Installing the HP ProLiant DL360p G8 Server

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Chapter 1: Installing the HP DL360p G8 Server

HP ProLiant DL360p G8 Server overview

The Avaya Common Servers category includes the HP ProLiant DL360p G8 1U server that supports several Avaya software solutions, some requiring more hardware, and memory requirements beyond the standard configuration. This book 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.
- 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. Send questions to the Server Product Management mailbox at srvrprodmgt@avaya.com.
- Avaya Common Servers are turnkey appliances. No servers 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 migrate path from an existing server state to a different server state with the appropriate kits, tools, documentation, and training materials. For example, Avaya Aura Messaging is providing a kit plus documentation for migrating a server running Modular Messaging to Avaya Aura Messaging.
- Remote access and use of HP's hardware management tools for the HP DL360p G8 server are not supported by any Avaya application (HP ILO).
- Do not contact HP for Service; all support, warranty, repair, and maintenance are through the Avaya processes.
- 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. when the server is connected to standard power mains and has no protection.
- Substitution of a DC power supply in a server must be approved by the Application Product Manager before any substitution is made. 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 can be found 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 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/environmental international restrictions/ has been completed by HP and verified with Avaya through the use of Design for Environmental Checklists. These lists include: 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 DL360p G8 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
- Additional 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 DL360p G8 documentation.

Procedure

1. Open a browser and go to http://support.avaya.com.
2. Click **Downloads & Documents** from the menu at the top.

3. Enter `Common Servers` in the **Enter Your Product Here** field, and select 2.0.x from the **release** dropdown.
4. Select the **Documents** option, and click **Enter**.
5. Download the documents that you need.

HP DL360p G8 document set

See the following documents for HP DL360p server information and procedures.

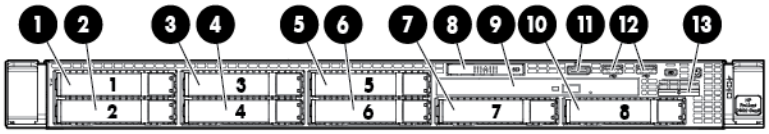
Documents

- HP ProLiant DL360p Gen8 Server User Guide
- HP ProLiant DL360p Gen8 Server Maintenance and Service Guide
- HP ProLiant Gen8 Troubleshooting Guide, Volume I: Troubleshooting
- HP ProLiant Gen8 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

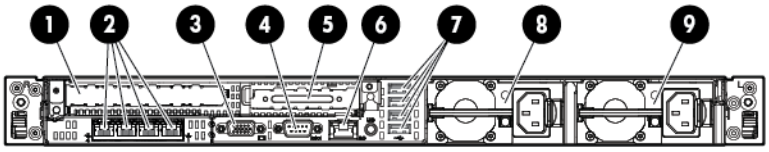
Title	Part number
1U Rack Hardware Installation Instructions	365 494–004
Power Cord Strain Relief Kit	407 454–021
Assembly document set: • HP ProLiant Server Setup Poster • Important Safety Information • Limited Warranty and Material Limitations	660849–001 • 667798–002 • 377834–021 • 307797–029

Front view of HP DL360p G8 Server



No.	Description
1	Hard Drive Bay
2	Hard Drive Bay
3	Hard Drive Bay
4	Hard Drive Bay
5	Hard Drive Bay
6	Hard Drive Bay
7	Hard Drive Bay
8	Slide-out System Insight Display (SID)
9	Optical Disk Drive Bay
10	Hard Drive Bay
11	Video Connector (requires Front Video Adapter Kit)
12	Two (2) USB Connectors
13	Active Health and Network Status LEDs

Rear view of HP DL360p G8 Server



No.	Description
1	PCIe 3.0 Full height/half length x16 expansion slot
2	Flexible LOM ports (Shown: 4 ports 1 Gb each/ Optional: 2 ports 10 Gb each)
3	Video connector
4	Serial connector
5	PCIe 3.0 Low Profile x8 expansion slot
6	iLO Management Engine NIC connector
7	Four (4) USB connectors
8	Power supply bay 2 (Shown populated: Optional Power Supply for Redundant Power)
9	Power supply bay 1 (Primary Power Supply)

