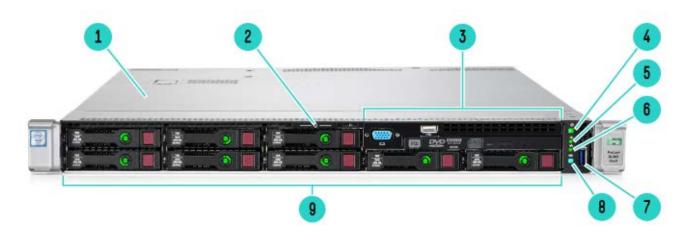
# **Overview**

# HPE ProLiant DL360 Generation9 (Gen9)

The Hewlett Packard Enterprise leading server for dense general-purpose computing, the HPE ProLiant DL360 Gen9 Server delivers increased performance with the best memory and I/O expandability packed in a 1U dense rack design. Reliability, serviceability and always on availability, backed by a comprehensive warranty, make it ideal for the most space constrained server workloads.

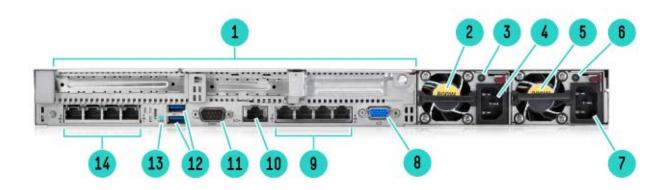


### Front View

- 1. Access Panel
- 3. HPE Universal Media Bay or NVMe NOTE: Shown w/ VGA, USB 2.0 and DVD-ROM or DVD-RW option. Alternative options: NVMe HDD Kits, 2 SFF HDDs or VGA and USB 2.0.
- 5. Health LED
- 7. USB 3.0 Connector
- 9. SAS/SATA/SSD/NVMe Drive Bays **NOTE:** 8SFF Model shown can be configured: 8 SAS/SATA Drives or 10 SAS/SATA drives 4 SAS/SATA (Drive 1-4) + 6 NVMe (Drive 5-10) 8 SAS/SATA + Universal Media Bay
- 2. Serial Label Pull Tab 4. Power On/Standby button and system power LED button
- 6. NIC Status LED
- 8. Unit Identification Button & LED
- 4 LFF Models are also available.



# Overview

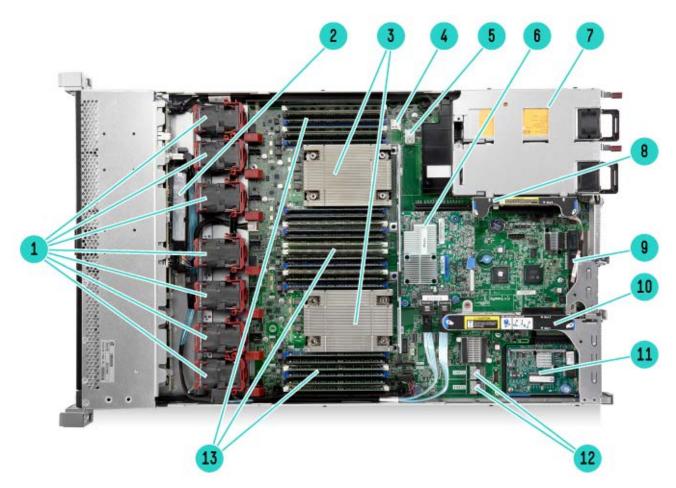


### **Rear View**

- PCle 3.0 Slots 1-3
   NOTE: Slot 1 and 2 Riser Ships Standard, Slot 3 Optional one FH/ ¾ length and two Low Profile slots available (shown) or two FH/ ¾ length slots.
- 3. Power Supply 2 Status LED
- 5. HPE Flexible Slot Power Supply Bay 1
- 7. Power Supply 1 C13 Connection
- 9. Embedded 4x1GbE Network Adapter
- 11. Serial Port Connector (Optional)
- 13. Unit Identification LED

- 2. HPE Flexible Slot Power Supply Bay 2
- 4. Power Supply 2 C13 Connection
- 6. Power Supply 1 Status LED
- 8. Video Connector
- 10. Dedicated iLO 4 connector
- 12. USB 3.0 Connectors (2)
- 14. FlexibleLOM bay (Optional) **NOTE:** Shown: 4x1Gbe.

### Overview



### **Internal View**

- 1. 5 Standard Fans Ship for 1P and 7 Standard Fans Ship for 2P **NOTE:** High Performance Fans also available as an option.
- 3. 2 Processors with HPE Smart Socket Guide
- 5. Dual Internal USB 3.0 connector
- 7. 2 HPE Flexible Slot Power supplies **NOTE:** Optional Micro UPS option
- 9. Embedded 4x1Gbe NIC
- 11. FlexibleLOM Bay (Optional)
- 13. DDR4 DIMM slots. Shown fully populated in 24 slots (12 per processor)

- 2. HPE Smart Storage Battery (Optional)
- 4. MicroSD card slot NOTE: Optional Dual Micro-SD option.
- 6. HPE Flexible Smart Array or Smart HBA (Optional) **NOTE:** H240ar shown and P440ar available.
- Secondary PCle 3.0 riser for PCle slot 3 (requires CPU 2)
- 10. Primary PCIe 3.0 riser for PCIe slots 1  $\&\,2$
- 12. Embedded SATA Controller ports

NOTE: For more information regarding Intel Xeon processors, please see the following http://www.intel.com/xeon.

| <b>Processor</b><br>Up to two of the | Model      | CPU<br>frequency | Cores | L3 Cache | Power | QPI     | DDR4 Hz |
|--------------------------------------|------------|------------------|-------|----------|-------|---------|---------|
| following depending -<br>on model    | E5-2699v3  | 2.3GHz           | 18    | 45MB     | 145W  | 9.6GT/s | 2133    |
| linnoder                             | E5-2698v3  | 2.3GHz           | 16    | 40MB     | 135W  | 9.6GT/s | 2133    |
|                                      | E5-2697v3  | 2.6GHz           | 14    | 35MB     | 145W  | 9.6GT/s | 2133    |
| ľ                                    | E5-2695v3  | 2.3GHz           | 14    | 35MB     | 120W  | 9.6GT/s | 2133    |
|                                      | E5-2690v3  | 2.6GHz           | 12    | 30MB     | 135W  | 9.6GT/s | 2133    |
| ľ                                    | E5-2687Wv3 | 3.1GHz           | 10    | 25MB     | 160W  | 9.6GT/s | 2133    |
| -                                    | E5-2683v3  | 2.0GHz           | 14    | 35MB     | 120W  | 9.6GT/s | 2133    |
| -                                    | E5-2680v3  | 2.5GHz           | 12    | 30MB     | 120W  | 9.6GT/s | 2133    |
| -                                    | E5-2670v3  | 2.3GHz           | 12    | 30MB     | 120W  | 9.6GT/s | 2133    |
|                                      | E5-2667v3  | 3.2GHz           | 8     | 20MB     | 135W  | 9.6GT/s | 2133    |
|                                      | E5-2660v3  | 2.6GHz           | 10    | 25MB     | 105W  | 9.6GT/s | 2133    |
| ľ                                    | E5-2650v3  | 2.3GHz           | 10    | 25MB     | 105W  | 9.6GT/s | 2133    |
| ľ                                    | E5-2650Lv3 | 1.8GHz           | 12    | 30MB     | 65W   | 9.6GT/s | 2133    |
| ľ                                    | E5-2643v3  | 3.4GHz           | 6     | 20MB     | 135W  | 9.6GT/s | 2133    |
| F                                    | E5-2640v3  | 2.6GHz           | 8     | 20MB     | 90W   | 8.0GT/s | 1866    |
| ľ                                    | E5-2637v3  | 3.5GHz           | 4     | 15MB     | 135W  | 9.6GT/s | 2133    |
| ľ                                    | E5-2630v3  | 2.4GHz           | 8     | 20MB     | 85W   | 8.0GT/s | 1866    |
| ľ                                    | E5-2630Lv3 | 1.8GHz           | 8     | 20MB     | 55W   | 8.0GT/s | 1866    |
| -                                    | E5-2623v3  | 3.0GHz           | 4     | 10MB     | 105W  | 8.0GT/s | 1866    |
|                                      | E5-2620v3  | 2.4GHz           | 6     | 15MB     | 85W   | 8.0GT/s | 1866    |
|                                      | E5-2609v3  | 1.9GHz           | 6     | 15MB     | 85W   | 6.4GT/s | 1600    |
|                                      | E5-2603v3  | 1.6GHz           | 6     | 15MB     | 85W   | 6.4GT/s | 1600    |
|                                      | E5-2699v4  | 2.2GHz           | 22    | 55MB     | 145W  | 9.6GT/s | 2400    |
|                                      | E5-2698v4  | 2.2GHz           | 20    | 50MB     | 135W  | 9.6GT/s | 2400    |
|                                      | E5-2697v4  | 2.3GHz           | 18    | 45MB     | 145W  | 9.6GT/s | 2400    |
| -                                    | E5-2697Av4 | 2.6GHz           | 16    | 40MB     | 145W  | 9.6GT/s | 2400    |
|                                      | E5-2695v4  | 2.1GHz           | 18    | 45MB     | 120W  | 9.6GT/s | 2400    |
|                                      | E5-2690v4  | 2.6GHz           | 14    | 35MB     | 135W  | 9.6GT/s | 2400    |
| -                                    | E5-2687Wv4 | 3.0GHz           | 12    | 30MB     | 160W  | 9.6GT/s | 2400    |
|                                      | E5-2683v4  | 2.1GHz           | 16    | 40MB     | 120W  | 9.6GT/s | 2400    |
|                                      | E5-2680v4  | 2.4GHz           | 14    | 35MB     | 120W  | 9.6GT/s | 2400    |
| -                                    | E5-2667v4  | 3.2GHz           | 8     | 25MB     | 135W  | 9.6GT/s | 2400    |
|                                      | E5-2660v4  | 2.0GHz           | 14    | 35MB     | 105W  | 9.6GT/s | 2400    |
|                                      | E5-2650v4  | 2.2GHz           | 12    | 30MB     | 105W  | 9.6GT/s | 2400    |
| ľ                                    | E5-2650Lv4 | 1.7GHz           | 14    | 35MB     | 65W   | 9.6GT/s | 2400    |
| ľ                                    | E5-2643v4  | 3.4GHz           | 6     | 20MB     | 135W  | 9.6GT/s | 2400    |
| 1                                    | E5-2640v4  | 2.4GHz           | 10    | 25MB     | 90W   | 8.0GT/s | 2133    |
| 1                                    | E5-2637v4  | 3.5GHz           | 4     | 15MB     | 135W  | 9.6GT/s | 2400    |

|            |         |    |      |      |         | -    |
|------------|---------|----|------|------|---------|------|
| E5-2630v4  | 2.2GHz  | 10 | 25MB | 85W  | 8.0GT/s | 2133 |
| E5-2630Lv4 | 1.8GHz  | 10 | 25MB | 55W  | 8.0GT/s | 2133 |
| E5-2623v4  | 2.6GHz  | 4  | 10MB | 85W  | 8.0GT/s | 2133 |
| E5-2620v4  | 2.1GHz  | 8  | 20MB | 85W  | 8.0GT/s | 2133 |
| E5-2609v4  | 1.7GHz  | 8  | 20MB | 85W  | 6.4GT/s | 1866 |
| E5-2603v4  | 1.7GHz  | 6  | 15MB | 85W  | 6.4GT/s | 1866 |
| E5-2699Av4 | 2.4 GHz | 22 | 55MB | 145W | 9.6GT/s | 2400 |

**NOTE:** Mixing of E5-2600 v3 and E5-2600 v4 processors is not supported **NOTE:** All processors support Hyper-Threading except E5-2609 v4/v3 and E5-2603 v4/v3. **NOTE:** Processors consuming up to 120w ship with standard heat sink.

- Processors consuming over 120w ships with a High Performance heat sink as standard.
- A High Performance heat sink can be added to help reduce power consumption (795235-B21).

#### Chipset

Intel® C610 Series Chipset Intel® E5-2600v3 Processor Family Intel® E5-2600v4 Processor Family **NOTE:** For more information regarding Intel® chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/

#### On System

HPE iLO (Firmware HPE iLO4 2.0 or later) 4GB NAND

Management Chipset NOTE: 1GB USB user space configurable via UEFI and accessible via iLO. Read and learn more in the *iLO QuickSpecs*.

| <b>Memory</b><br>One of the following<br>depending on model | Type:<br>HPE SmartMemory<br>DDR4 Registered (RDI                           | MM) or Loa                               | d Reduced (LRDIMM)   |  |  |
|---|--|--|--|--|--|
|   | DIMM Slots Available   | 24                                       | (12 DIMM slots per processor, 4 channels per processor, 3 DIMMs per channel)   |  |  |
|   | Maximum Capacity<br>(LRDIMM)   | 3TB                                      | (24 x 128GB LRDIMM)  |  |  |
|   | Maximum Capacity<br>(RDIMM)  | 768GB                                    | (24 x 32GB RDIMM)  |  |  |
|   | Maximum Capacity<br>(NVDIMM)   | 128GB                                    | (16 x 8GB NVDIMM)*   |  |  |
|   | NVDIMM support only with the E5-2600v4 processors, and RDIMMs only         |  |  |  |  |
|   | <ul> <li>*NVDIMMs ca</li> <li>*A maximum c</li> <li>NVDIMMs are</li> </ul> | nnot be use<br>of 16 NVDII<br>only suppo | e mixed with any other size DIMMs.<br>ed with LRDIMMs.<br>MMs can be supported.<br>orted on factory configured servers with E5-2600 v4 processors, not<br>graded from E5-2600 v3 to E5-2600 v4 processors. |  |  |

| Memory Protection   | Advanced ECCAdvanced ECC uses single device data correction to detect and correct single and<br>all multibit error that occurs within a single DRAM chip. |   |  |  |   |   |           |
|---|---|---|--|--|---|---|-----------|
|   | Online Spare  |   | online spare<br>on to the spar   |  | rank that is a  | degrading and switc   | hes       |
| Expansion Slots   |   |   |  |  |   |   |           |
| Primary Riser   | Expansion<br>Slots #  | Technology  | Bus<br>Width   | Connector<br>Width   | Bus<br>Number   | Form Factor   | Notes     |
|   | 1   | PCle 3.0  | X16  | X16  | 7   | Full-height, ¾<br>length (up to<br>9.5") Slot   | Proc 1    |
|   | 2   | PCle 3.0  | X8   | X8   | 10  | Full-height,<br>half-length slot  | Proc 1    |
|   | NOTE: Bus Wid   | th indicates the r  | number of pl   | nysical electrical   | lanes runnin  | g to the connector.   |           |
| Secondary Riser   | Expansion<br>Slots #  | Technology  | Bus<br>Width   | Connector<br>Width   | Bus<br>Number   | Form Factor   | Notes     |
|   | 3   | PCle 3.0  | X16  | X16  | 16  | Full-height, full-<br>length slot   | Proc 2    |
|   | 3   | PCle 3.0  | X16  | X16  | 20  | Full-height, full-<br>length slot   | Proc 2    |
| <b>Storage Controller</b><br>One of the following<br>depending on model                 | <ul> <li>For leg</li> <li>For CT</li> <li>NOTE: The eml</li> </ul>  | HPE H2<br>2600v3 Entry ma<br>jacy mode suppo<br>O orders please<br>bedded B140i de<br>abled on the SAT<br>HPE Fle | 240ar Smart<br>odels, the en<br>ort an additic<br>also select "I<br>efaults to AH<br>"A only mod<br>exible Smart | nal controller wi<br>HPE Legacy FIO<br>ICI off the chipse                    | er<br>will operate i<br>ill be needed<br>Mode Settin<br>et. HPE Dyna<br>GB                        | n UEFI mode only.<br>g", 758959-B22.<br>mic Smart Array Co  | ontroller |
| <b>Internal Storage</b><br><b>Devices</b><br>One of the following<br>depending on model | Optical Drive<br>Hard Drives<br>Hard Drive Bays   | Option<br>Option<br>4 LFF<br>Option<br>Option<br>None sl<br>s 8 SFF v<br>4 LFF<br>10 SFF                          | Kit 764632-<br>Kit 818213-<br>Kit 726536-<br>Kit 726537-<br>Optical cable<br>hip standard<br>vith optional       | B21 - HPE 9.5m<br>e kit Required fo<br>Universal Media<br>el with optional 2 | VD-RW USB<br>VD-ROM US<br>m SATA DVI<br>m SATA DVI<br>or optical driv<br>Bay or NVM<br>SFF SAS/SA | B Kit<br>D-ROM Jb Gen9 Kit<br>D-RW Jb Gen9 Kit<br>res, 766203-B21.<br>e drive support<br>TA kit: 764630-B21 |           |

To order additional (single) hard drive blanks, use either: P/N 666987-B21: HPE SFF Hard Drive Blank Kit or P/N 666986-B21: HPE LFF Hard Drive Blank Kit. **NOTE:** The 2SFF kit comes with cable for internal B140i SATA controller. For SAS an alternate storage controller and cable kit are required.

| Maximum Internal |                               | CAPACITY | CONFIGURATION                          |
|------------------|-------------------------------|----------|--|
| Storage          | Hot Plug SFF SAS SSD          | 38.4TB   | 10 x 3.84TB                            |
|                  | Hot Plug SFF SATA<br>SSD      | 38.4TB   | 10 x 3.84TB                            |
|                  | Hot Plug SFF SAS              | 20.0TB   | 10 x 2.0TB                             |
|                  | Hot Plug SFF SATA             | 20.0TB   | 10 x 2.0TB                             |
|                  | Hot Plug LFF SAS SSD          | 6.4TB    | 4 x 1.6TB                              |
|                  | Hot Plug LFF SATA<br>SSD      | 15.36TB  | 4 x 3.84TB                             |
|                  | Hot Plug LFF SAS              | 40.0TB   | 4 x 10TB                               |
|                  | Hot Plug LFF SATA             | 40.0TB   | 4 x 10TB                               |
|                  | Hot Plug SFF NVMe<br>PCIe SSD | 27.36TB  | 6 x 2.0TB NVMe +<br>4 x 3.84TB SFF SSD |

### Power Supply

One of the following depending on model

HPE 500W Flex Slot Platinum Hot Plug Power Supply

**NOTE:** Available in 94% efficiency.

HPE 800W Flex Slot Platinum Hot Plug Power Supply

NOTE: Also available in 96%.

**NOTE:** Also available in -48VDC and 227VAC/380VDC power inputs 720480-B21 and 720484-B21 Universal PSU.

HPE 1400W Flex Slot Platinum Plus Hot Plug Power Supply

NOTE: Available in 94% efficiency.

