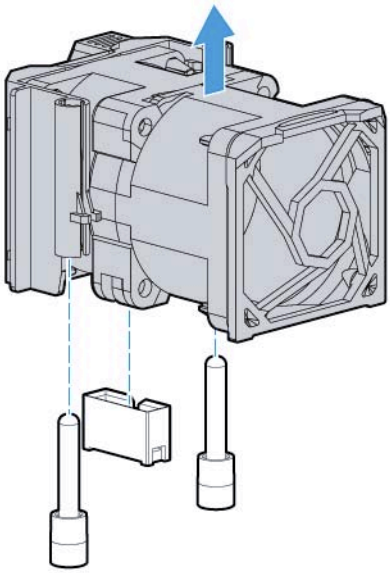
Always follow safe electrostatic discharge practices.

Procedure

1. Replace any required non - functioning fans and restart the server if necessary. Fans are hot-swappable.
2. To remove the component:
    a. Extend the server from the rack. If the server is to remain on with application up, ensure power cord does not disconnect when extending server from rack.
    b. Remove the access panel.

c. Remove the fan module.





Caution:

To avoid server shutdown, a fan must be replaced within 60 seconds of being removed.

3. To replace the component:
   a. Install the Fan Module.
   b. Install the access panel.
   c. Slide the server into the rack.

Related links

Thermal (fan) problems on page 29

DIMM problems

Symptoms

- General memory problems are occurring.
- Server is out of memory.
- Memory count error exists.
- Server fails to recognize existing memory.
- Server fails to recognize new memory.

HP documentation references

Troubleshooting Guide Volume 1: DIMM handling guidelines

Server Maintenance and Service Guide: DIMMS

Helpful Guidelines

- Always follow safe ESD practices.
- Avoid electrostatic discharge.
- Always hold DIMMs by the side edges only.
- Avoid touching the connectors on the bottom of the DIMM.
- Never wrap your fingers around a DIMM.
- Avoid touching the components on the sides of the DIMM.
- Never bend or flex the DIMM.

Related links

Internal Field Replaceable Units on page 22
Troubleshooting memory DIMMs on page 33
Replacing memory DIMMs on page 35

Troubleshooting memory DIMMs

About this task

Follow the steps below to troubleshoot a DL360/380G9 4GB RDIMM.

Procedure

1. If general memory problems are occurring:
    a. Navigate to **HP Embedded Diagnostics** > **System Health** > **Memory**, see Diagnosing system faults using HP ProLiant DL360 G9 Server console on page 12.
    b. Isolate and minimize the memory configuration.
    c. Check any server LEDs that correspond to memory slots.
    d. View power-up screen for any memory errors displayed if monitor is installed.
    e. If you are unsure which DIMM has failed, test each bank of DIMMs by removing all other DIMMs. Then, isolate the failed DIMM by switching each DIMM in a bank with a

known working DIMM. Start installing CH1A first and then proceed to install CH2B, second and continue to populate in that order.

f. Remove any third – party memory.

g. To test the memory, navigate to **HP Embedded Diagnostics** > **Component Tests** > **Memory** to run the memory test.

2. If the server is out of memory:
   a. Ensure no operating system errors are indicated.
   b. Ensure a memory count error did not occur. Refer to the message displaying memory count during POST. This can only be viewed with monitor and keyboard.
3. If a memory count error exists, a possible cause is that the memory modules are not installed correctly.
   a. Ensure the memory modules are supported by the server.
   b. Ensure the memory modules have been installed correctly in a supported configuration.
   c. Ensure the memory modules are seated properly
   d. Ensure no operating system errors are indicated.
   e. Restart the server and check to see if the error message is still displayed.
   f. Run **HP Embedded Diagnostics** > **Component Tests**. Then, replace failed components as indicated.
4. If the server fails to recognize existing memory:
   a. Reseat the memory.
   b. Ensure the memory is configured properly.
   c. Ensure a memory count error does not occur. See the message displaying memory count during POST. This can only be viewed with monitor and keyboard.
5. If the server fails to recognize new memory:
   a. Ensure the memory is the correct type for the server and is installed according to the server requirements.
   b. Ensure you have not exceeded the memory limits of the server or operating system.
   c. Ensure the memory is seated properly.
   d. If possible test the memory by installing the memory into a known working server. Ensure the memory meets the requirements of the new server on which you are testing the memory.