HP DL360p G8 Server specifications

Base unit	Baseline	Options
DL360p G8	1U Chassis, Dual Socket	DL380p G8 2U Chassis, Dual Socket
Processor	Intel E5–2630, Six Core / 2.3 GHz (Sandybridge) 4 memory channels per CPU with up to 3 DIMMs per channel (most applications use 1 or 2 DIMMs per channel to optimize memory speed)	• Intel E5–2667six Core/2.9 GHz (Sandybridge) • Upgradable to dual processors for either E5–2630 or E5–2667
Memory	4 GB DDR3 RDIMMs	Max Capacity for 4GB RDIMM

Base unit	Baseline	Options
		• 48GB, 12x4GB (1 proc) • 96GB 24x4GB (2 proc)
HW RAID	P420i RAID controller with 512MB Cache and battery backup. Optioned as RAID 1 or 5	Other RAID configurations available
Hot-Plug disk drive cage	8 Small Form Factor 2.5” hot-plug hard drive bays are available when an optical drive is installed.	N/A
Disk drive	300 GB SAS 2.5" 10K RPM 6G DP Hard Drive. Two base configurations: • 299.96 GB total: RAID 1, 2 x 300 GB drives • 599.93 GB total: RAID 5, 3 x 300 GB drives	• Additional 300 GB 10K RPM SAS drive • High performance 300 GB 15K SAS drives • High performance 900 GB 10K SAS drives
NICs	4 integrated ENET Gigabit NIC ports with TCP offload engine (included on motherboard)	DL360p G8 SRVR 1GbE 4-port 331FLR Adapter FIO kit 2 Additional dual NIC slots may be populated for certain applications.
PCI slots	Two PCI-Express Gen 3expansion slots: (1) full-height, half-length slot and (1) low-profile slot	Slot 2 PCIe 3.0 x16 (full height / half length) x16 Slot 1, processor 1: PCIe 3.0 x8 low profile
Removable media	Slim line SATA DVD-RW optical drive (used in all Avaya configurations)	No additional options supported.
Power supply	460 W hotplug AC power supply	• 750 W AC power supply • 750 W DC power supply • Single and dual power supply configurations
Fans	6 Fan modules in 1 processor model	8 fan modules hot-swappable (fan redundancy standard)
Additional items	2 front USB, 4 back USB, 1 internal USB port, and front video connector	

Altitude and air pressure requirements

A table listing the altitude and air pressure requirements for the HP DL360p G8 server.

	Altitude
Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Hardware dimensions and clearance requirements

Table of dimensions and clearance requirements for the HP DL360p G8 server

Type	Description
Dimensions	Height: 4.32 cm (1.70 in)
	Width: 43.47 cm (17.11 in)
	Depth: 69.85 cm (27.50 in)
Weight (maximum; two processors, two power supplies, eight hard disk drives)	19.2 kg (42.33 lb)

Temperature and humidity requirements

This is a table of the temperature and humidity requirements for the HP DL360p G8 server.

Specification	Value
Temperature range	**Note:** All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8° per 1,000 ft.) above sea

Specification	Value
	level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight.
Operating	10° to 35°C (50° to 95°F) Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative humidity (noncondensing)	
Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Power requirements

A table listing the power requirements for the HP DL360p G8 server.

Table 1: HP 460 W CS power supply (92% efficiency)

Specification	Value
BTU	1053.53 BTU/hr
Voltage	100V — 240V
Plug Type	NEMA — 15
Circuit Breaker	15 amp
Pole	1
AMP Draw	2.69 @ 115 VAC
Total Watts	308.95 W

Note:

These numbers are based on the following typical Avaya configuration:

- qty=2 – E5-2630 six core processors
- qty=8x4 GB– Memory (1Rx4 PC3-12800R-11 kit)
- qty=3 – 2.5” SFF SAS HDDs

- qty=1 – Flexible LOM 1GB Ethernet network card 4 port 331T
- qty=2 – 460W AC power supplies

Physical system protection requirements

To properly ventilate the system, you must provide at least 7.6 cm (3.0 in) of clearance at the front and back of the server.