HPE Flexible Slot Battery Backup Unit Kits

NOTE: Flex Slot Battery Backup provides 750W output and 500W in paralleled configuration.

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen9 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

To review the power requirements for your selected system, please use the HPE Power Advisor Tool located at <u>http://www.hpe.com/info/hppoweradvisor</u>.

Power specifications and technical content for all HPE Server power supplies can be found at <u>http://www.hp.com/go/proliant/powersupply</u>.

| Standard i Cardi                        |   |   |                                    |  |  |  |  |
|---|---|---|------------------------------------|--|--|--|--|
| System Fans                             |   | Non-redundant                           | Redundant                          |  |  |  |  |
| One of the following                    | 1P model  | N/A                                     | 5 fans                             |  |  |  |  |
| depending on model                      |   | Non-redundant                           | Redundant                          |  |  |  |  |
|   | 2P model  | N/A                                     | 7 fans                             |  |  |  |  |
|   | NOTE: The second processo   | or option kit contains two fans.        |                                    |  |  |  |  |
|   | NOTE: High Performance F  | an Kit, 766201-B21, is available to mee | et some extended ambient operating |  |  |  |  |
|   |   | Qualifications for extended ambient co  | nfigurations are detailed          |  |  |  |  |
|   | at: http://www.hpe.com/se   | rvers/ashrae                            |                                    |  |  |  |  |
| Interfaces                              | Serial  | 1                                       |                                    |  |  |  |  |
|   | NOTE: Serial Cable Option I   |   |                                    |  |  |  |  |
|   | Video   | 1 rear (Standard)                       |                                    |  |  |  |  |
|   |   | 1 front (Optional)                      |                                    |  |  |  |  |
|   | NOTE: Front VGA options available for 8SFF and 4LFF models.   |   |                                    |  |  |  |  |
|   | See Core Options section of this QuickSpecs for more details.   |   |                                    |  |  |  |  |
|   | Network RJ-45 (Ethernet) Embedded 4x1GBE + FlexibleLOM bay  |   |                                    |  |  |  |  |
|   | <b>NOTE:</b> Both the SFF and LFF chassis have an embedded 4x1GbE NIC and FlexibleLOM bay.  |   |                                    |  |  |  |  |
|   | See HPE Networking section below for more details.  |   |                                    |  |  |  |  |
|   | HPE iLO Remote 1 Gb Dedicated<br>Management Network Port  |   |                                    |  |  |  |  |
|   | SD Connector  | 1 micro SD Internal                     |                                    |  |  |  |  |
|   | <b>NOTE:</b> The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered. |   |                                    |  |  |  |  |
|   | USB 3.0   | 5 total: 2 rear, 1 front, 2 internal    |                                    |  |  |  |  |
|   |   |   |                                    |  |  |  |  |
| Operating Systems<br>and Virtualization | Microsoft Windows Server  |   |                                    |  |  |  |  |
| Software Support fo                     | Red Hat Enterprise Linux (RHEL)<br>r  |   |                                    |  |  |  |  |
| ProLiant Servers                        | SUSE LINUX Enterprise Server (SLES)   |   |                                    |  |  |  |  |
|   | <u>Canonical Ubuntu</u>   |   |                                    |  |  |  |  |
|   | <u>Oracle Linux</u>   |   |                                    |  |  |  |  |
|   | <u>CentOS</u>   |   |                                    |  |  |  |  |
|   | <u>VMware</u>   |   |                                    |  |  |  |  |
|   | Citrix XenServer  |   |                                    |  |  |  |  |
|   | <u>Oracle Solaris</u>   |   |                                    |  |  |  |  |

Wind River Linux

**NOTE:** For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from Hewlett Packard Enterprise, please visit our OS Support Site at: <u>http://www.hp.com/go/ossupport</u> and our driver download page: <u>http://h20566.www2.hpe.com/hpsc/swd/public/readIndex?sp4ts.oid=7252838</u>.

|                                 | Up to 10 SFF Hard Drive Bays; or 4 LFF Hard Drive Bays  |  |  |  |  |  |  |
|---------------------------------|---|--|--|--|--|--|--|
|                                 | FlexibleLOM slot for 1GbE or 10GbE or QDR/FDR InfiniBand Networking Options   |  |  |  |  |  |  |
|                                 | Optional 3 slot riser (x16, x16, x8), or 2 slot primary riser (x16, x8)   |  |  |  |  |  |  |
|                                 | 3 PCIe 3.0 I/O slots for additional communications and storage expansion  |  |  |  |  |  |  |
|                                 | <b>NOTE:</b> Slot 1 and 2 Riser Shipped Standard. Slot 3 Optional 1 FH, ¾ length and 2 Low Profile slots  |  |  |  |  |  |  |
|                                 | available or two FH, ¾ length slots.  |  |  |  |  |  |  |
|                                 | Redundant Power Supplies  |  |  |  |  |  |  |
|                                 | Optical Drive supported via Universal Media Bay   |  |  |  |  |  |  |
|                                 | 8SFF Chassis with:  |  |  |  |  |  |  |
|                                 | Option Kit 764632-B21 VGA, SFF DVD-RW USB Kit   |  |  |  |  |  |  |
|                                 | Option Kit 818213-B21 VGA, SFF DVD-ROM USB Kit  |  |  |  |  |  |  |
|                                 | 4LFF Chassis with:  |  |  |  |  |  |  |
|                                 | Option Kit 726536-B21 - HPE 9.5mm SATA DVD-ROM Jb Gen9 Kit  |  |  |  |  |  |  |
|                                 | Option Kit 726537-B21 - HPE 9.5mm SATA DVD-RW Jb Gen9 Kit   |  |  |  |  |  |  |
|                                 | <b>NOTE:</b> Optical cable kit Required for optical drives, 766203-B21.   |  |  |  |  |  |  |
| Inductory Standard              | ACDI 2.0h Compliant   |  |  |  |  |  |  |
| Industry Standard<br>Compliance | ACPI 2.0b Compliant   |  |  |  |  |  |  |
|                                 | PCIe 3.0 Compliant<br>PXE Support   |  |  |  |  |  |  |
|                                 | WOL Support   |  |  |  |  |  |  |
|                                 | Microsoft® Logo certifications  |  |  |  |  |  |  |
|                                 | USB 3.0 Support   |  |  |  |  |  |  |
|                                 | Energy Star   |  |  |  |  |  |  |
|                                 | ASHRAE A3/A4  |  |  |  |  |  |  |
|                                 | NOTE: The DL360 Gen9 is now one of the first HPE ProLiant Gen9 Servers with Extended Ambient  |  |  |  |  |  |  |
|                                 | Support up to 45C for data center infrastructures designed for better energy efficiency.<br>For additional technical thermal details regarding ambient temperatures, humidity and features support                      |  |  |  |  |  |  |
|                                 | please visit http://www.hpe.com/servers/ashrae.   |  |  |  |  |  |  |
|                                 |   |  |  |  |  |  |  |
| Graphics                        | Integrated Matrox G200 video standard with 16MB of Video RAM  |  |  |  |  |  |  |
|                                 | <ul> <li>1280 x 1024 (32 bpp)</li> <li>1920 x 1200 (16 bpp)</li> </ul>  |  |  |  |  |  |  |
|                                 |   |  |  |  |  |  |  |
| HPE Server                      | Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability   |  |  |  |  |  |  |
| UEFI/Legacy ROM                 | and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE<br>ProLiant Gen9 platform defaults to UEFI and can be factory or field configured for Legacy BIOS Boot<br>Mode. |  |  |  |  |  |  |
|                                 | <b>NOTE:</b> The UEFI System Utilities function is analogous to the HPE ROM-Based Setup Utility (RBSU) of   |  |  |  |  |  |  |
|                                 | legacy BIOS. For more information, please visit <u>http://www.hpe.com/servers/uefi</u> .  |  |  |  |  |  |  |
|                                 | UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:  |  |  |  |  |  |  |
|                                 | Secure Boot   |  |  |  |  |  |  |
|                                 | Operating system specific functionality   |  |  |  |  |  |  |
|                                 |   |  |  |  |  |  |  |

- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using RESTful API for iLO 4
- PXE boot support for IPv6 networks
- Boot support for option cards that only support a UEFI option ROM
- Network Stack configurations

factory for your HPE ProLiant Gen9 Server.

**NOTE:** For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI. **NOTE:** UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the

### Form Factor 1U Rack form factor

One of the following depending on model 8 SFF Drive Bay Version and 10 SFF Drive Bay Version: 1.7" (4.32cm) Height x 17.11" (43.47cm) Width x 27.5" (69.85cm) Length 4 LFF Drive Bay Version: 1.7" (4.32cm) Height x 17.11" (43.47cm) Width x 29.5" (74.67cm) Length NOTE: Dimensions without bezel.

| Embedded<br>Management | HPE Integrated<br>Lights-Out<br>(HPE iLO) | Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at <b>http://www.hpe.com/info/ilo</b> .  |
|------------------------|---|--|
|                        | UEFI                                      | Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at <b>http://www.hpe.com/servers/uefi</b> .   |
|                        | RESTful API                               | RESTful API for iLO 4 is Redfish 1.0 conformance for simplified server management such as configuration and maintenance tasks based on modern industry standards. Learn more at <b>http://www.hpe.com/info/restfulapi</b> .  |
|                        | Intelligent<br>Provisioning               | Hassle free server and OS provisioning for 1 or few servers with Intelligent Provisioning.<br>Learn more at <b>http://www.hpe.com/servers/intelligentprovisioning</b> .  |
|                        | Embedded<br>Remote Support                | The Hewlett Packard Enterprise embedded remote support, when used with Insight<br>Online direct connect or HPE Insight Remote Support, allows HPE ProLiant servers to<br>transmit hardware events directly to Hewlett Packard Enterprise or a Hewlett Packard<br>Enterprise Authorized Partner for automated phone home support. Learn more<br>at http://www.hpe.com/info/insightonline/explore. |

| Standard Feature | es  |   |
|------------------|---|---|
| Server utilities | Smart Update  | Optimize firmware and driver updates with Smart Update solutions including Smart<br>Update Manager (SUM) and Service Pack for ProLiant (SPP). Learn more<br>at <b>http://www.hpe.com/servers/smartupdatemanager</b> .   |
|                  | HPE Systems<br>Insight Manager<br>(HPE SIM)                                   | HPE SIM allows you to monitor the health of your HPE ProLiant Servers and HPE<br>Integrity Servers, and also provides you with basic support for non-Hewlett Packard<br>Enterprise servers.<br>HPE SIM also integrates with Smart Update Manager to provide quick and seamless<br>firmware updates. Learn more at <u>http://www.hpe.com/servers/hpsim</u> .             |
|                  | Scripting Tool<br>Kit and<br>Windows<br>PowerShell                            | Provision 1 to many servers using your own scripts to discover and deploy them with<br>Scripting Tool Kit (STK) for Windows and Linux or Scripting Tools for Windows<br>PowerShell. Learn more at <u>http://www.hpe.com/servers/proliant/stk</u><br>or <u>http://www.hpe.com/servers/powershell</u> .   |
|                  | RESTful<br>Interface Tool   | RESTful Interface tool is a scripting tool to provision using RESTful API for iLO 4 to discover and deploy servers at scale. Learn more at <u>http://www.hpe.com/info/resttool</u> .  |
|                  | HPE iLO Mobile<br>Application   | Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <b>http://www.hpe.com/info/ilo/mobileapp</b> .   |
|                  | HPE Insight<br>Online   | HPE Insight Online, available at no additional cost as part of your Hewlett Packard<br>Enterprise warranty or contractual support agreement with Hewlett Packard Enterprise,<br>is a personalized dashboard for simplified tracking of IT operations and support<br>information from anywhere, anytime. Learn more<br>at http://www.hpe.com/info/insightonline/explore. |
| Security         | Power-on passwo<br>Keyboard passwo<br>QuickLock, Netwo<br>Serial interface co | ord<br>ork Server Mode  |

Administrator's password

iLO 4 (Integrated Lights-Out 4) has 12 customizable user accounts and SSL encryption

iLO 4 can be disabled via a Global Setting

Integrated Lights-Out can be disabled via a Global Setting

iLO Advanced supports directory services integration

TPM 2.0

UEFI

#### Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

**NOTE:** Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/.

# **Optional Features**

| Server Management                | HPE Insight<br>Control   | HPE Insight Control, lets you deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see <b>http://www.hpe.com/info/insightcontrol</b> .   |
|----------------------------------|--|--|
|                                  | HPE Insight<br>Cluster<br>Management<br>Utility (CMU)  | HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at <b>http://www.hpe.com/info/cmu</b> .   |
| Rack and Power<br>Infrastructure | for existing or ne<br>power protection<br>are looking for to<br>changes in the in<br>provision infrastr<br>uniquely position | ower Infrastructure products and services create highly efficient and intelligent solutions<br>aw IT data centers. HPE Rack and Power infrastructure solutions – rack infrastructure,<br>and management, performance optimized data centers (PODs) – are the foundation you<br>be help secure your long-term IT success. These products are designed to help you react to<br>industry. They deliver efficient, easy-to-use capabilities to manage, monitor, deploy and<br>ructure from entry to enterprise. As an industry leader, Hewlett Packard Enterprise is<br>need to address the key concerns of power, cooling, cable management and system access.<br><b>PE Rack and Power Infrastructure</b> .   |
| High Performance<br>Clusters     | HPE Insight<br>Cluster<br>Management<br>Utility (CMU)  | HPE Insight Cluster Management Utility is a Hyperscale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at <b>http://www.hp.com/go/cmu</b> .  |
| HPC Interconnects                | under the HPE C<br>by Hewlett Pack<br>defined with a lo<br>configure HPEC  | formance Computing (HPC) interconnect technologies are available for this server<br>Cluster Platform product portfolio. These high-speed interconnects are fully supported<br>card Enterprise when they are part of these configure to order clusters. Solutions can be<br>of of flexibility with the help of configuration tools. Please visit the following URL to<br>Clusters with InfiniBand<br>ttp://www.hp.com/techservers/clusters/ucp/index.html   |
| Storage Software                 | challenge, or del<br>than Hewlett Pa<br>storage infrastru  | ed to solve a specific data protection, archiving, or storage command and control<br>iver on strategic consolidation, compliance, or continuity initiatives, look no further<br>ckard Enterprise storage software. Our storage software helps you reduce costs, simplify<br>icture, protect vital assets and respond faster to business opportunities.<br>e that gets the job done:  |
|                                  | Whether<br>protection<br>busines<br>• Data And<br>Hewlett<br>retrievation<br>infreque<br>• Storage<br>Hewlett<br>and pro     | <ul> <li>Protection and Recovery Software</li> <li>Pryou're a large enterprise or a smaller business, Hewlett Packard Enterprise data ion and recovery software will cost-effectively protect you against disaster and ensure s continuity.</li> <li>Prohive and Migration Software</li> <li>Packard Enterprise storage software enables you to comply with data retention and I requirements, improve application performance, and reduce costs by efficiently migrating ently accessed or less valuable data to lower cost storage.</li> <li>Packard Enterprise storage resource management software reduces operational costs vides the command and control foundation you need to efficiently manage and visualize ysical and virtual environments.</li> </ul> |
|                                  |  | Page   |

### • Data Replication Software

Hewlett Packard Enterprise offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.

• Storage Device Management Software

Maximize your investment in Hewlett Packard Enterprise storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.

• HPE StoreVirtual VSA

Enable highly available and clustered storage in your HPE ProLiant servers with virtualized storage: Add StoreVirtual VSA to multiple servers, manage it as a single pool of shared storage capacity, and scale it to match your evolving needs. To simplify deployment, Hewlett Packard Enterprise offers StoreVirtual Ready Nodes, pre-defined reference configurations for converged vSphere and Hyper-V virtualization solutions. You also have the option to install free 1TB-capacity StoreVirtual VSA software during server setup within Intelligent Provisioning. HPE ProLiant Gen9 servers include a 3-year limited license for this HPE software-defined storage at no extra cost. More information, instructional videos, and free management software are available at http://www.hpe.com/storage/storevirtual

# **NOTE:** For more information about Storage Software including QuickSpecs, please see: <u>http://www.hp.com/go/storage/software</u>.