Next steps

If the part is defective, continue with the following removal and replacement procedures.

Related links

DIMM problems on page 33

Replacing memory DIMMs

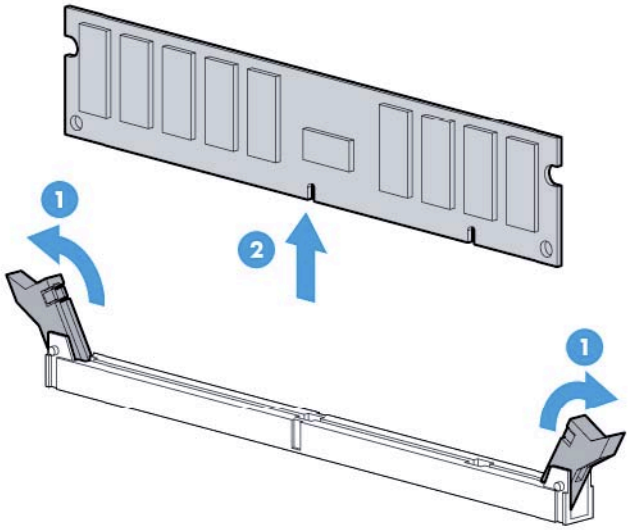
About this task

Follow the steps below to replace a defective DL360/380G9 4GB RDIMM.

Procedure

1. Power down the server.

   Follow Application power down procedures, if applicable.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Extend the server from the rack.
4. Remove the access panel.
5. Remove the DIMM.



6. To replace the component, reverse the removal procedure.

Related links

DIMM problems on page 33

RAID Battery

The RAID battery is customer replaceable unit (CRU). The RAID battery is not covered under the maintenance agreement. The customer must order the RAID Battery by calling the appropriate Order Entry Fulfillment Collections (OEFC) center as listed in the following table.

Table 3: Order Entry Fulfillment Collections (OEFC) center

Country	Phone number
Avaya Order Entry Fulfillment Collections (Avaya OEFC)	
USA	+1 800 852 2436
EMEA	+91 20 30412500
APAC	+65 6872 8599
Canada	+1 905 474 6589
CALA	
Argentina	+5255 5278 7640
Brazil	+5511 5185 6610
Colombia	+571 616 6077
Mexico	+5255 5278 7720 +65 6872 8599

Table 4: RAID Battery part number

Part number	Description
700511627	DL360/380G9 RAID BATTERY

Note:

If the server needs to be replaced, the customer must move the RAID battery from the current server to the replacement server.

For information about HP ProLiant DL360 G9 RAID configuration, see *HP ProLiant DL360 G9 RAID Configuration* on the Avaya Support website at http://support.avaya.com.

Server Field Replaceable Unit

A Server FRU is based on the Server core components. A server FRU will have the correct number (1 or 2) and type of CPUs (High or Low), it will have 4 DIMMs and the 4 embedded NIC ports. The following components will need to be sourced from the existing server: HDDs, Power Supply Unit (PSU), PCIe Cards, and any additional DIMMs over 4.

Note:

S8800, Common Server Release 1, and Common Server Release 2 used the same FRU policy with these minor differences. They shipped setup for RAID 1 with 2 HDDs, and a single PSU. Also, these servers are shipped with 2 DIMMs, if you had a single CPU and 4 DIMMs, if you had 2 CPUs.

Global asset recovery policy

To return any failed part or component, check the Return merchandise authorization (RMA) policy on the Avaya Support website http://support.avaya.com under **Help & Policies** > **Policies & Legal** > **Global Asset Recovery Policy**.

Appendix A: Differences between HP ProLiant DL360 G9 and HP ProLiant DL380 G9

The HP DL380 G9 server is a 2u server, whereas the HP DL360 G9 is one server. The functionality and performance of an equally equipped HP DL380 G9 and HP DL360 G9 is the same. The main reason a HP DL380 G9 is used is to accommodate a unique PCIe card that requires the 2u configuration. The HP DL380 G9 server can consists of 2 HDDs Bays (8 HDDs each) supporting a total of 16 HDDs. The HP DL380 G9 server can consists of 6 full length PCIe slots. The only Field Replaceable Unit that is unique to the HP DL380 G9 server is the Fan Tray.

Index