Note:

It is the customer's responsibility to ensure that no environmental hazards (i.e. excessive heat, excessive humidity, or improper ventilation) or electromagnetic interference from proximate equipment interfere with the operation of the server.

Regulatory standards

The HP DL360p G8 server conforms to the following standards:

EMC:

- CISPR 22:2005 + A1:2005 Class A
- EN 55022:2006 + A1:2007 Class A
- EN 55024:1998 + A1:2001 + A2:2003
- EN 61000-3-2:2006 + A1:2009 + A2:2009
- EN 61000-3-3:2008

Safety:

- EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011
- IEC 60950-1:2005 + A1:2009
- EN 62479:2010

CE:

- EN 50581:2012
- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC

The product herewith complies with the requirements of the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU and carries the CE marking accordingly.

Installing the server in the rack

This installation checklist contains the principle steps that are necessary to install the server in the rack. The notation in the *Reference* column is a section in the appropriate HP document that contains the step-by-step procedures. Where applicable, additional information and clarifications appear in the *Avaya recommendation* column. Perform each task in the order specified.

Note:

Avaya customers are required to have a monitor and USB keyboard available for server maintenance.

No.	Task	Reference	Avaya recommendation
1	Observe safety warnings	User Guide: Installing the server into the rack.	
2	Examine contents of shipping container (Avaya provided equipment)	User Guide: Contents of the server shipping carton	• Server • Power extender cord • Printed setup documentation • Rack mounting hardware kit and documentation
3	Examine installation environment (customer provided equipment)	User Guide: Optimum Environment	When installing the server in a rack, select a location that meets the environmental standards.
4	Verify that the rack is installed according to the manufacturer's instructions and in accordance with all local codes and laws	User Guide: Installing the server into the rack	To install the server into a rack with square, round, or threaded holes, refer to the instructions that ship with the rack hardware kit.
5	Verify that the rack is grounded in accordance with local electrical code	User Guide: Electrical Grounding Requirements	The server must be grounded for proper operation and safety.

No.	Task	Reference	Avaya recommendation
6	Determine and plan the vertical spacing of the servers in the frame	User Guide: Space and Airflow Requirements	Servers draw in cool air through the front and expel warm air through the rear. Therefore, the front rack doors must be adequately ventilated to allow ambient room air to enter the cabinet, and the rear door must be adequately ventilated to allow the warm air to escape from the cabinet.
7	Attach the rails to the rack.	User Guide: Installing the server into the rack	To install the server into a rack with square, round, or threaded holes, refer to the instructions that ship with the rack hardware kit. If these rails do not fit the rack the customer must provide rails or a shelf for rack installation. Also the rails included with the server might not work with round hole racks, in which case the customer can obtain rails and/or a shelf from a distributor. (RackSolutions.com)
8	Attach the server to the rack	User Guide: Installing the server into the rack	**Warning:** This server is very heavy. To reduce the risk of personal injury or damage to the equipment: • Get help lifting and stabilizing the product during installation or removal, especially when the product is not fastened to the rails. HP recommends that a minimum of two people are required for all rack server installations. A third person may be required to help align the server if the server is installed higher than chest level. • Use caution when installing the server in or removing the server from the rack; it is unstable when not fastened to the rails.
9	Connect the peripheral devices to the server	Server Setup Poster: Connecting the power cord to the power supply	Network connections, power cords, cable management arm (not included) Consult your Avaya application installation documentation at this point.
10	Power up the server.	User Guide: Powering up and configuring the server	Once powered up refer to Avaya application installation instructions

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