**One Config Simple** (SCE) SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. <u>http://ocs.ext.hpe.com/</u>.

| HPE Support<br>Services | HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability.<br>Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. HPE Support<br>Services enable you to choose the right service level, length of coverage and response time as you<br>purchase your new server, giving you full entitlement to the support for need for your IT and business.  |
|-------------------------|---|
| Connect your<br>devices | Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard<br>Enterprise. Achieve up to 77% <sup>1</sup> reduction in down time, near 100% <sup>2</sup> diagnostic accuracy and a single<br>consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts,<br>automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care<br>Service customers will also benefit from proactive activities to help prevent issues and increase<br>optimization. All of these benefits are already available to you with your server storage and networking<br>products, securely connected to Hewlett Packard Enterprise support.<br><b>1-IDC 2 - HPE CSC reports 2014 - 2015</b>   |
| Recommended<br>Support  | <b>Standard: HPE Proactive Care* with 24x7 coverage, three year Support Service</b><br>HPE Proactive Care gives customers an enhanced call experience. When your products are connected to<br>Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing<br>personalized proactive reports with recommendations and advice. This service combines three years<br>proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a<br>problem. This service also includes collaborative software support for Independent Software Vendors<br>(ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your Hewlett Packard Enterprise servers.<br>https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf  |
|                         | <b>Optimized HPE Proactive Care* with 6 hour call-to-repair commitment, three year Support Service</b><br>HPE Proactive Care gives customers an enhanced call experience. When your products are connected to<br>Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing<br>personalized proactive reports with recommendations and advice. This service combines three years'<br>proactive reporting and advice with our highest level of hardware support – Hewlett Packard Enterprise<br>24x7, six hour hardware call-to-repair. Hewlett Packard Enterprise is the only leading manufacturer who<br>makes this level of coverage available as a standard service offering for your most valuable servers. This<br>service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat,<br>VMWare, Microsoft, etc.) running on your Hewlett Packard Enterprise servers.<br><b>https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf</b> |
| Parts and Materials     | Hewlett Packard Enterprise will provide Hewlett Packard Enterprise-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.   |
|                         | Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.  |
|                         | The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.   |
| Related Services        | HPE Server Hardware Installation<br>Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices<br>and networking options to assist you in bringing your new hardware into operation in a timely and<br>professional manner.<br>https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf   |

# Service and Support

# Service and Support

|                           | HPE Installation and Startup Service<br>Provides for the installation and startup of Hewlett Packard Enterprise technology including BladeSystems,<br>C-Class enclosure, HPE ProLiant c-Class and Integrity server blades, storage blades, SAN switch blades,<br>HPE Virtual Connect modules (Ethernet and Fibre Channel), Ethernet network interconnects, and<br>InfiniBand, as well as the installation of one supported operating system type (Windows® or Linux). |
|---------------------------|---|
|                           | HPE Technology Services Support Credits<br>Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is<br>tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak<br>performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding<br>to your dynamic business.   |
| HPE Education<br>Services | Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book<br>on a class today and learn how to get the most from your technology<br>investment. <b>http://www.hpe.com/ww/learn</b>   |
| HPE Support Center        | The HPE Support Center is a personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise support resources or collaborate with peers.  |
|                           | Learn more http://www.hpe.com/support/hpesc   |
|                           | The Hewlett Packard Enterprise Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.  |
|                           | HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Service or Hewlett Packard Enterprise contractual support agreement.  |
|                           | *HPE Support Center Mobile App is subject to local availability.  |
|                           | For more information: http://www.hpe.com/services   |

# **Pre-configured Models**

|                         |  | Entry Models  |  | Base Models   |   |   |
|-------------------------|--|---|--|---|---|---|
| [SKU Number]            | 818207-B21   | 755260-B21  | 755261-B21   | 818208-B21  | 848736-B21  | 755262-B21  |
| Model Name              | HPE ProLiant<br>DL360 Gen9<br>E5-2603v4 1P<br>8GB-R H240ar<br>8SFF 500W PS   | HPE ProLiant<br>DL360 Gen9<br>E5-2603v3 1P<br>8GB-R B140i<br>500W PS Entry  | HPE ProLiant<br>DL360 Gen9<br>E5-2603v3 1P<br>8GB-R H240ar<br>500W PS  | HPE ProLiant<br>DL360 Gen9<br>E5-2630v4 1P<br>16GB-R P440ar<br>8SFF 500W PS | HPE ProLiant<br>DL360 Gen9<br>E5-2640v4 1P<br>16GB-R P440ar<br>8SFF 500W PS | HPE ProLiant<br>DL360 Gen9 E5-<br>2630v3 1P 16GB-<br>R P440ar 500W PS<br>Base SAS Server  |
|                         | Entry SAS<br>Server  | SATA Server   | Entry SAS<br>Server  | Base SAS Server   | Base Server   |   |
| Processor               | Intel® Xeon®<br>E5-2603v4  | Intel <sup>®</sup> Xeon <sup>®</sup>  | E5-2603v3  | Intel® Xeon®<br>E5-2630v4   | Intel® Xeon®<br>E5-2640v4   | Intel® Xeon® E5-<br>2630v3  |
| Number of<br>Processors |  |   |  | One   |   |   |
| Memory                  | 8GB (1x8GB<br>Registered<br>DIMMs, 2400<br>MHz)<br><b>NOTE:</b> With E5-<br>2603 v4<br>Processor, the<br>actual DIMM<br>speed will<br>operate at<br>1866 MHz<br>depending on<br>DIMM<br>configuration. | 8GB (1x8GE<br>DIMMs, 22<br><b>NOTE:</b> With<br>Processor, the<br>speed will opera<br>depending<br>configu  | 133 MHz)<br>E5-2603 v3<br>e actual DIMM<br>te at 1600 MHz<br>g on DIMM | MHz)MHz)NOTE: With E5-NOTE: With E5-2630 v3 Processor2630 v42640 v4         |   | Registered<br>DIMMs, 2133 MHz)<br><b>NOTE:</b> With E5-<br>2630 v3 Processor,<br>the actual DIMM<br>speed will operate<br>at 1866 MHz<br>depending on<br>DIMM |
| Network<br>Controller   |  | HP  | E Embedded 1Gb   | Ethernet 4-port 33  | 1i Adapter  |   |
| Storage<br>Controller   | HPE H240ar<br>Smart Host Bus<br>Adapter  | HPE Dynamic<br>Smart Array<br>B140i<br><b>NOTE:</b> The<br>embedded<br>B140i will<br>operate in<br>UEFI mode<br>only. For<br>legacy support<br>an additional<br>controller will<br>be needed. | HPE H240ar<br>Smart Host<br>Bus Adapter                                | HPE Fle   | exible Smart Array F  | 2440ar/2GB  |
| Hard Drive              | None ship<br>standard  | None ship<br>standard<br><b>NOTE:</b> The<br>embedded<br>B140i defaults<br>to AHCI off the<br>chipset. HPE<br>Dynamic Smart<br>Array  |  | None s  | hip standard  |   |

# **Pre-configured Models**

|                      | Controller<br>needs to be<br>enabled on the<br>SATA only<br>models if<br>needed.   |
|----------------------|--|
| Internal<br>Storage  | 8 SFF HDD Bays   |
| Optical Drive<br>Bay | Optional via Universal Media Bay   |
| PCI-Express<br>Slots | 2 Standard (1-FH/¾ L, 1-LP) PCIe 3.0   |
| Power Supply         | (1) HPE 500W Flex Slot Platinum Power Supply   |
| Fans                 | 5 standard hot plug fans, redundant  |
| Management           | iLO Management (standard), Intelligent Provisioning (standard), iLO Advanced (optional), Insight Control<br>(optional), HPE OneView (optional) |
| Form Factor          | Rack (1U), HPE Easy Install Rails  |
| Warranty             | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response                                     |

# **Pre-configured Models**

|                      | Performa  | Performance Models High Performance Models  |  |  |  |
|----------------------|---|---|--|--|--|
| [SKU Number]         | 818209-B21  | 755263-B21  | 851937-B21 795236-B21  |  |  |
| Model Name           | HPE ProLiant DL360<br>Gen9 E5-2650v4 2P<br>32GB-R P440ar 8SFF<br>800W RPS Perf SAS<br>Server  | HPE ProLiant DL360<br>Gen9 E5-2650v3 2P<br>32GB-R P440ar 800W<br>RPS Performance SAS<br>Server  | HPE ProLiant DL360<br>Gen9 E5-2660v4 2P<br>64GB-R P440ar 8SFF<br>800W RPS Perf2 SAS<br>Server  | HPE ProLiant DL360<br>Gen9 E5-2670v3 2P<br>64GB P440ar 8SFF<br>2x10Gb-T 2x800W<br>OneView Server   |  |
| Processor            | Intel® Xeon® E5-<br>2650v4  | Intel® Xeon® E5-<br>2650v3  | Intel® Xeon® E5-<br>2660v4   | Intel® Xeon® E5-<br>2670v3   |  |
| Number of Processors | 3   | T   | Гwo  |  |  |
| Memory               | 32GB (2x16GB<br>Registered DIMMs,<br>2400 MHz)<br><b>NOTE:</b> With E5-2650<br>v4 Processor, the<br>actual DIMM speed will<br>operate at 2400 MHz<br>depending on DIMM<br>configuration.  | 32GB (2x16GB<br>Registered DIMMs,<br>2133 MHz)<br><b>NOTE:</b> With E5-2650<br>v3 Processor, the<br>actual DIMM speed will<br>operate at 2133MHz<br>depending on DIMM<br>configuration. | 64GB (4x16GB<br>Registered DIMMs,<br>2400 MHz)<br><b>NOTE:</b> With E5-2660<br>v4 Processor, the<br>actual DIMM speed will<br>operate at 2400 MHz<br>depending on DIMM<br>configuration. | 64GB (4x16GB<br>Registered DIMMs,<br>2133 MHz)<br><b>NOTE:</b> With E5-2670<br>v3 Processor, the<br>actual DIMM speed will<br>operate at 2133 MHz<br>depending on DIMM<br>configuration. |  |
| Network Controller   | HPE Embedded 4x1Gb,<br>plus 2x10Gb-T Flexible<br>LOM  | HPE Embedded<br>4x1Gb, plus 2x10Gb<br>FLR-T FlexFabric<br>Flexible LOM  | HPE Embedded<br>4x1Gb, plus 2x10Gb<br>SFP+ Flexible LOM  | HPE Embedded<br>4x1Gb, plus 2x10Gb<br>FLR-T FlexFabric<br>Flexible LOM   |  |
| Storage Controller   | HPE Flexible Smar   | t Array P440ar/2GB  | HPE Smart Array<br>P440ar/2G Controller  | HPE Flexible Smart<br>Array P440ar/2GB   |  |
| Hard Drive           | None ship standard  |   |  |  |  |
| Internal Storage     |   | 8 SFF H   | HDD Bays   |  |  |
| Optical Drive Bay    |   | Optional via Ur   | niversal Media Bay   |  |  |
| PCI-Express Slots    | 2 Standard (1-FH,   | <sup>/</sup> ¾ L, 1-LP) PCle 3.0  | 3 Standard (1-FH/  | HL, 2-LP) PCle 3.0   |  |
| Power Supply         | (2) HPE 8   | 300W Flex Slot Platinum P   | ower Supply  | (1) HPE 800W Flex<br>Slot Platinum Power<br>Supply   |  |
| Fans                 |   | 7 standard hot p  | lug fans, redundant  |  |  |
| Management           | iLO Management (standard), Intelligent Provisioning (standard), iLO<br>Advanced (standard), HPE OneView (optional)<br>Provisioning<br>(standard), iLO<br>Advanced (standard), iLO<br>Advanced (standard)<br>HPE OneView<br>(Standard) |   |  |  |  |
| Energy Star          | Meets Energy Star requirements  |   |  |  |  |
| Form Factor          |   |   | E Easy Install Rails   |  |  |
| Warranty             | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response  |   |  |  |  |

Country Code Key

xx1 = B21 xx1 = 291 xx1 = AA1 Worldwide Japan PRC

### **Configuration Information - Factory Integrated Models**

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an Hewlett Packard Enterprise approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

1. Factory Integrated Models must start with a CTO Server.

2. FIO indicates that this option is only available as a factory installable option.

3. All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

4. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

## Step 1: Base Configuration (choose one of the following configurable models)

| [Chassis]             | HPE ProLiant DL360 Gen9 4LFF Configure-to-order                | HPE ProLiant DL360 Gen9 8SFF Configure-to- |  |  |
|-----------------------|--|--|--|--|
|                       | Server   | order Server                               |  |  |
| SKU Number            | 755259-B21   | 755258-B21                                 |  |  |
| Processor             | 2 (optional) x HPE Sm  | nart Socket Guide                          |  |  |
| DIMM Slots            | 24 DIMM slots for RDIMM, L                                     | RDIMM DDR4 Memory                          |  |  |
| Storage<br>Controller | HPE Dynamic Sma  | HPE Dynamic Smart Array B140i              |  |  |
| PCle                  | 2 PCIe 3.0 Slots: Slot 1, FH / ¾ Length; Slot 2, Low Profile   |  |  |  |
| Drive Cage            | 4LFF Hot Plug  | 8SFF Hot Plug                              |  |  |
| Network<br>Controller | HPE Embedded 1Gb Ethernet 4-port 331i Adapter                  |  |  |  |
| Fans                  | 5 standard hot plug fans, redundant                            |  |  |  |
| Management            | iLO Management (standard), Intelligent Provisioning (standard) |  |  |  |
| USB                   | 1 front, 2 internal, 2 rear                                    |  |  |  |
| Ears                  | HPE Quick Rel  | lease Ears                                 |  |  |

**NOTE:** This section lists some of the steps required to configure a Factory Integrated Model.

To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an Hewlett Packard Enterprise approved configurator.

Contact your local sales representative for information on configurable product offerings and requirements.

**NOTE:** Factory Integrated Models must start with a CTO Server.

**NOTE:** FIO indicates that this option is only available as a factory installable option.

**NOTE:** All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with server.

NOTE: 4LFF CTO Chassis includes 1 SATA Cable, option kit: 766213-B21, which attaches to the B140i controller.

**NOTE:** 8SFF CTO Chassis includes two 4 x Mini-SAS Cables, option kit: 766209-B21, which attaches to an optional HPE Smart HBA H240ar or HPE Smart Array P440ar controller.

# Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

HPE Processors

Select one or two processors from Core Options-Processor section below.

- If one processor is desired, select one xxxxx-L21
- If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.
- Up to 2 processors supported. Mixing different processor models is not supported.
- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

### **Configuration Information - Factory Integrated Models**

For the Intel<sup>®</sup> C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2600x v#, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Processor SKU, x = L for low power SKUs and v# (not yet designated) = version number.

HPE Memory

Select one or more memory from Core Options-Memory section below.

- UDIMM, RDIMM, and LRDIMM are all distinct memory technologies and cannot be mixed within a server.
- HPE memory options from previous generation servers are not qualified or warranted with Hewlett Packard Enterprise Gen9 systems. HPE SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen9.
- If only one processor is installed, only half of the total DIMM slots are available. When populating with two processors all DIMM slots are available.
- Depending on the memory configuration and processor model, the memory speed may run at 2400MHz, 2133MHz, 1866MHz or 1600MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: <u>http://www.hpe.com/go/ddr4config</u>

HPE Power Supplies Select one or more power supplies from Core Options-Power Supplies section below.

- Prior to selecting a power supply option, it is highly recommended that you review your server configuration in the HPE Power Advisor tool to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: <u>http://www.hpe.com/info/hppoweradvisor</u>.
- Mixing of power supplies in the same server is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.

### Step 3: Choose Additional Factory Integratable Options

HPE Unique Options Select one or more Unique options from Core Options section below.

- This section may contain FIO options, please see the Unique options section below.
  - FIO indicates that this option is only available as a factory installable option.

**HPE Drives** 

Select one or more drives from Core Options-HPE Drives section below.

- The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
- Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

The HPE ProLiant Gen9 Smart Storage solutions are equipped with re-designed Small Form Factor (SFF 2.5 in) and Large Form Factor (LFF 3.5 in) hot plug carriers for HPE Qualified Hard Drives and Solid State Drives. These new carriers provide status and activity indicators as well as caution indicators for "Do Not Remove."

**HPE FlexibleLOM** Select a FlexibleLOM from Core Options-Networking section below.

• Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.

| Configuration Int            | formation - Factory Integrated Models  |
|------------------------------|--|
|                              | <ul> <li>For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory is required per each<br/>adapter.</li> </ul>  |
|                              | <ul> <li>Please see the QuickSpecs for Technical Specifications and additional information: <u>http://www.hpe.com/go/ProLiantNICs</u>.</li> </ul>  |
| HPE Networking               | Select a standup NIC adapter from Core Options-Networking section below.   |
|                              | <ul> <li>Please see the QuickSpecs for Technical Specifications and additional information: <u>http://www.hpe.com/go/ProLiantNICs</u>.</li> <li>These options are upgradeable and can be changed from the original configuration after the server is shipped.</li> <li>For 10Gb adapters, a minimum of two Gigabytes (2 GB) of server memory is required per each adapter.</li> </ul>  |
| HPE Storage<br>Controllers   | Select one or more Storage options from Additional Options section below.  |
|                              | • The embedded B140i controller will operate in UEFI only mode. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings part, 758959-B22.   |
|                              | <ul> <li>This section may contain FIO options, please see HPE Storage Controllers section below.</li> <li>FIO indicates that this option is only available as a factory installable option.</li> </ul>   |
| HPE Graphics<br>Options      | Select one or more graphics adapters from Additional Options section below.  |
|                              | <ul> <li>Please see the HPE Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HPE Power Advisor is located at: <u>http://www.hpe.com/info/hppoweradvisor</u>.</li> <li>This section may contain FIO options, please see HPE Computation &amp; Graphics Accelerators</li> </ul>   |
|                              | <ul> <li>This section may contain FIO options, please see HPE Computation &amp; Graphics Accelerators<br/>section below.</li> </ul>  |
| HPE I/O Expansion<br>Options | Select one or more Riser Kit options from Core Options section below.  |
|                              | <ul> <li>To take advantage of the additional PCI slot upgrade, the second processor must be installed.</li> <li>This section may contain FIO options, please see HPE I/O Expansion Options section below.</li> </ul>   |
|                              | FIO indicates that this option is only available as a factory installable option.  |
| HPE Cooling Options          | Select one or more Fan Kits from Core Options section below.   |
|                              | <ul> <li>This section may contain FIO options, please see HPE Cooling Options section below.</li> <li>FIO indicates that this option is only available as a factory installable option.</li> </ul>   |
| HPE Rail Kits                | Select one type of rail kit from Additional Options section below.   |
|                              | <ul> <li>Please take a moment to review the installation documentation that comes with the server to help you with the installation of your Gen9 server.</li> <li>To assist in the installation of the server into the rack, an optional installation tool is available by contacting your local services representative (p/n 695539-001).</li> <li>See Hewlett Packard Enterprise Rack Options in Additional Options section of this QuickSpecs for more rack kit choices.</li> </ul> |

# **Configuration Information - Factory Integrated Models**

**CAUTION:** Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

**NOTE:** Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

| HPE Unique | HP DL360 Gen9 2SFF SAS/SATA Universal Media Bay Kit   | 764630-B21    |
|------------|---|---------------|
| Options    | <b>NOTE:</b> Required when upgrading from an 8SFF config to a 10SFF config.   |               |
|            | This option kit is not supported on the 4LFF Chassis.   |               |
|            | This option kit cannot be used with the DVD-ROM or DVD-RW Universal Media Bay   |               |
|            | option kits.  |               |
|            | <b>NOTE:</b> This kit contains a cable to attach the 2 drives to the internal B140i SATA                                  |               |
|            | controller.<br>For SAS, an alternate storage controller and its associated cable kit are required.                        |               |
|            | HP DL360 Gen9 SFF DVD-RW/USB Universal Media Bay Kit  | 764632-B21    |
|            | NOTE: DVD-RW, USB 2.0 and VGA included.   | 704032-021    |
|            | This option kit cannot be used with the 2 SFF SAS/SATA option kit (764630-B21).   |               |
|            | HP DL360 Gen9 SFF DVD/USB Universal Media Bay Kit   | 818213-B21    |
|            | NOTE: DVD ROM, USB 2.0 and VGA included.  | 010213-021    |
|            | This option kit cannot be used with the 2 SFF SAS/SATA option kit (764630-B21).   |               |
|            | HP DL360 Gen9 SFF USB/VGA Universal Media Bay Kit   | 764634-B21    |
|            | <b>NOTE:</b> Adds front VGA and USB 2.0 ports to SFF chassis.   | , 0 100 T DZ1 |
|            | This option kit cannot be used with the 2 SFF SAS/SATA option kit (764630-B21).   |               |
|            | HP DL360 Gen9 LFF USB/VGA Kit   | 764638-B21    |
|            | <b>NOTE:</b> Adds front VGA and USB 2.0 ports to LFF chassis.   | 704030 DZ1    |
|            | This option kit cannot be used with the 2 SFF SAS/SATA Option Kit (764630-B21).   |               |
|            | HP DL360 Gen9 High Performance Heat Sink Kit  | 795235-B21    |
|            | <b>NOTE:</b> These are included in some higher Watt processors (see processor section),                                   |               |
|            | but may also be added to lower power processors to reduce fan power consumption.  |               |
|            | HP DL360 Gen9 Rear Serial Port and Enablement Kit   | 764646-B21    |
|            | HP DL360 Gen9 Location Discovery Services Ear Kit   | 764757-B21    |
|            | NOTE: Requires ProLiant Location Discovery Services Infrastructure within server  |               |
|            | racks.  |               |
|            | HP DL360 Gen9 SFF Systems Insight Display Kit   | 764636-B21    |
|            | <b>NOTE:</b> Adds a System Insight Display for improved diagnosis capabilities on an 8FF or 10SFF model.                  |               |
|            | HP DL360 Gen9 LFF Systems Insight Display Kit   | 764640-B21    |
|            | NOTE: Adds a System Insight Display for improved diagnosis capabilities on a 4LFF   |               |
|            | model.  |               |
|            | HP DL360 Gen9 NVMe 2 Solid State Drive Express Bay Enablement Kit   | 764628-B21    |
|            | <b>NOTE:</b> This option provides support for up to 2 NVMe SFF drives.  |               |
|            | This option cannot be used with the Universal Media Bay Kit.  |               |
|            | <b>NOTE:</b> The HPE DL360 Gen9 High Performance Fan Kit (766201-B21) will be   |               |
|            | required with this option.<br><b>NOTE:</b> The PCIe card in this enablement kit can only be populated in slot1 of primary |               |
|            | riser or in slot3 of secondary optional FH riser.   |               |
|            | HP DL360 Gen9 6 NVMe + 4 SAS/SATA Express Bay Enablement Kit  | 817676-B21    |
|            | <b>NOTE:</b> This option kit provides support for up to 6 NVMe drives (drives 5-10).                                      |               |

**NOTE:** The PCIe card in this enablement kit can only be populated in slot1 of primary riser.

| HPE Processors | E5-2600v4 series Processors   |            |
|----------------|---|------------|
|                | HPE DL360 Gen9 Intel® Xeon® E5-2630Lv4 (1.8GHz/10-core/25MB/55W) Processor<br>Kit     | 818164-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2630Lv4 (1.8GHz/10-core/25MB/55W) FIO<br>Processor Kit | 818164-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2650Lv4 (1.7GHz/14-core/35MB/65W) Processor<br>Kit     | 818166-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2650Lv4 (1.7GHz/14-core/35MB/65W) FIO<br>Processor Kit | 818166-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) Processor Kit          | 818168-B21 |
|                | <b>NOTE:</b> This processor does not support Hyper-Threading.                         |            |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) FIO Processor<br>Kit   | 818168-L21 |
|                | <b>NOTE:</b> This processor does not support Hyper-Threading.                         |            |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) Processor Kit          | 818170-B21 |
|                | <b>NOTE:</b> This processor does not support Hyper-Threading.                         |            |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) FIO Processor<br>Kit   | 818170-L21 |
|                | <b>NOTE:</b> This processor does not support Hyper-Threading.                         |            |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) Processor Kit          | 818172-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) FIO Processor<br>Kit   | 818172-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2623v4 (2.6GHz/4-core/10MB/85W) Processor Kit          | 818190-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2623v4 (2.6GHz/4-core/10MB/85W) FIO Processor<br>Kit   | 818190-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2637v4 (3.5GHz/4-core/15MB/135W) Processor<br>Kit      | 818192-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2637v4 (3.5GHz/4-core/15MB/135W) FIO<br>Processor Kit  | 818192-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2643v4 (3.4GHz/6-core/20MB/135W) Processor<br>Kit      | 818194-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2643v4 (3.4GHz/6-core/20MB/135W) FIO<br>Processor Kit  | 818194-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) Processor<br>Kit      | 818176-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) FIO<br>Processor Kit  | 818176-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) Processor<br>Kit     | 818178-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) FIO<br>Processor Kit | 818178-L21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) Processor<br>Kit     | 818180-B21 |
|                | HPE DL360 Gen9 Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) FIO<br>Processor Kit | 818180-L21 |

| HPE DL360 Gen9 Intel® Xeon® E5-2697Av4 (2.6GHz/16-core/40MB/145W) Processor<br>Kit     | 818182-B21 |
|--|------------|
| HPE DL360 Gen9 Intel® Xeon® E5-2697Av4 (2.6GHz/16-core/40MB/145W) FIO<br>Processor Kit | 818182-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor<br>Kit      | 818184-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO<br>Processor Kit  | 818184-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2690v4 (2.6GHz/14-core/35MB/135W) Processor<br>Kit      | 818186-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2690v4 (2.6GHz/14-core/35MB/135W) FIO<br>Processor Kit  | 818186-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2687Wv4 (3.0GHz/12-core/30MB/160W)<br>Processor Kit     | 818188-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2687Wv4 (3.0GHz/12-core/30MB/160W) FIO<br>Processor Kit | 818188-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2667v4 (3.2GHz/8-core/25MB/135W) Processor<br>Kit       | 818196-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2667v4 (3.2GHz/8-core/25MB/135W) FIO<br>Processor Kit   | 818196-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2683v4 (2.1GHz/16-core/40MB/120W) Processor<br>Kit      | 818198-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2683v4 (2.1GHz/16-core/40MB/120W) FIO<br>Processor Kit  | 818198-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) Processor<br>Kit      | 818200-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) FIO<br>Processor Kit  | 818200-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2697v4 (2.3GHz/18-core/45MB/145W) Processor<br>Kit      | 818202-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2697v4 (2.3GHz/18-core/45MB/145W) FIO<br>Processor Kit  | 818202-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2698v4 (2.2GHz/20-core/50MB/135W) Processor<br>Kit      | 818204-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2698v4 (2.2GHz/20-core/50MB/135W) FIO<br>Processor Kit  | 818204-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2699v4 (2.2GHz/22-core/55MB/145W) Processor<br>Kit      | 818206-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2699v4 (2.2GHz/22-core/55MB/145W) FIO<br>Processor Kit  | 818206-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) Processor<br>Kit       | 818174-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) FIO<br>Processor Kit   | 818174-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2699Av4 (3.6GHz/22-core/55MB/145W) Processor<br>Kit     | 871580-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2699Av4 (3.6GHz/22-core/55MB/145W) FIO<br>Processor Kit | 871580-L21 |
| E5-2600v3 series Processors  |            |
| HPE DL360 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit           | 755374-B21 |

| <b>NOTE:</b> This processor does not support Hyper-Threading.<br>HPE DL360 Gen9 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) FIO Processor<br>Kit   | 755374-L21 |
|--|------------|
| <b>NOTE:</b> This processor does not support Hyper-Threading.<br>HPE DL360 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit<br><b>NOTE:</b> This processor does not support Hyper-Threading. | 755378-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2609v3 (1.9GHz/6-core/15MB/85W) FIO Processor<br>Kit  | 755378-L21 |
| <b>NOTE:</b> This processor does not support Hyper-Threading.  |            |
| HPE DL360 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) Processor Kit  | 755376-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2623v3 (3GHz/4-core/10MB/105W) FIO Processor<br>Kit   | 755376-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit   | 755382-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) FIO Processor<br>Kit  | 755382-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit   | 755384-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) FIO Processor<br>Kit  | 755384-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit   | 755386-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) FIO Processor<br>Kit  | 755386-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) Processor<br>Kit   | 755404-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2637v3 (3.5GHz/4-core/15MB/135W) FIO<br>Processor Kit   | 755404-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) Processor<br>Kit   | 764097-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2630Lv3 (1.8GHz/8-core/20MB/55W) FIO<br>Processor Kit   | 764097-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor<br>Kit  | 755388-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) FIO<br>Processor Kit  | 755388-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor<br>Kit  | 755390-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) FIO<br>Processor Kit  | 755390-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) Processor<br>Kit  | 755392-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) FIO<br>Processor Kit  | 755392-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) Processor<br>Kit  | 755394-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO<br>Processor Kit  | 755394-L21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) Processor<br>Kit  | 755396-B21 |
| HPE DL360 Gen9 Intel® Xeon® E5-2690v3 (2.6GHz/12-core/30MB/135W) FIO<br>Processor Kit  | 755396-L21 |

| HPE DL360 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) Processor Kit<br>HPE DL360 Gen9 Intel® Xeon® E5-2683v3 (2GHz/14-core/35MB/120W) FIO  | 755398-B21<br>755398-L21 |  |
|---|--------------------------|--|
| Processor Kit   | / 555 / 6 LZI            |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) Processor<br>Kit   | 755400-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) FIO<br>Processor Kit   | 755400-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) Processor<br>Kit   | 755402-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2697v3 (2.6GHz/14-core/35MB/145W) FIO<br>Processor Kit   | 755402-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) Processor<br>Kit  | 755406-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2643v3 (3.4GHz/6-core/20MB/135W) FIO<br>Processor Kit  | 755406-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) Processor<br>Kit  | 755408-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2667v3 (3.2GHz/8-core/20MB/135W) FIO<br>Processor Kit  | 755408-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2687Wv3 (3.1GHz/10-core/25MB/160W)<br>Processor Kit  | 755410-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2687Wv3 (3.1GHz/10-core/25MB/160W) FIO<br>Processor Kit  | 755410-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) Processor<br>Kit   | 764099-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2698v3 (2.3GHz/16-core/40MB/135W) FIO<br>Processor Kit   | 764099-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) Processor<br>Kit   | 764101-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2650Lv3 (1.8GHz/12-core/30MB/65W) FIO<br>Processor Kit   | 764101-L21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) Processor<br>Kit   | 780003-B21               |  |
| HPE DL360 Gen9 Intel® Xeon® E5-2699v3 (2.3GHz/18-core/45MB/145W) FIO<br>Processor Kit   | 780003-L21               |  |
| <ul> <li>NOTE: Mixing of E5-2600 v3 and E5-2600 v4 processors is not supported.</li> <li>NOTE: All processors support Hyper-Threading <i>except</i> E5-2609 v4/v3 and E5-2603 v4/v3.</li> <li>NOTE: Processors consuming up to 120w ship with standard heat sink.</li> <li>NOTE: Processors consuming over 120w ships with a High Performance heat sink as standard.</li> <li>NOTE: A High Performance heat sink can be added to help reduce power consumption (795235-B21).</li> </ul> |                          |  |

### **Memory Selection**

To streamline the configuration process for HPE ProLiant Gen9 servers and to provide the best product availability, HPE recommends memory from the list located here: <u>http://www.hpe.com/products/recommend</u>. Best product availability is limited to US, Canada, and Latin America at this time.

HPE Memory Registered DIMMs (RDIMMs) for E5-2600v4 Series

| HP 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit  | 805351-B21 |
|---|------------|
| HPE 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit | 836220-B21 |

|                    | HP 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit  | 805349-B21 |
|--------------------|---|------------|
|                    | HP 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Memory Kit  | 805347-B21 |
|                    | Load Reduced DIMMs (LRDIMMs) for E5-2600v4 Series   |            |
|                    | HPE 128GB (1x128GB) Octal Rank x4 DDR4-2400 CAS-20-18-18 Load Reduced<br>Memory Kit   | 809208-B21 |
|                    | NOTE: 128GB DIMMs cannot be mixed with any other size DIMMs.  |            |
|                    | HPE 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced<br>Memory Kit  | 805358-B21 |
|                    | HPE 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory<br>Kit  | 805353-B21 |
|                    | Registered DIMMs (RDIMMs) for E5-2600v3 Series  |            |
|                    | HP 32GB (1x32GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit  | 728629-B21 |
|                    | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit  | 726719-B21 |
|                    | HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit  | 726718-B21 |
|                    | HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit  | 759934-B21 |
|                    | HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit  | 726717-B21 |
|                    | Load Reduced DIMMs (LRDIMMs) for E5-2600v3 Series   |            |
|                    | HP 64GB (1x64GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory<br>Kit   | 726724-B21 |
|                    | HP 32GB (1x32GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory<br>Kit   | 726722-B21 |
|                    | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory<br>Kit   | 726720-B21 |
|                    | NOTE: Memory speeds will vary by processor model, please see memory section of Quicks   | Specs.     |
|                    | HPE Persistent Memory (NVDIMM)  |            |
|                    | <b>NOTE:</b> The following memory is supported by the E5-2600v4 series Processor only.  |            |
|                    | HPE 8GB NVDIMM Single Rank x4 DDR4-2133 Module  | 782692-B21 |
|                    | <b>NOTE:</b> A maximum of 16 NVDIMMs can be supported. NVDIMMs cannot be used with LR<br><b>NOTE:</b> NVDIMMs only supported on factory configured servers with E5-2600 v4 processor<br>supported on servers upgraded from E5-2600 v3 to E5-2600 v4 processors. |            |
|                    |   |            |
| HPE Optical Drives | HP 9.5mm SATA DVD-ROM JackBlack Gen9 Optical Drive  | 726536-B21 |
|                    | <b>NOTE:</b> Supported only with the 4LFF Models & requires cable kit 766203-B21.   |            |
|                    | HP 9.5mm SATA DVD-RW JackBlack G9 Optical Drive   | 726537-B21 |
|                    | <b>NOTE:</b> Supported only with the 4LFF Models & requires cable kit 766203-B21.   |            |
|                    | HP DL360 Gen9 LFF Optical Cable   | 766203-B21 |
|                    | HP DL360 Gen9 SFF DVD/USB Universal Media Bay Kit   | 818213-B21 |

| THE DESCO GETTA STT. DVD/OSD OTTIVEISal Media Day Kit    | 010213-021 |
|--|------------|
| NOTE: Front DVD ROM, USB 2.0, and VGA and optical cable. |            |
| HP DL360 Gen9 SFF DVD-RW/USB Universal Media Bay Kit     | 764632-B21 |
| NOTE: Front DVD-RW, USB 2.0 and VGA, and optical cable.  |            |
| HP Mobile USB Non Leaded System DVD RW Drive             | 701498-B21 |
| <b>NOTE:</b> This is only supported on USB 3.0 ports.    |            |
|  |            |
|  |            |

| HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD                                   | 781518-B21 |
|---|------------|
| HPE 900GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD                                   | 785069-B21 |
| HPE 600GB SAS 12G Enterprise 10K SFF (2.5in ) SC 3yr Wty HDD                                  | 781516-B21 |
| HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty HDD                                   | 785067-B21 |
| 12G SAS 10K Hot Plug SFF (2.5-inch) SC Hard Drives - 3yr Warranty                             |            |
| HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD         | 872479-B21 |
| HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware<br>HDD      | 872477-B21 |
| HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD         | 872475-B21 |
| 12G SAS 15K Hot Plug SFF (2.5-inch) SC Hard Drives - 3yr Warranty                             |            |
| HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD                                   | 759212-B21 |
| HPE 450GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD                                   | 759210-B21 |
| HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty HDD                                   | 759208-B21 |
| 12G SAS 15K Hot Plug SFF (2.5-inch) SC Hard Drives - 3yr Warranty                             |            |
| HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD         | 870759-B21 |
| HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD         | 870757-B21 |
| HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD         | 870753-B21 |
| 12G SAS 7.2K Hot Plug SFF (2.5-inch) SC Midline Hard Drives - 1yr Warranty                    |            |
| HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty HDD                                       | 832514-B21 |
| 12G SAS 7.2K Hot Plug SFF (2.5-inch) SC 512e Hard Drives - 1yr Warranty                       |            |
| HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD                                  | 765466-B21 |
| HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD                                  | 765464-B21 |
| 12G SAS 10K Hot Plug SFF (2.5-inch) SC 512e Hard Drives - 1yr Warranty                        |            |
| HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed<br>Firmware HDD | 872481-B21 |
| HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e HDD                              | 791034-B21 |
| 12G SAS 15K Hot Plug SFF (2.5-inch) SC 512e Hard Drives - 1yr Warranty                        |            |
| HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed<br>Firmware HDD | 870763-B21 |
| HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed<br>Firmware HDD | 870765-B21 |
| HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e HDD                              | 748387-B21 |
| 12G SAS Hot Plug LFF (3.5-inch) SC 512e Hard Drives- 3yr Warranty                             |            |
| HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                                 | 857644-B21 |
| HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                                  | 861590-B21 |
| HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                                  | 819201-B21 |
| HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                                  | 861754-B21 |
| HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                                  | 861756-B21 |
| 12G SAS Hot Plug LFF (3.5-inch) SC Enterprise Hard Drives - 3yr Warranty                      |            |
| HPE 600GB SAS 12G Enterprise 15K LFF (3.5in) SC 3yr Wty HDD                                   | 765424-B21 |
| HPE 450GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD                                  | 737394-B21 |
|   |            |
| HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD                                  | 737261-B21 |

## 12G SAS Hot Plug LFF (3.5-inch) SC Midline Hard Drives - 1yr Warranty

| 120 SAS HOFFlug LIF (3.5-lifel) SC Midline Hard Drives - Tyr Warrain y   |            |
|--|------------|
| HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD  | 846514-B21 |
| HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD  | 872487-B21 |
| HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD  | 818367-B21 |
| HPE 3TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD  | 846528-B21 |
| HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD  | 872485-B21 |
| HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD  | 818365-B21 |
| HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD  | 846524-B21 |
| SSD Selection  |            |
| To streamline the configuration process for HPE ProLiant Gen9 servers and to provide   |            |
| the best product availability, HPE recommends SSDs from the list located here: <a href="http://www.hpe.com/products/recommend">http://www.hpe.com/products/recommend</a> |            |
| Best product availability is limited to US, Canada, and Latin America at this time.  |            |
| 12G SAS Hot Plug SFF (2.5-inch) Mainstream Endurance Solid State Drives - 3yr  |            |
| Warranty   |            |
| HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 779176-B21 |
| HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 779172-B21 |
| HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 779168-B21 |
| HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 779164-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives - 3yr   |            |
| Warranty   |            |
| HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD   | 802891-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC Read Intensive-3 Solid State Drives - 3yr   |            |
| Warranty   |            |
| HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872394-B21 |
| HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD   | 816576-B21 |
| HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware   | 872392-B21 |
| SSD  | 0,20,2 021 |
| HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD   | 816572-B21 |
| HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware  | 872390-B21 |
| SSD  |            |
| HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD  | 816568-B21 |
| HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty SSD  | 816562-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC Write Intensive Solid State Drives - 3yr  |            |
|  | 00050/ 001 |
| HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 802586-B21 |
| HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 802582-B21 |
| HPE 200GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty SSD   | 802578-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC Mixed Use-3 Solid State Drives - 3yr Warranty   | 07070/ 001 |
| HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872386-B21 |
| HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD   | 822567-B21 |
| HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872382-B21 |
| HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD   | 822563-B21 |
| HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872376-B21 |
| HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD   | 822559-B21 |
| HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872374-B21 |
|  |            |

| HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty SSD                                    | 822555-B21 |
|---|------------|
| 12G SAS Hot Plug SFF (3.5-inch) SC Mixed Use-3 Solid State Drives - 3yr Warranty          |            |
| HPE 800GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware<br>SSD      | 872378-B21 |
| 6G SATA Hot Plug SFF (2.5 inch) SC Midline Hard Drives - 1yr Warranty                     |            |
|   |            |
| HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty HDD                                   | 655710-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) SC 512e Hard Drives - 1yr Warranty                        |            |
| HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                              | 861750-B21 |
| HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                              | 861752-B21 |
| HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD                              | 765455-B21 |
| HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD                              | 765453-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) SC 512e Hard Drives - 1yr Warranty                        |            |
| HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                             | 857648-B21 |
| HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                              | 861594-B21 |
| HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD                              | 819203-B21 |
| 6G SATA Hot Plug LFF (3.5-inch) SC Midline Hard Drives - 1yr Warranty                     |            |
| HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD                                   | 846510-B21 |
| HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD         | 872491-B21 |
| HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD                                   | 861678-B21 |
| HPE 3TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD                                   | 861693-B21 |
| HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD         | 872489-B21 |
| HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD                                   | 861676-B21 |
| HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD                                   | 861691-B21 |
| HPE 500GB SATA 6G Midline 7.2k LFF (3.5in) SC 1yr Wty HDD                                 | 658071-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives - 1yr                |            |
| Warranty  |            |
| HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware<br>SSD | 871770-B21 |
| HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty SSD                               | 871768-B21 |
| HPE 480GB 6G SATA Read Intensive SFF (2.5-inch) SC SSD                                    | 872855-B21 |
| HPE 240GB 6G SATA Read Intensive SFF (2.5-inch) SC SSD                                    | 872853-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) SC DS Read Intensive Solid State Drives - 1yr<br>Warranty |            |
| HPE 3.84TB 6G SATA Read Intensive SFF (2.5-inch) SC DS SSD                                | 868830-B21 |
| HPE 1.92TB 6G SATA Read Intensive SFF (2.5-inch) SC DS SSD                                | 868826-B21 |
| HPE 1.6TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware         | 869386-B21 |
| SSD   | 00,000 222 |
| HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware         | 869384-B21 |
| SSD   |            |
| HPE 960GB 6G SATA Read Intensive SFF (2.5-inch) SC DS SSD                                 | 868822-B21 |
| HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware<br>SSD  | 869378-B21 |
| HPE 480GB 6G SATA Read Intensive SFF (2.5-inch) SC DS SSD                                 | 868818-B21 |
| HPE 240GB 6G SATA Read Intensive SFF (2.5-inch) SC DS SSD                                 | 868814-B21 |
| HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware         | 869376-B21 |
| SSD   |            |
|   |            |

| IPE 150GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware   |                          |
|---|--------------------------|
| SD  | 869374-B21               |
| G SATA Hot Plug SFF (2.5-inch) SC Write Intensive-2 Solid State Drives - 3yr<br>Varranty                                    |                          |
| IPE 1.6TB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD   | 872363-B21               |
| IPE 1.2TB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD  | 804677-B21               |
| IPE 800GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD  | 804671-B21               |
| IPE 800GB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD   | 872359-B21               |
| IPE 400GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD  | 804665-B21               |
| IPE 400GB 6G SATA Write Intensive-2 SFF (2.5-inch) SC SSD   | 872355-B21               |
| IPE 200GB SATA 6G Write Intensive SFF (2.5in) SC 3yr Wty SSD  | 804639-B21               |
| G SATA Hot Plug SFF (2.5-inch) SC DS Mixed Use Solid State Drives - 3yr   |                          |
| Varranty  |                          |
| IPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD   | 872352-B21               |
| IPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD  | 872348-B21               |
| IPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD  | 872344-B21               |
| G SATA Hot Plug SFF (2.5-inch) SC Mixed Use-2 Solid State Drives - 3yr Warranty   |                          |
| IPE 1.6TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD  | 804631-B21               |
| IPE 800GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD  | 804625-B21               |
| IPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD  | 832414-B21               |
| IPE 200GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty SSD  | 804613-B21               |
| G SATA Hot Plug LFF (3.5-inch) SCC Read Intensive Solid State Drives  |                          |
| IPE 1.6TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware<br>SD                                    | 869388-B21               |
| IPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware<br>SD                                    | 869380-B21               |
| G SATA Hot Plug LFF (3.5-inch) SCC Write Intensive-2 Solid State Drives - 3yr   |                          |
| Varranty  | 070745 001               |
| IPE 1.6TB 6G SATA Write Intensive-2 LFF (3.5-inch) SCC SSD  | 872365-B21<br>804680-B21 |
| IPE 1.2TB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD<br>IPE 800GB 6G SATA Write Intensive-2 LFF (3.5-inch) SCC SSD | 872361-B21               |
| IPE 800GB SATA 6G Write Intensive LFF (3.5-incl) SCC 35D  | 804674-B21               |
| IPE 400GB SATA 0G WITE Intensive LFF (3.5-inch) SCC Syl Wiy 33D   | 872357-B21               |
| IPE 400GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD   | 872337-B21<br>804668-B21 |
| IPE 200GB SATA 6G Write Intensive LFF (3.5in) SCC 3yr Wty SSD   | 8046642-B21              |
| G SATA Hot Plug LFF (3.5-inch) SCC DS Mixed Use Solid State Drives - 3yr  | 004042-DZ1               |
| Varranty  |                          |
| IPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware<br>SD   | 872350-B21               |
| IPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware<br>SD   | 872346-B21               |
| G SATA Hot Plug LFF (3.5-inch) SC Mixed Use-2 Solid State Drives - 3yr Warranty   |                          |
|   | 804634-B21               |
| IPE 1.6TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD   |                          |
| IPE 1.6TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD<br>IPE 800GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty SSD          | 804628-B21               |
|   | 804628-B21<br>832417-B21 |

| HPE NVMe PCIe Read Intensive SFF (2.5 inch) SC2 Solid State Drives - 3yr<br>Warranty   |            |
|--|------------|
| HPE 2TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty SSD   | 764908-B21 |
| HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed<br>Firmware SSD   | 875591-B21 |
| HPE 1.2TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty SSD   | 764906-B21 |
| HPE 960GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed<br>Firmware SSD  | 875589-B21 |
| HPE 480GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed<br>Firmware SSD  | 875587-B21 |
| HPE 400GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty SSD   | 764904-B21 |
| <b>NOTE:</b> HPE NVMe drives need the enablement kit 764628-B21.<br><b>NOTE:</b> Hewlett Packard Enterprise has qualified the NVMe drive portfolio using the<br>Operating System inbox drivers.<br><b>NOTE:</b> For full detail please see the <u>HPE Solid State Drive QuickSpecs</u> . |            |
| HPE NVMe PCIe Write Intensive SFF (2.5-inch) Solid State Drives - 3yr Warranty   |            |
| HPE 1.6TB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty SSD  | 764892-B21 |
| HPE 800GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty SSD  | 736939-B21 |
| HPE 400GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty SSD  | 736936-B21 |
| HPE NVMe PCIe Mixed Use SFF (2.5 inch) SC2 Solid State Drives - 3yr Warranty   | ,00,00 021 |
| HPE 2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty SSD  | 765044-B21 |
| HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed<br>Firmware SSD   | 875597-B21 |
| HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty SSD  | 765038-B21 |
| HPE 800GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD  | 875595-B21 |
| HPE 800GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty SSD  | 765036-B21 |
| HPE 400GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD  | 875593-B21 |
| HPE 400GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty SSD<br>M.2 SSD   | 765034-B21 |
| HPE 340GB SATA 6G Read Intensive 3yr Wty Dual M.2 Kit  | 835565-B21 |
| HPE 340GB SATA 6G Read Intensive 3yr Wty M.2 Kit   | 835563-B21 |
| HP Dual 120GB Value Endurance Solid State M.2 Enablement Kit for ProLiant ML/DL Servers  | 777894-B21 |
| HPE 120GB SATA 6G Read Intensive HHHL 3yr Wty M.2 Kit  | 788028-B21 |
| <b>NOTE:</b> M.2 drives go in PCIe slots and use B140i SATA controller only.   |            |
| NOTE: M.2 supports Software RAID only.   |            |
| NOTE: No HPE Flexible Smart Array supported.   |            |
| Hard Drive Blank Kits  |            |
| HPE Large Form Factor Hard Drive Blank Kit   | 666986-B21 |
| HPE Small Form Factor Hard Drive Blank Kit   | 666987-B21 |
| Hard Drive Kits  |            |
| HP DL360 Gen9 2SFF SAS/SATA Universal Media Bay Kit  | 764630-B21 |
| <b>NOTE:</b> Required when upgrading 8SFF config to 10SFF chassis. Not supported in the 4LFF Chassis.  |            |
| HP DL360 Gen9 NVMe 2 Solid State Drive Express Bay Enablement Kit  | 764628-B21 |

| <b>NOTE:</b> This option provides support for up to 2NVMe drives in SFF only. This optic<br>cannot be used with the Universal Media Bay Kit.  |            |
|---|------------|
| <b>NOTE:</b> The HPE DL360 Gen9 High Performance Fan Kit (766201-B21) is required with the NVMe kit.  | Ł          |
| <b>NOTE:</b> The PCIe card can only be used in slot1 of primary riser or slot3 of seconda optional FH riser.  | ry         |
| HP DL360 Gen9 6 NVMe + 4 SAS/SATA Express Bay Enablement Kit  | 817676-B21 |
| <ul> <li>NOTE: This option provides support for up to 6NVMe drives in SFF only. Adding NVMe drives replaces support for Universal Media Bay.</li> <li>NOTE: The PCIe card in this enablement kit can only be populated in slot1 of primariser.</li> </ul> | ary        |

| HPE Networking | 25 Gigabit Ethernet adapters   |            |
|----------------|--|------------|
|                | HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter   | 817762-B21 |
|                | HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter   | 817753-B21 |
|                | 10 Gigabit Ethernet adapters   |            |
|                | HPE Ethernet 10Gb 2-port 570SFP+ Adapter   | 718904-B21 |
|                | HPE Ethernet 10Gb 2-port 562SFP+ Adapter   | 727055-B21 |
|                | HPE Ethernet 10Gb 2-port 561T Adapter  | 716591-B21 |
|                | HPE Ethernet 10Gb 2-port 560SFP+ Adapter   | 665249-B21 |
|                | HPE Ethernet 10Gb 2-port 557SFP+ Adapter   | 788995-B21 |
|                | HPE Ethernet 10Gb 2-port 546SFP+ Adapter   | 779793-B21 |
|                | HPE Ethernet 10Gb 2-port 530SFP Adapter  | 652503-B21 |
|                | HPE Ethernet 10Gb 2-port 530T Adapter  | 656596-B21 |
|                | <b>NOTE:</b> The DL360 Gen9 chassis ships with 4x1Gb Embedded.                           | 000070 821 |
|                | <b>NOTE:</b> A minimum of two Gigabytes (2 GB) of server memory is required per each     |            |
|                | adapter.   |            |
|                | <b>NOTE:</b> Direct Attach Cable (DAC) for copper environments or fiber transceivers and |            |
|                | cables for fiber-optic environments must be purchased separately.                        |            |
|                | <b>NOTE:</b> Please see NIC QuickSpecs for Technical Specifications and additional       |            |
|                | information: http://www.hp.com/go/ProLiantNICs   |            |
|                | 1 Gigabit Ethernet adapters  |            |
|                | HPE Ethernet 1Gb 4-port 366T Adapter   | 811546-B21 |
|                | HPE Ethernet 1Gb 4-port 331T Adapter   | 647594-B21 |
|                | HPE Ethernet 1Gb 2-port 361T Adapter   | 652497-B21 |
|                | HPE Ethernet 1Gb 2-port 332T Adapter   | 615732-B21 |
|                | FlexibleLOM Adapters   |            |
|                | HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter   | 817749-B21 |
|                | HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter   | 727054-B21 |
|                | HPE Ethernet 10Gb 2-port 561FLR-T Adapter  | 700699-B21 |
|                | HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter   | 665243-B21 |
|                | HPE FlexFabric 10Gb 2-port 556FLR-T Adapter  | 794525-B21 |
|                | HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter   | 727060-B21 |
|                | HPE Ethernet 10Gb 2-port 546FLR-SFP+ Adapter   | 779799-B21 |
|                | HPE FlexFabric 10Gb 4-port 536FLR-T Adapter  | 764302-B21 |
|                |  |            |

| Core Options      |   |             |
|-------------------|---|-------------|
|                   | HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter  | 700751-B21  |
|                   | HPE FlexFabric 10Gb 2-port 533FLR-T Adapter   | 700759-B21  |
|                   | HPE Ethernet 1Gb 4-port 366FLR Adapter  | 665240-B21  |
|                   | HPE Ethernet 1Gb 4-port 331FLR Adapter  | 629135-B22  |
|                   | <b>NOTE:</b> The DL360 Gen9 chassis ships with 4x1Gb Embedded.  |             |
|                   | <b>NOTE:</b> Only one FlexibleLOM can be added to the server as an upgradeable option.  |             |
| HPE InfiniBand    | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter   | 764284-B21  |
|                   | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter   | 764285-B21  |
|                   | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter  | 764286-B21  |
|                   | HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter  | 825110-B21  |
|                   | HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter  | 825111-B21  |
|                   | HPE 100Gb 1-port OP101 QSFP28 x8 PCle Gen3 with Intel® Omni-Path Architecture   | 829334-B21  |
|                   | Adapter   | 027001021   |
|                   | HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel® Omni-Path Architecture Adapter  | 829335-B21  |
|                   | NOTE: For additional InfiniBand   |             |
|                   | information: https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154440.  |             |
| HPE I/O Expansion | HP DL360 Gen9 Low Profile PCIe Slot CPU2 Kit  | 764642-B21  |
| Options           | <b>NOTE:</b> This option kit requires a second CPU and will add an additional Low Profile PCIe 3.0 slot.                                    |             |
|                   | HPE DL360 Gen9 2P Full Height PCIe Slot 2 GPU Enablement Kit  | 867249-B21  |
|                   | <b>NOTE:</b> This enablement kit can support more than one Full Height/GPU card   |             |
|                   | <b>NOTE:</b> This option kit requires a second CPU and will add an additional FH / <sup>3</sup> / <sub>4</sub> Length                       |             |
|                   | PCIe 3.0 slot.  |             |
|                   | <b>NOTE:</b> This kit includes GPU power cable and bracket; when this option kit is installed the Low Profile PCIe3.0 riser is not useable. |             |
|                   | <b>NOTE:</b> It is not possible to convert a unit with the Full height kit back to dual Low Profile brackets.                               |             |
| HPE Power         | HPE Flex Slot Platinum Hot-plug Power supplies  |             |
| Supplies          | HPE 1400W Flex Slot Platinum Plus Hot Plug Power Supply Kit   | 720620-B21  |
|                   | <b>NOTE:</b> Flex Slot Platinum Plus power supplies support power efficiency of up to 94%.  | , 20020 BZ1 |
|                   | Includes a C-14 power inlet (blue) connector that can support HPE Power Discovery   |             |
|                   | Services.   |             |
|                   | HPE 500W Flex Slot Platinum Hot Plug Power Supply Kit   | 720478-B21  |
|                   | <b>NOTE:</b> Flex Slot Platinum power supplies support power efficiency of up to 94%.   |             |
|                   | Includes a C-14 power inlet connector.  |             |
|                   | HPE 800W Flex Slot Titanium Hot Plug Power Supply Kit   | 720482-B21  |
|                   | <b>NOTE:</b> Flex Slot Titanium power supplies support power efficiency of up to 96%.   |             |
|                   | Includes a C-14 power inlet connector.  |             |
|                   | HPE 800W Flex Slot Universal Hot Plug Power Supply Kit  | 720484-B21  |
|                   |   |             |

### **Core Options**

|                              | <b>NOTE:</b> Flex Slot Universal power supplies support power efficiency of up to 94% and support both 277VAC/380VDC power inputs.   |                               |
|------------------------------|--|-------------------------------|
|                              | HPE 800W Flex Slot -48VDC Hot Plug Power Supply Kit  | 720480-B21                    |
|                              | <b>NOTE:</b> Flex Slot -48VDC power supplies support power efficiency of up to 94%.  |                               |
|                              | <ul> <li>NOTE: Maximum of 2 Flex Slot power supplies per platform.</li> <li>NOTE: All power supplies must be of the same input voltage, output rating, and efficien matching power supplies are installed, you may receive an error message and/experience issues with your server.</li> <li>NOTE: Mixing different power supplies in the same server may limit or disable some power features including support for power redundancy. To ensure access to all available features</li> </ul> | e operational<br>wer supply   |
|                              | supplies within the same server should have the same output and efficiency ratings<br><b>NOTE:</b> Prior to selecting a power supply option, it is highly recommended that you revie<br>configuration in the HPE Power Advisor tool to determine the right size power supply. T<br>Advisor is located at: <u>http://www.hpe.com/info/hppoweradvisor</u> .<br><b>NOTE:</b> Support for HPE Power Discovery Services is included with the 1400W Flex Slot                                      | w your server<br>he HPE Power |
|                              | specifications and technical content for all HPE Server power supplies can be found<br>at: http://www.hp.com/go/proliant/powersupply.  | opnon. r ower                 |
| HPE Computation              | HPE NVIDIA Tesla P4 8GB Computational Accelerator  | Q0V79A                        |
| and Graphics<br>Accelerators | <b>NOTE:</b> Max of 2 cards can be ordered (Slots 1 and 3).<br><b>NOTE:</b> If 2 cards are installed, then 867249-B21 (HPE DL360 Gen9 2P PCIe GPU Enablemnt Kit) is required.  |                               |
|                              | HPE NVIDIA Tesla M4 4GB Computational Accelerator<br>NOTE: Max of 2 cards can be ordered (Slots 1 and 3).<br>NOTE: If 2 cards are installed, then 764642-B21 (HPE DL360 Gen9 Low Profile PCIe  | P9U90A                        |
|                              | Slot CPU2 Kit) is required.<br>HPE NVIDIA Quadro M2000 Graphics Accelerator<br>NOTE: Max of 2 cards can be ordered (Slots 1 and 3).<br>NOTE: If 2 cards are installed, then 867249-B21 (HPE DL360 Gen9 2P PCIe GPU   | P8Y48A                        |
|                              | Enablemnt Kit) is required.  |                               |
|                              | HPE NVIDIA Quadro M4000 Graphics Accelerator   | M9X58A                        |
|                              | <ul> <li>NOTE: Max of 2 cards can be ordered (Slots 1 and 3).</li> <li>NOTE: If 1 card is installed, then 766199-B21 (HPE DL360 Gen9 GPU Cable for CPU1 Kit) is required.</li> <li>NOTE: If 2 cards are installed, then only 867249-B21 (HPE DL360 Gen9 2P PCIe</li> </ul>   |                               |
|                              | GPU Enablemnt Kit) is required (GPU cable will be included in kit).  |                               |
|                              | HP DL360 Gen9 GPU Cable for CPU1 Kit<br><b>NOTE:</b> This kit is required if one HPE NVIDIA Quadro M4000 Graphics Accelerator<br>card is installed (includes GPU cable and brackets).  | 766199-B21                    |
|                              | <b>NOTE:</b> The NVIDIA Quadro modules are supported only on 64-bit versions of Linux and operating systems as well as on Virtual Machine client operating systems. The supporte operating systems are RHEL6, RHEL7, SLES 11, SLES12 and Windows Server 2012 R2.   | d bare metal                  |
| HPE Cooling                  | HP DL360 Gen9 High Performance Fan Kit   | 766201-B21                    |

| HPE Cooling | HP DL360 Gen9 High Performance Fan Kit  | 766201- |
|-------------|---|---------|
| Options     | <b>NOTE:</b> High Performance Fan Kit is required for some supported configurations |         |
|             | (10SFF Chassis, 160W CPUs or higher, LRDIMMs, NVMe SSDs) and extended ambient       |         |

### **Core Options**

operating temperatures above 35° C. Qualifications for extended ambient configurations are at: http://www.hpe.com/servers/ashrae. NOTE: High performance fan kit increases power consumption. To reduce power consumption use high performance heat sinks (795235-B21).

**NOTE:** Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

| HPE Insight | HPE Insight Control   |               |
|-------------|---|---------------|
| Software    | HPE Insight Control including 1yr 24x7 Technical Support and Updates 1-server LTU   | C6N27A        |
|             | HPE Insight Management Media Kit  | C6N31A        |
|             | HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single<br>Server FIO LTU  | C6N36A        |
|             | <b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses activation key.  | with a single |
|             | <b>NOTE:</b> Customer will receive a license entitlement certificate. The license entitlement certi redeemed online or via fax in order to obtain the license activation key(s). Includes one year HPE Software Technical Support and Update Service. |               |
|             | <b>NOTE:</b> Licenses ship without media. The HPE Insight Control Media Kit can be ordered sep can be downloaded at: <a href="http://www.hp.com/go/insightupdates">http://www.hp.com/go/insightupdates</a> .  | parately, or  |
|             | <b>NOTE:</b> For additional license options please see the QuickSpecs<br>at: <u>https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04123391</u> .  |               |
|             |   |               |
| Embedded    | HPE iLO Advanced  |               |

| Management | HPE Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO LTU | C6N36A |
|------------|---|--------|
|            |   |        |

| HPE Converged  | HPE OneView Advanced (with HPE iLO Advanced)   |          |
|----------------|--|----------|
| Infrastructure | HPE OneView including 3yr 24x7 Support Physical 1-server LTU   | E5Y34A   |
| Management     | HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU   | E5Y35AAE |
| Software       | HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical<br>1-server LTU  | E5Y43A   |
|                | HPE OneView Advanced (without HPE iLO Advanced)  |          |
|                | HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU  | P8B24A   |
|                | HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU  | P8B25A   |
|                | HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU   | P8B26AAE |
|                | HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU  | P8B31A   |
|                | HPE OneView Physical Media Kit LTU   | E5Y37A   |
|                | <b>NOTE:</b> Full licenses of HPE OneView Advanced also provide the right-to-use HPE Insight Control without additional charge.  |          |
|                | <b>NOTE:</b> Server provisioning (via 'HPE Insight Control server provisioning') is licensed as part of HPE OneView Advanced and provides multi-server OS and driver             |          |
|                | provisioning.  |          |
|                | <b>NOTE:</b> Licenses ship without media. The HPE OneView Media Kit can be ordered   |          |
|                | separately, or can be downloaded at: <u>http://www.hpe.com/info/hpeoneview</u> .   |          |
|                | <b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. <b>NOTE:</b> Licenses ship without media. The HPE |          |
|                | OneView Media Kit can be ordered separately, or can be downloaded  |          |
|                | at: http://www.hpe.com/info/hpeoneview.  |          |

| High Performance<br>Clusters             | <ul> <li>HPE Cluster Management Utility</li> <li>HPE Insight Cluster Management Utility 1yr 24x7 Flexible LTU</li> <li>HPE Insight Cluster Management Utility 3yr 24x7 Flexible LTU</li> <li>NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement. HPE Insight Cluster Management Utility Media</li> <li>NOTE: For additional license kits please see the HPE Insight Cluster Management Utility QuickSpecs.</li> </ul> | QL803B<br>BD476A<br>BD477A             |
|--|---|--|
| HPE PCIe Workload<br>Accelerator Options | HPE Read Intensive PCIe Workload Accelerator<br>HPE 6.4TB Read Intensive-2 FH/HL PCIe Workload Accelerator<br>HPE 3.2TB Read Intensive-2 HH/HL PCIe Workload Accelerator<br>HPE 1.6TB Read Intensive-2 HH/HL PCIe Workload Accelerator  | 831739-B21<br>831737-B21<br>831735-B21 |
|  | HPE 1.3TB Read Intensive-2 HH/HL PCIe Workload Accelerator  | 831733-B21                             |
|  | HPE Write Intensive PCIe Workload Accelerator   |  |
|  | HPE 1.6TB NVMe Write Intensive HH/HL PCIe Workload Accelerator  | 803197-B21                             |
|  | HPE 800GB NVMe Write Intensive HH/HL PCIe Workload Accelerator  | 803195-B21                             |
|  | HPE Mixed Use PCIe Workload Accelerator   |  |
|  | HPE 2.0TB NVMe Mixed Use HH/HL PCIe Workload Accelerator  | 803204-B21                             |
|  | HPE 1.6TB NVMe Mixed Use HH/HL PCIe Workload Accelerator  | 803202-B21                             |
|  | HPE 800GB NVMe Mixed Use HH/HL PCIe Workload Accelerator  | 803200-B21                             |
|  | NOTE: Please see the HPE PCIe Workload Accelerators for ProLiant Servers  |  |
|  | <b>QuickSpecs</b> for Technical Specifications and additional information.  |  |
|  | Light Endurance (LE) PCIe Workload Accelerators   |  |
|  | HPE 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator  | 775672-B21                             |
| HPE Security                             | HPE 1U Security Bezel Kit   | 664918-B21                             |
|  | HPE Trusted Platform Module 2.0 Kit   | 745823-B21                             |
|  | <b>NOTE:</b> This option kit is supported on Gen9 servers with UEFI Mode not Legacy<br>Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation<br>variants.   |  |
|  | <b>NOTE:</b> HPE Gen9 servers purchased earlier may require latest BIOS update to be  |  |
|  | compatible.   |  |
|  | <b>NOTE:</b> HPE server systems can have a TPM module (of any type) installed only once.<br>It cannot be replaced with any other TPM module.  |  |
|  | HPE Trusted Platform Module Option  | 488069-B21                             |
|  | <b>NOTE:</b> The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker  |  |

leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: <a href="http://www.hp.com/go/TPM">http://www.hp.com/go/TPM</a>. NOTE: ProL jant OS pre-installed units will come with the partition required for TPM

**NOTE:** ProLiant OS pre-installed units will come with the partition required for TPM deployment.

**NOTE:** The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

**NOTE:** The HPE Trusted Platform Module Option (488069-B21) is the TPM 1.2 version. Compatible server platforms include Gen8 and Gen9 servers.

**NOTE:** HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

| HPE Storage | SAS Controllers  |             |
|-------------|--|-------------|
| Controllers | HPE Smart Array Controllers  |             |
|             | HPE Smart Array P841/4GB FBWC 12Gb 4-ports Ext SAS Controller  | 726903-B21  |
|             | HPE Smart Array P840/4GB FBWC 12Gb 2-ports Int SAS Controller  | 726897-B21  |
|             | HP DL360 Gen9 Smart Array P840 SAS Card with Cable Kit   | 766205-B21  |
|             | <b>NOTE:</b> Includes the P840 Smart Array controller with 4GB integrated cache, HPE<br>Smart Storage Battery, and associated cabling required to attach it to a 10SFF chassis<br>configuration. |             |
|             | HPE Smart Array P840ar/2GB FBWC 12Gb 2-port Internal SAS Controller  | 843199-B21  |
|             | <b>NOTE:</b> The Smart Array P840ar SAS controller will require the P840ar Cable Kit 843234-B21.   |             |
|             | HPE Smart Array P441/4GB FBWC 12Gb 2-ports Ext SAS Controller  | 726825-B21  |
|             | HPE Smart Array P440/4GB FBWC 12Gb 1-port Int SAS Controller   | 726821-B21  |
|             | HP Smart Array P440/4GB FBWC 12Gb 1-port Int FIO SAS Controller  | 761872-B21  |
|             | <b>NOTE:</b> The P440/4GB will support up to 8 internal SAS/SATA drives and consume 1<br>PCIe slot. Also includes the HPE Smart Storage Battery.   |             |
|             | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int SAS Controller  | 726736-B21  |
|             | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller   | 749974-B21  |
|             | <b>NOTE:</b> The P440ar/2GB will support up to 8 internal SAS/SATA drives without using a PCIe slot.   |             |
|             | HPE DL360 Gen9 Smart Array P440ar Controller for 2 GPU Configurations  | 726740-B21  |
|             | <b>NOTE:</b> This controller is specific for the DL360 Gen9 with 2 GPGPUs installed. It has a unique heatsink that will allow the 2 <sup>nd</sup> GPU to fit.                                    |             |
|             | <b>NOTE:</b> When ordering controllers, see HPE Cable Options below for required cable(s). FIG factory integrated option only via CTO.   | O indicates |
|             | HPE Smart Host Bus Adapters  |             |
|             | HPE H241 12Gb 2-ports Ext Smart Host Bus Adapter   | 726911-B21  |
|             | HPE H240 12Gb 2-ports Int Smart Host Bus Adapter   | 726907-B21  |
|             | HP H240 12Gb 2-ports Int FIO Smart Host Bus Adapter  | 761873-B21  |
|             | HPE H240ar 12Gb 2-ports Int Smart Host Bus Adapter   | 726757-B21  |
|             | HP H240ar 12Gb 2-ports Int FIO Smart Host Bus Adapter  | 749976-B21  |
|             | <b>NOTE:</b> The H240ar will support up to 8 internal SAS/SATA drives without using a PCIe slot.   |             |

| <b>NOTE:</b> When ordering controllers, see HPE Cable Options below for required cable(s). FIO ir factory integrated option only via CTO.   |            |
|---|------------|
| HPE Cable Options   |            |
| HPE DL360 Gen9 Smart Array P840ar Cable Kit   | 843234-B21 |
| HP DL360 Gen9 SFF Embedded SATA Cable   | 766207-B21 |
| <b>NOTE:</b> Needed only when attaching drive bays to the B140i controller in an 8 SFF Chassis.   |            |
| HP DL360 Gen9 SFF Smart Array P440/H240 SAS Cables  | 775927-B21 |
| <b>NOTE:</b> Required for use with the HPE Smart Array P440 (PCIe Controllers) 726821-<br>B21 or 761872-B21, the option kit documentation details out cable placement with<br>the HPE Smart Array P440 in PCIe 3.0 Slots 1 or 2 connecting to the 8SFF backplane<br>or the 2 SFF SAS/SATA option kit. |            |
| HP DL360 Gen9 SFF Smart Array P440ar/H240ar SAS Cable   | 766209-B21 |
| HP DL360 Gen9 LFF Embedded SATA Cable   | 766213-B21 |
| HP DL360 Gen9 LFF Smart Array P440/H240 SAS Cables  | 775929-B21 |
| <b>NOTE:</b> Required for use with the HPE Smart Array P440 (PCIe Controllers) 726821-<br>B21 or 761872-B21, the option kit documentation details out cable placement with<br>the HPE Smart Array P440 in PCIe 3.0 Slots 1 or 2 connecting to the 4LFF backplane.                                     |            |
| HP DL360 Gen9 LFF Smart Array P440ar/H240ar SAS Cable   | 766211-B21 |
| <b>NOTE:</b> Required for an upgrade from a B140i SATA controller to a HPE Smart HBA 240ar or HPE Smart Array P440ar.   |            |
| <b>NOTE:</b> Options noted "DL360 Gen9 SFF" are supported on the 8 SFF Chassis only. Opt noted "DL360 Gen9 LFF" are supported on the 4 LFF Chassis only.  | ions       |
| Optional Software   |            |
| HPE SmartCache No Media 24x7 Technical Support 1-server LTU   | D7S26A     |
| HPE SmartCache No Media 24x7 Technical Support Flexible LTU   | D7S27A     |
| HPE SmartCache No Media 24x7 Technical Support E-LTU  | D7S27AAE   |
| <b>NOTE:</b> HPE SmartCache is supported when one of the supported Smart Array<br>Controllers is installed in the server.<br><b>NOTE:</b> HPE SmartCache comes standard (no licensing is required) if the HPE Smart<br>Array P840 Controller is installed in the server.                              |            |
| Optional Upgrades   |            |
| HP 96W Smart Storage Battery with 145mm Cable for DL/ML/SL Servers  | 727258-B21 |

#### HPE Tape Backup

**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: <u>http://www.hp.com/go/tape</u>. For hardware and software compatibility of HPE tape backup products <u>http://www.hpe.com/storage/BURAcompatibility</u>.

#### Rack-Mount Tape Solutions

#### **Tape Drives**

| HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive                  | BB874A |
|--|--------|
| HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader  | COH19A |
| HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in a 1U Rack Mount Kit     | COL99A |
| HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive                   | EH970A |
| HPE StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in a 1U Rack Mount Kit | EJ014B |
| HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive               | EH958B |

| HPE StoreEver LTO-4 Ultrium 1760 SAS (1) in a 1U Rack Mount Kit        | EH946C |
|--|--------|
| HPE StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive               | EH920B |
| HPE StoreEver 1U SAS Rack Mount Kit                                    | AE459B |
| HPE Tape Storage Systems   |        |
| HPE StoreEver MSL6480  |        |
| HPE StoreEver MSL6480 Scaleable Expansion Module                       | QU626A |
| HPE StoreEver MSL6480 Scalable Base Module                             | QU625A |
| HPE StoreEver MSL2024 0-drive Tape Library                             | AK379A |
| HPE StoreEver MSL4048 0-drive Tape Library                             | AK381A |
| NOTE: Please see the HPE StoreEver MSL6480 Tape Library QuickSpecs for |        |
| Technical Specifications and additional information).                  |        |

| HPE Disk Backup | HPE RDX Removable Disk Backup System   |        |
|-----------------|--|--------|
|                 | HPE RDX 3TB USB 3.0 Internal Disk Backup System  | P9L71A |
|                 | HPE RDX+ 3TB USB 3.0 External Disk Backup System   | P9L72A |
|                 | HP RDX 2TB USB3.0 External Disk Backup System  | E7X53B |
|                 | HP RDX+ 1TB External Backup System   | B7B69B |
|                 | HP RDX+ 500GB External Backup System   | B7B66B |
|                 | HPE RDX+ External Docking System   | C8S07B |
|                 | HPE D3700 Enclosure  | QW967A |
|                 | HPE D3600 Enclosure  | QW968A |
|                 | HPE StoreOnce 5100 48TB System   | BB915A |
|                 | HPE StoreOnce 3540 24TB System   | BB914A |
|                 | HPE StoreOnce 3520 12TB System   | BB922A |
|                 | HPE StoreOnce 3100 8TB System  | BB913A |
|                 | NOTE: For the complete range of RDX drives and media see: <u>http://www.hp.com/go/rdx</u> . For hardware and software compatibility of HPE disk backup products see: <u>http://www.hp.com/storage/SPOCK</u> .<br>NOTE: Please see the <u>HPE RDX Removable Disk Backup System QuickSpecs</u> for additional part |        |
|                 | numbers, Technical Specifications, and additional information  |        |

| HPE Storage<br>Options | NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and compatibility information please see:<br>http://www8.hp.com/us/en/products/data-storage/storefabric.html.<br>Emulex Fibre Channel HBAs | Linux. For detailed |
|------------------------|---|---------------------|
|                        | HPE StoreFabric SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter   | Q0L11A              |
|                        | HPE StoreFabric SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter   | Q0L12A              |
|                        | HPE StoreFabric SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter   | Q0L13A              |
|                        | HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter   | Q0L14A              |
|                        | HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter   | C8R39A              |
|                        | HPE StoreFabric SN1100E 4-port 16Gb Fibre Channel Host Bus Adapter  | P9D99A              |
|                        | HPE StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter   | C8R38A              |
|                        | HPE StoreFabric 84E 4-port 8Gb Fibre Channel Host Bus Adapter   | E7Y63A              |
|                        | HPE 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter  | AJ763B              |
|                        | HPE 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter  | AJ762B              |

#### **QLogic Fibre Channel HBAs**

| HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter | P9M75A |
|---|--------|
| HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter   | P9M76A |
| HPE StoreFabric SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter | P9D93A |
| HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter   | P9D94A |
| HPE StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter | QW971A |
| HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter | QW972A |
| HPE StoreFabric 84Q 4-port 8Gb Fibre Channel Host Bus Adapter           | P9D91A |
| HPE 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter                  | AJ764A |
| HPE 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter                  | AK344A |
| Converged Network Adapter   |        |
| HPE StoreFabric CN1200E 10Gb Converged Network Adapter                  | E7Y06A |
| HPE StoreFabric CN1100R Dual Port Converged Network Adapter             | QW990A |
| HPE StoreFabric CN1200E 10GBASE-T Dual Port Converged Network Adapter   | N3U51A |
| HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter   | N3U52A |

| HPE Data Center | HPE Advanced Series Racks  |        |
|-----------------|--|--------|
| Racks           | HPE 42U 600mm x 1075mm Advanced Pallet Rack                                  | H6J65A |
|                 | HPE 42U 600mm x 1075mm Advanced Shock Rack                                   | H6J66A |
|                 | HPE 42U 600mm x 1200mm Advanced Pallet Rack                                  | H6J67A |
|                 | HPE 42U 600mm x 1200mm Advanced Shock Rack                                   | H6J68A |
|                 | HPE 36U 600mm x 1075mm Advanced Pallet Rack                                  | H6J77A |
|                 | HPE 36U 600mm x 1075mm Advanced Shock Rack                                   | H6J78A |
|                 | HPE 14U 600mm x 1075mm Advanced Shock Rack                                   | H6J82A |
|                 | HPE 22U 600mm x 1075mm Advanced Pallet Rack                                  | H6J83A |
|                 | HPE 22U 600mm x 1075mm Advanced Shock Rack                                   | H6J84A |
|                 | HPE 48U 600mm x 1075mm Advanced Pallet Rack                                  | H6J87A |
|                 | HPE 48U 600mm x 1075mm Advanced Shock Rack                                   | H6J88A |
|                 | NOTE: Please see the HPE Advanced Series Racks QuickSpecs for information on |        |
|                 | additional racks options and rack specifications.                            |        |
|                 | HPE Enterprise Series Racks  |        |
|                 | HP 36U 600mm x 1075mm Enterprise Pallet Rack                                 | BW895A |
|                 | HP 36U 600mm x 1075mm Enterprise Shock Rack                                  | BW896A |
|                 | HPE 42U 600mm x 1075mm Enterprise Pallet Rack                                | BW903A |
|                 | HP 42U 600mm x 1075mm Enterprise Shock Rack                                  | BW904A |
|                 | HP 42U 600mm x 1200mm Enterprise Pallet Rack                                 | BW907A |
|                 | HP 42U 600mm x 1200mm Enterprise Shock Rack                                  | BW908A |
|                 | HP 47U 600mm x 1075mm Enterprise Pallet Rack                                 | BW911A |
|                 | HP 47U 600mm x 1075mm Enterprise Shock Rack                                  | BW912A |
|                 | HP 47U 600mm x 1200mm Enterprise Pallet Rack                                 | BW913A |
|                 | HP 47U 600mm x 1200mm Enterprise Shock Rack                                  | BW914A |
|                 | HP 42U 800mm x 1075mm Enterprise Pallet Rack                                 | BW917A |
|                 | HP 42U 800mm x 1075mm Enterprise Shock Rack                                  | BW918A |
|                 | NOTE: Please see the HPE Enterprise Series Racks QuickSpecs for information  |        |
|                 | on additional racks options and rack specifications                          |        |

on additional racks options and rack specifications.

|                    | <ul> <li>NOTE: Gen9 rail kits have changed significantly from prior generation rail kits. Please tak review the installation documentation that comes with the server to help you with the instyour Gen9 server.</li> <li>NOTE: Rail kits are optional for DL360/380 Gen9 and is no longer standard with the serve have the option to purchase their server without a rail kit.</li> <li>NOTE: Ball bearing and Easy Install rail kits contain telescoping rails to allow for in-rack server.</li> <li>NOTE: To assist in the installation of the server into the rack an optional installation tool contacting your local services representative (p/n 695539-001).</li> <li>CAUTION: Hewlett Packard Enterprise recommends that a minimum of two people are recommended to the server into the rack and provide the provide the rack and people are recommended to the provide the provi</li></ul> | stallation of<br>ver. Customers<br>servicing.<br>is available by |
|--------------------|--|--|
|                    | Rack Server installations. Please refer to your installation instructions for proper tools an people to use for any installation.  |  |
| HPE Power          | HPE Basic Power Distribution Units (PDU)   |  |
| Distribution Units | HPE Basic 1.9kVA/L5-20P 16A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU   | H5M54A   |
| (PDUs)             | HPE Basic 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal WW<br>PDU   | H5M56A   |
|                    | HPE Basic 2.8kVA/L5-30P 24A/120V Outlets (18) 5-20R/Vertical NA/JP PDU   | H5M55A   |
|                    | HPE Basic 4.9kVA/60320 C20 Detachable 16A/230V Outlets (20) C13/Vertical WW<br>PDU   | H5M57A   |
|                    | HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (20) C13/Vertical NA/JP PDU   | H5M58A   |
|                    | HPE Basic 7.3kVA/60309 5-wire 32A/230V Outlets (20) C13/Vertical INTL PDU  | H5M68A   |
|                    | HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13/Vertical NA/JP PDU  | H5M61A   |
|                    | HPE Basic 4.9kVA/L6-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP PDU   | H5M59A   |
|                    | HPE Basic 7.3kVA/60309 3-wire 32A/230V Outlets (24) C13 (6) C19/Vertical INTL<br>PDU   | H5M70A   |
|                    | HPE Basic 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (6) C19/Vertical NA PDU   | H5M60A   |
|                    | HPE Basic 11kVA/60309 63A 3-wire 48A/230V Outlets (30) C13 (6) C19/Vertical<br>INTL PDU  | H5M71A   |
|                    | HPE Basic 9.2kVA/50A Terminal Block 40A/230V Outlets (30) C13 (6) C19/Vertical<br>WW PDU   | H5M75A   |
|                    | HPE Basic 3Ph 5.7kVA/ L21-20P 16A/120-208V Outlets (24) C13 (3) 5-20R/Vertical<br>NA/JP PDU  | H5M63A   |
|                    | HPE Basic 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (24) C13 (3) C19 (3) 5-<br>20R/Vertical NA/JP PDU  | H5M64A   |
|                    | HPE Basic 3Ph 8.6kVA/L15-30P 24A/208V Outlets (24) C13 (6) C19/Vertical NA/JP<br>PDU   | H5M62A   |
|                    | HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (24) C13 (6) C19/Vertical<br>INTL PDU  | H5M72A   |
|                    | HPE Basic 3Ph 11kVA/60309 5-wire 16A/230V Outlets (36) C13 (6) C19/Vertical<br>INTL PDU  | H5M73A   |
|                    | HPE Basic 3Ph 11kVA/60309 16A/240V Outlets (36) C13 (6) C19/Vertical NA PDU  | H5M67A   |
|                    | HPE Basic Modular 2.8kVA/L5-30P 24A/120V Outlets (4) C19/Horizontal NA/JP PDU  | 252663-D71   |
|                    | HPE Basic Modular 4.9kVA/L6-30P 24A/208V Outlets (4) C19/Horizontal NA/JP Core<br>Only PDU   | 252663-D74   |
|                    | HPE Basic Modular 8.3kVA/CS8265C 40A/208V Outlets (4) C19/Horizontal NA/JP<br>PDU  | 252663-D75   |
|                    | HPE Basic Modular 7.3kVA/60309 3-wire 32A/230V Outlets (4) C19/Horizontal INTL<br>Core Only PDU  | 252663-B33   |

| HPE Basic Modular 9.2kVA/60309 63A 3-wire 40A/230V Outlets (4) C19/Horizontal<br>INTL PDU             | 252663-B34 |
|---|------------|
| HPE Basic Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP<br>PDU                 | AF512A     |
| HPE Basic Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU                 | AF513A     |
| HPE Basic Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU                   | AF519A     |
| HPE Basic Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (6)<br>C19/Horizontal NA/JP PDU       | AF511A     |
| HPE Basic Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU                 | AF518A     |
| HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer  | H3X09A     |
| NOTE: Please see the HPE Basic Power Distribution Units (PDU) QuickSpecs                              |            |
| for information on additional options and product specifications.                                     |            |
| HPE Metered Power Distribution Units (PDU)  |            |
| HPE Metered 2.8kVA/L5-30P 24A/120V Outlets (12) 5-20R/Horizontal NA/JP PDU                            | D9N43A     |
| HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (12) C13/Horizontal<br>WW PDU                | D9N46A     |
|   |            |
| HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Horizontal NA/JP PDU                              | D9N44A     |
| HPE Metered 3.6kVA/60320 C20 Detachable 16A/230V Outlets (16) C13/Vertical WW<br>PDU                  | D9N45A     |
| HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (12) C13/Vertical NA/JP PDU                                | G9Z05A     |
| HPE Metered 7.3kVA/60309 3-wire 32A/230V Outlets (12) C13/Vertical INTL PDU                           | G9Z06A     |
| HPE Metered 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical NA/JP<br>PDU                     | D9N47A     |
| HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlets (20) C13 (4) C19/Vertical INTL PDU                   | D9N48A     |
| HPE Metered 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (3) C19/Vertical NA/JP PDU                   | D9N51A     |
| HPE Metered 3Ph 8.6kVA/L21-30P 24A/120-208V Outlets (18) C13 (3) C19 (3) 5-<br>20R/Vertical NA/JP PDU | D9N53A     |
| HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (18) C13 (3) C19/Vertical INTL PDU                | D9N55A     |
| HPE Metered 8.3kVA/CS8265C 40A/208V Outlets (30) C13 (3) C19/Vertical NA PDU                          | D9N49A     |
| HPE Metered 7.3kVA/60309 32A 3-wire/230V Outlet (32) C13 (4) C19/Vertical INTL<br>PDU                 | D9N50A     |
| HPE Metered 3Ph 11kVA/60309 5-wire 16A/230V Outlets (30) C13 (3) C19/Vertical<br>INTL PDU             | D9N57A     |
| HPE Metered 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12) C19/Vertical NA/JP PDU                 | D9N58A     |
| HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (30) C13 (3)<br>C19/Vertical NA/JP PDU  | D9N61A     |
| HPE Metered 3Ph 16.6kVA/60309 32A-30A 5-wire 24A/230V Outlets (12) C13 (12)<br>C19/Vertical NA/JP PDU | D9N62A     |
| HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (24) C13 (3)<br>C19/Vertical NA/JP PDU      | D9N54A     |
| HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12)<br>C19/Vertical NA/JP PDU     | D9N59A     |
|   |            |

| HPE Metered 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (12) C13 (12)<br>C19/Vertical NA/JP PDU    | G9Z07A |
|--|--------|
| HPE Metered 3Ph 19.9kVA/L22-30P 24A/277V Outlets (30) RF-203P-HP/Vertical NA<br>PDU                  | D9N63A |
| HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlet (30) C13 (3) C19/Vertical<br>INTL PDU             | D9N56A |
| HPE Metered 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C13 (12) C19/Vertical<br>INTL PDU           | D9N60A |
| HPE Metered 3Ph 22kVA/60309 5-wire WT 32A/230V Outlets (12) C13 (12)<br>C19/Vertical INTL PDU        | G9Z08A |
| HP Environmental Sensor for Remote Monitored and Managed PDUs  | E2D53A |
| NOTE: Please see the HPE Metered Power Distribution Units (PDU) QuickSpecs for                       |        |
| information on additional options and product specifications.  |        |
| HPE Intelligent Power Distribution Unit (PDU)  |        |
| HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP<br>PDU               | AF520A |
| HPE Intelligent Modular 8.3kVA/CS8265C 40A/208V Outlets (6) C19/Horizontal NA/JP<br>PDU              | AF521A |
| HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal<br>NA/JP PDU          | AF522A |
| HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6)<br>C19/Horizontal NA/JP PDU        | AF523A |
| HPE Intelligent Modular 3Ph 17.3kVA/60309 30A 5-wire 24A/240V (6)<br>C19/Horizontal NA/JP PDU        | AF901A |
| HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal<br>INTL PDU          | AF525A |
| HPE Intelligent Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6)<br>C19/Horizontal INTL PDU       | AF526A |
| HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6)<br>C19/Horizontal INTL PDU       | AF527A |
| HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12)<br>C19/Horizontal NA/JP PDU   | AF535A |
| HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12)<br>C19/Horizontal INTL PDU      | AF538A |
| HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (6)<br>C19/Horizontal NA/JP PDU      | AF531A |
| HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (20) C13 (6)<br>C19/Horizontal NA/JP PDU | AF532A |
| HPE Intelligent Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal<br>NA/JP PDU         | AF533A |
| HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal<br>INTL PDU Kit      | AF534A |
| HPE 5xC13 Intelligent PDU Extension Bar G2 Kit   | AF547A |
| HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar                                     | AF528A |
| NOTE: Please see the HPE Intelligent Power Distribution Unit (PDU) QuickSpecs for                    |        |
| information on additional options and product specifications.  |        |
| HPE Metered and Switched Power Distribution Units (PDU)  |        |
| HPE Metered Switched 2.8kVA/L5-30P 24A/120V Outlets (24) 5-20R /Vertical NA/JP PDU                   | H8B48A |
|  |        |

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| d 3.6kVA/60320 C20 Detach                  | able 16A/230V Outlets (7)   | ) C13 (1)  | H8B49A   |
|--|---|--|--|
|  |   |  |  |
| d 4.9kVA/L6-30P 24A/208V                   | Outlets (20) C13 (4) C19/   | 'Vertical  | H8B50A   |
|  | 230V Outlets (20) C13 (4  | )  | H8B51A   |
|  | 208V Outlets (18) C13 (6)   | )  | H8B52A   |
|  | 208V Outlets (20)C13 (3)  | C19 (1)5-  | H8B53A   |
|  | 16A/230V Outlets (21) C1  | 3 (3)  | H8B54A   |
|  | A/208V Outlets (12) C13 (   | (12)   | H8B55A   |
|  | e 48A/208V Outlets (12) C   | 213 (12)   | H8B56A   |
| HPE Metered and Switched                   | Power Distribution Units  | <u>s (PDU)</u>   |  |
| nation on additional options               | and product specifications  |  |  |
| , please visit the <mark>HPE Uninte</mark> | rruptible Power Systems   | <u>(UPS)</u>   |  |
|  |   |  |  |
|  | J<br>d 4.9kVA/L6-30P 24A/208V<br>d 7.3kVA/60309 3-wire 32A/<br>U<br>d 3Ph 8.6kVA/L15-30P 24A/<br>DU<br>d 3Ph 8.6kVA/L21-30P 24A/<br>DU<br>d 3Ph 11kVA/60309 5-wire 1<br>U<br>d 3Ph 14.4kVA/CS8365C 40.<br>DU<br>d 3Ph 17.3kVA/60309 4-wire<br>DU<br>e <b>HPE Metered and Switched</b><br>nation on additional options a | J<br>d 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/<br>d 7.3kVA/60309 3-wire 32A/230V Outlets (20) C13 (4)<br>U<br>d 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (6)<br>DU<br>d 3Ph 8.6kVA/L21-30P 24A/208V Outlets (20)C13 (3)<br>DU<br>d 3Ph 11kVA/60309 5-wire 16A/230V Outlets (21) C1<br>U<br>d 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (0)<br>DU<br>d 3Ph 17.3kVA/60309 4-wire 48A/208V Outlets (12) C<br>DU<br><b>HPE Metered and Switched Power Distribution Units</b><br>nation on additional options and product specifications | d 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (4) C19/Vertical<br>d 7.3kVA/60309 3-wire 32A/230V Outlets (20) C13 (4)<br>U<br>d 3Ph 8.6kVA/L15-30P 24A/208V Outlets (18) C13 (6)<br>DU<br>d 3Ph 8.6kVA/L21-30P 24A/208V Outlets (20)C13 (3)C19 (1)5-<br>DU<br>d 3Ph 11kVA/60309 5-wire 16A/230V Outlets (21) C13 (3)<br>U<br>d 3Ph 14.4kVA/CS8365C 40A/208V Outlets (12) C13 (12)<br>DU<br>d 3Ph 17.3kVA/60309 4-wire 48A/208V Outlets (12) C13 (12) |

| HPE Rack Mount | HPE Location Discovery Services   |        |
|----------------|---|--------|
| Consoles, KVM  | HPE 42U Location Discovery Kit  | BW946A |
| Switches, and  | HPE 47U Location Discovery Kit  | BW947A |
| Keyboards      | HPE Location Discovery Services LCD8500 Kit                                     | TL052A |
|                | NOTE: Please see the HPE Location Discovery Services QuickSpecs for information |        |
|                | on additional options and product specifications.                               |        |
|                | HPE Rack Mount Consoles   |        |
|                | HP LCD8500 1U US Rackmount Console Kit  | AF630A |
|                | HP LCD8500 1U UK Rackmount Console Kit  | AF631A |
|                | HP LCD8500 1U DE Rackmount Console Kit  | AF632A |
|                | HP LCD8500 1U FR Rackmount Console Kit  | AF633A |
|                | HP LCD8500 1U JP Rackmount Console Kit  | AF642A |
|                | HP LCD8500 1U RU Rackmount Console Kit  | AF643A |
|                | HP LCD8500 1U INTL Rackmount Console Kit  | AF644A |
|                | HP LCD8500 1U US TAA Rackmount Console Kit                                      | AF645A |
|                | HPE KVM Switches  |        |
|                | HP 0x1x8 G3 KVM Console Switch  | AF651A |
|                | HP 0x2x16 G3 KVM Console Switch   | AF652A |
|                | HP TAA 0x2x16 G3 KVM Console Switch   | AF653A |
|                | HP USB Remote Access Key for G3 KVM Console Switches                            | AF650A |
|                | HP KVM Console USB Interface Adapter  | AF628A |
|                | HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software          | AF618A |
|                | HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software          | AF619A |
|                | HP KVM Console USB 2.0 Virtual Media CAC Interface Adapter                      | AF629A |
|                | HP 1x4 USB/PS2 KVM Console Switch   | AF611A |

| HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software  | AF620A     |
|---|------------|
| HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software | AF621A     |
| HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software | AF622A     |
| NOTE: To learn more, please visit the HPE KVM Switches web page.    |            |
| HPE USB Keyboard and Mouse  |            |
| HPE USB US Keyboard/Mouse Kit                                       | 631341-B21 |
| HPE USB UK Keyboard/Mouse Kit                                       | 631344-B21 |
| HPE USB FR Keyboard/Mouse Kit                                       | 631346-B21 |
| HPE USB ES Keyboard/Mouse Kit                                       | 631348-B21 |
| HPE USB DE Keyboard/Mouse Kit                                       | 631358-B21 |
| HPE USB JP Keyboard/Mouse Kit                                       | 631360-B21 |
| HPE USB IT Keyboard/Mouse Kit                                       | 631362-B21 |
| HPE USB CN Keyboard/Mouse Kit                                       | 631364-B21 |
| HPE USB AE Keyboard/Mouse Kit                                       | 638212-B21 |
| HPE USB RU Keyboard/Mouse Kit                                       | 638214-B21 |
| HPE USB IN Keyboard/Mouse Kit                                       | 672097-D63 |
| HPE USB AP/INTL Keyboard/Mouse Kit                                  | 672097-373 |
| HPE USB INTL Keyboard/Mouse Kit                                     | 672097-B33 |
| HPE USB PT Keyboard/Mouse Kit                                       | 672097-133 |
| HPE USB TR Keyboard/Mouse Kit                                       | 672097-143 |
| HPE USB CZ Keyboard/Mouse Kit                                       | 672097-223 |
| HPE USB FI Keyboard/Mouse Kit                                       | 672097-353 |
| HPE USB SE Keyboard/Mouse Kit                                       | 672097-103 |
| HPE USB CH Keyboard/Mouse Kit                                       | 672097-113 |
| HPE USB KR Keyboard/Mouse Kit                                       | 672097-KD3 |
| Rail Kits   |            |
| HP 1U LFF Gen9 Easy Install Rail Kit                                | 789388-B21 |
| HP 1U Small Form Factor Easy Install Rail Kit                       | 734807-B21 |
| HP 1U Cable Management Arm for Easy Install Rail Kit                | 734811-B21 |
| HPE 1U Small Form Factor Ball Bearing Rail Kit                      | 663201-B21 |
| HPE 1U Large Form Factor Ball Bearing Rail Kit                      | 663202-B21 |
| HPE 1U Cable Management Arm for Ball Bearing Rail Kit               | 663203-B21 |
| HPE Other Options   |            |
| HPE Rack LED Light Kit  | BW939A     |
| HP Kit LCD 1.83m Latch Display Port Cable                           | G7T29A     |

#### HPE Uninterruptible HPE DirectFlow Three Phase UPS

# Power Systems Power Unit (10 UPS)

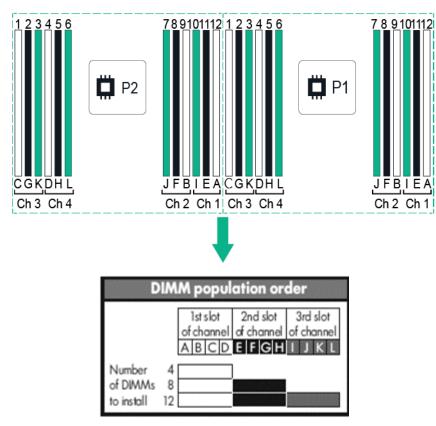
| HPE R12000 DirectFlow - 1U Rackmount Uninterruptible Power System                         | G9Y75A |
|---|--------|
| HPE R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System                     | AF478A |
| Input/Output Module Options for 1U UPS  |        |
| HPE 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309<br>Input/Output Module | AF488A |

| HPE 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output<br>Module      | AF489A |
|--|--------|
| HPE 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module    | AF490A |
| HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output<br>Module          | AF491A |
| HPE 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output<br>Module          | AF492A |
| HPE 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output<br>Module      | G9Y76A |
| HPE DirectFlow UPS Management Card   | AF493A |
| Power Unit (2U UPS)  |        |
| HPE R18000 DirectFlow - 2U Rackmount Uninterruptible Power System                            | AF479A |
| Input/Output Module Options for 2U UPS   |        |
| HPE 32A 400-415 Volt Three Phase INTL R18000 DirectFlow UPS IEC309<br>Input/Output Module    | AF483A |
| HPE 30A 380 Volt Three Phase China R18000 DirectFlow UPS Unterminated<br>Input/Output Module | AF485A |
| HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output<br>Module          | AF486A |
| HPE 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output<br>Module          | AF487A |
| HPE 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output<br>Module          | D9Q02A |
| HPE 30A 400-415V Three Phase NA R18000 DirectFlow UPS 1:1 IEC309<br>Input/Output Module      | AF484A |
| NOTE: All Input/Output Modules support dual output outlets except the AF484A.                |        |
| Battery Pack Options   |        |
| HPE DirectFlow UPS - 1U Rackmount Lithium-ion Battery Pack                                   | AF480A |
| HPE DirectFlow UPS - 3U Rackmount VRLA Battery Pack  | AF482A |
| HPE WW DirectFlow Secondary Battery Cable  | AF497A |
| NOTE: Please see the HPE DirectFlow Three Phase Uninterruptible Power System                 |        |
| <b>QuickSpecs</b> for information on additional options and product specifications.          |        |
| HPE Tower UPS  |        |
| HPE T750 G4 UPS Models   |        |
| HPE T750 G4 NA/JP Uninterruptible Power System   | J2P85A |
| HPE T750 G4 INTL Uninterruptible Power System  | J2P88A |
| HPE T1000 G4 UPS Models  |        |
| HPE T1000 G4 NA/JP Uninterruptible Power System  | J2P86A |
| HPE T1000 G4 INTL Uninterruptible Power System   | J2P89A |
| HPE T1500 G4 UPS Models  |        |
| HPE T1500 G4 NA/JP Uninterruptible Power System  | J2P87A |
| HPE T1500 G4 INTL Uninterruptible Power System   | J2P90A |
| HPE Rack/Tower UPS   |        |
| HPE R/T2200 G4 UPS Models  |        |
| HPE R/T2200 G4 NA/JP Uninterruptible Power System  | J2R00A |
| HPE R/T3000 G4 UPS Models  |        |
|  |        |

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| HPE R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System  | J2R01A  |
|--|---|
|  |   |
| HPE R/T3000 G4 High Voltage NA/JP Uninterruptible Power System   | J2R02A  |
| HPE R/T3000 G4 High Voltage INTL Uninterruptible Power System  | J2R04A  |
| R1500 G4 Models  |   |
| HPE R1500 G4 NA Uninterruptible Power System   | J2Q99A  |
| HPE R1500 G4 JP/TWN Uninterruptible Power System   | J2R05A  |
| HPE R1500 G4 INTL Uninterruptible Power System   | J2R03A  |
| R7000 Uninterruptible Power System (UPS)   |   |
| HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System   | AF462A  |
| HPE R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System  | AF463A  |
| R5000 Uninterruptible Power System (UPS)   |   |
| HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System  | AF460A  |
|  | AF461A  |
|  |   |
| information on additional options and product specifications.  |   |
| HPE UPS Options  |   |
| HPE R/T2200 G4 Extended Runtime Module   | J2R09A  |
|  | J2R10A  |
|  | L4Q11A  |
|  |   |
|  |   |
| HPE Enterprise Mainstream Flash Media Kits for Memory Cards<br>HPE 32GB microSD Mainstream Flash Media Kit   | 700170 001  |
|  | //////////////////////////////////////  |
| HP Dual 8GB microSD Enterprise Midline USB Kit   | 700139-B21<br>741279-B21  |
| HP Dual 8GB microSD Enterprise Midline USB Kit<br>HPE 8GB microSD Enterprise Mainstream Elash Media Kit  | 741279-B21  |
| HP Dual 8GB microSD Enterprise Midline USB Kit<br>HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit  |   |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit  | 741279-B21<br>726116-B21  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services  | 741279-B21<br>726116-B21<br>737953-B21  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service   | 741279-B21<br>726116-B21  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services  | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care  | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service  | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM6E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM5E<br>U5HM6E<br>U5HN3E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM5E<br>U5HN3E<br>U5HN4E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM4E<br>U5HM5E<br>U5HN3E<br>U5HN4E<br>U5HN4E<br>U5HN5E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair with CDMR DL360 Gen9 w/IC Service   | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM5E<br>U5HN3E<br>U5HN4E<br>U5HN4E<br>U5HN5E<br>U7AM2E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 Service                            | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM6E<br>U5HN3E<br>U5HN4E<br>U5HN5E<br>U5HN5E<br>U7AM2E<br>U7AM3E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 Service | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM5E<br>U5HN3E<br>U5HN4E<br>U5HN5E<br>U7AM2E<br>U7AM2E<br>U7AM3E  |
| HPE 8GB microSD Enterprise Mainstream Flash Media Kit<br>HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit<br>Installation & Start-up Services<br>HPE Install ProLiant DL36x(p) Service<br>HPE Installation and Startup DL36x(p) Service<br>Proactive Care<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair 24x7 with DMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care Call to Repair with CDMR DL360 Gen9 w/IC Service<br>HPE 3 year Proactive Care 24x7 DL360 Gen9 Service                            | 741279-B21<br>726116-B21<br>737953-B21<br>U4506E<br>U4507E<br>U5HM4E<br>U5HM5E<br>U5HM6E<br>U5HN3E<br>U5HN4E<br>U5HN5E<br>U5HN5E<br>U7AM2E<br>U7AM3E  |
|  | HPE R1500 G4 JP/TWN Uninterruptible Power System<br>HPE R1500 G4 INTL Uninterruptible Power System<br><b>R7000 Uninterruptible Power System (UPS)</b><br>HPE R7000 4U 50A High Voltage NA/JP Uninterruptible Power System<br>HPE R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System<br><b>R5000 Uninterruptible Power System (UPS)</b><br>HPE R5000 3U L630 High Voltage NA/JP Uninterruptible Power System<br>HPE R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System<br>NOTE: Please see the <b>HPE Line Interactive Single Phase UPS QuickSpecs for</b><br>information on additional options and product specifications.<br><b>HPE UPS Options</b><br>HPE R/T2200 G4 Extended Runtime Module<br>HPE 2U Rack/Tower UPS Shipping Kit<br><b>NOTE:</b> To learn more, please visit the <b>HPE Uninterruptible Power Systems (UPS)</b><br>web page. |

# Memory Population guidelines



#### **General Memory Population Rules and Guidelines**

- . White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only.
- . A minimum of one DIMM is required per server.
- . Install DIMMs only if the corresponding processor is installed.
- . When two processors are installed, balance the DIMMs across the two processors
- . Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel. Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor.
- . Do not mix RDIMMs or LRDIMMs.
- . DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed
- . The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- . The maximum memory capacity is a function of the memory type and number of installed processors
- . HPE memory from previous generation servers is not compatible with the DL360 Gen9 Server.
- . For memory population rules and additional memory guidelines, please see the DL360 Gen9 user guide at <a href="http://www.hp.com/support">http://www.hp.com/support</a>.
- . There are four (4) Memory channels per processor; eight (8) channels per 2 processor server.
- . There are three (3) DIMM slots for each memory channel; twenty four (24) total slots for 2 processor server.

Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E5-2600v4 Series Processor Family

| Memory Bandwidth and (      | Capacity                  |                     |                     |                        |                     |                     |                     |
|-----------------------------|---------------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|
| [DIMM Type]                 | Registered DIMMs (RDIMMs) |                     |                     | Load Reduced (LRDIMMs) |                     |                     |                     |
| HPE SKU P/N                 | 805347-B21                | 805349-B21          | 836220-B21          | 805351-B21             | 805353-B21          | 805358-B21          | 809208-B21          |
| DIMM Rank                   | Single Rank               | Single Rank         | Dual Rank           | Dual Rank              | Dual Rank           | Quad Rank           | Octal Rank          |
| DIMM Capacity               | 8GB                       | 16GB                | 16GB                | 32GB                   | 32GB                | 64GB                | 128GB               |
| Voltage                     | Std Voltage<br>1.2V       | Std Voltage<br>1.2V | Std Voltage<br>1.2V | Std Voltage<br>1.2V    | Std Voltage<br>1.2V | Std Voltage<br>1.2V | Std Voltage<br>1.2V |
| DRAM Depth [bit]            | 1G                        | 2G                  | 1G                  | 2G                     | 2G                  | 2G                  | 2G                  |
| DRAM Width [bit]            | x8                        | x4                  | x4                  | x4                     | x4                  | x4                  | x4                  |
| DRAM Density                | 8Gb                       | 8Gb                 | 4Gb                 | 8Gb                    | 8Gb                 | 8Gb                 | 8Gb                 |
| CAS Latency                 | 17-17-17                  | 17-17-17            | 17-17-17            | 17-17-17               | 17-17-17            | 17-17-17            | 20-18-18            |
| DIMM Native Speed<br>(MT/s) | 2400                      | 2400                | 2400                | 2400                   | 2400                | 2400                | 2400                |
| SLOTS THAT CAN BE PC        | PULATED                   |                     |                     |                        |                     |                     |                     |
| 24 slot servers             | 24                        | 24                  | 24                  | 24                     | 24                  | 24                  | 24                  |
| MAXIMUM CAPACITY (G         | B)                        |                     |                     |                        |                     |                     |                     |
|                             | 192                       | 384                 | 384                 | 768                    | 768                 | 1536                | 3072                |
| POPULATED DIMM SPEE         | D (MT/s)                  |                     |                     |                        |                     |                     |                     |
| 1 DIMM Per Channel          | 2400                      | 2400                | 2400                | 2400                   | 2400                | 2400                | 2400                |
| 2 DIMM Per Channel          | 2133                      | 2133                | 2400                | 2400                   | 2400                | 2400                | 2400                |
| 3 DIMM Per Channel          | 1866                      | 1866                | 1866                | 1866                   | 2400                | 2400                | 2400                |

**NOTE:** Mixing the 128GB LRDIMM with other capacities is not supported.

#### Intel Gen9 Supported Memory Bandwidth for HPE ProLiant Gen9 Intel® Xeon® E5-2600v3 Series Processor Family

| Memory Bandwidth and Capacity |                     |                           |                     |                     |                     |                     |                        |                     |  |
|-------------------------------|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|------------------------|---------------------|--|
| [DIMM Type]                   |                     | Registered DIMMs (RDIMMs) |                     |                     |                     |                     | Load Reduced (LRDIMMs) |                     |  |
| HPE SKU P/N                   | 726717-<br>B21      | 726718-<br>B21            | 759934-<br>B21      | 726719-<br>B21      | 728629-<br>B21      | 726720-<br>B21      | 726722-<br>B21         | 726724-<br>B21      |  |
| DIMM Rank                     | Single Rank         | Single Rank               | Dual Rank           | Dual Rank           | Dual Rank           | Dual Rank           | Quad Rank              | Quad Rank           |  |
| DIMM Capacity                 | 4GB                 | 8GB                       | 8GB                 | 16GB                | 32GB                | 16GB                | 32GB                   | 64GB                |  |
| Voltage                       | Std Voltage<br>1.2V | Std Voltage<br>1.2V       | Std Voltage<br>1.2V | Std Voltage<br>1.2V | Std Voltage<br>1.2V | Std Voltage<br>1.2V | Std Voltage<br>1.2V    | Std Voltage<br>1.2V |  |

| DRAM Depth [bit]            | 512M        | 1G       | 512M     | 1G       | 1G       | 2G       | 2G       | 2G       |
|-----------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|
| DRAM Width [bit]            | x8          | х4       | x8       | х4       | х4       | х4       | х4       | x4       |
| DRAM Density                | 4Gb         | 4Gb      | 4Gb      | 4Gb      | 4Gb      | 8Gb      | 8Gb      | 8Gb      |
| CAS Latency                 | 15-15-15    | 15-15-15 | 15-15-15 | 15-15-15 | 15-15-15 | 15-15-15 | 15-15-15 | 15-15-15 |
| DIMM Native<br>Speed (MT/s) | 2133        | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     |
| SLOTS THAT CAN              | BE POPULAT  | ED       |          |          |          |          |          |          |
| 24 slot servers             | 24          | 24       | 24       | 24       | 24       | 24       | 24       | 24       |
|                             | TY (GB)     |          |          |          |          |          |          |          |
|                             | 96          | 192      | 192      | 384      | 768      | 384      | 768      | 1536     |
| POPULATED DIMM              | SPEED (MT/s | s)       |          |          |          |          |          |          |
| 1 DIMM Per<br>Channel       | 2133        | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     |
| 2 DIMM Per<br>Channel       | 2133        | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     | 2133     |
| 3 DIMM Per<br>Channel       | 1600        | 1600     | 1600     | 1600     | 1600     | 1866     | 1866     | 1866     |

#### DIMM slot and configuration diagram

#### DIMM slot and configuration diagrams

#### Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.
- When one processor is installed, install DIMMs in sequential alphabetic order: A, B, C, D, E, F.
- When two processors are installed, install DIMMs in sequential alphabetic order: CPU1-A, CPU2-A, CPU1-B, CPU2-B, CPU1-C, CP2-C.

|        |        | CPU 1            |        | CPU 2            |        |
|--------|--------|------------------|--------|------------------|--------|
|        | Slot # | Population order | Slot # | Population order |        |
| Chnl 3 | 1      | С                | 1      | С                | Chnl3  |
|        | 2      | G                | 2      | G                |        |
|        | 3      | К                | 3      | К                |        |
|        |        | CPU 1            |        | CPU 2            |        |
|        | Slot # | Population order | Slot # | Population order |        |
| Chnl 4 | 4      | D                | 4      | D                | Chnl 4 |
|        | 5      | Н                | 5      | Н                |        |
|        | 6      | L                | 6      | L                |        |
|        |        | CPU 1            |        | CPU 2            |        |
|        | Slot # | Population order | Slot # | Population order |        |
| Chnl 2 | 7      | J                | 7      | J                | Chnl 2 |
|        | 8      | F                | 8      | F                |        |
|        | 9      | В                | 9      | В                |        |
|        |        |                  |        |                  |        |
|        |        | CPU 1            |        | CPU 2            |        |

|        | Slot # | Population order | Slot # | Population order |        |
|--------|--------|------------------|--------|------------------|--------|
| Chnl 1 | 10     | I                | 10     | l                | Chnl 1 |
|        | 11     | E                | 11     | E                |        |
|        | 12     | A                | 12     | A                |        |

#### Memory Spe h by Processo

| Model |
|-------|
|-------|

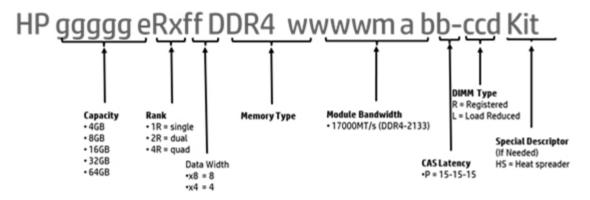
| Processor Models   | Supported Memory Speeds |
|--|-------------------------|
| E5-2603v3, E5-2609v3   | 1600MT/s                |
| E5-2623v3, E5-2620v3, E5-2630v3, E5-2640v3,<br>E5-2630Lv3  | 1866MT/s                |
| E5-2637v3, E5-2650v3, E5-2660v3, E5-2670v3,<br>E5-2680v3, E5-2690v3, E5-2683v3, E5-2695v3,<br>E5-2697v3, E5-2643v3, E5-2667v3, E5-<br>2687Wv3, E5-2698v3, E5-2650Lv3, E5-2699v3                | 2133MT/s                |
| E5-2603v4, E5-2609v4   | 1866MT/s                |
| E5-2630Lv4, E5-2620v4, E5-2623v4, E5-2640v4<br>E5-2630v4   | 2133MT/s                |
| E5-2650Lv4, E5-2637v4, E5-2643v4, E5-2650v4<br>E5-2660v4, E5-2697Av4, E5-2680v4, E5-<br>2690v4, E5-2687Wv4, E5-2667v4, E5-2683v4,<br>E5-2695v4, E5-2697v4, E5-2698v4, E5-2699v4,<br>E5-2699Av4 | 2400MT/s                |

| ory | Pre Configured Models | Standard Memory | Maximum Memory Plus<br>Optional Memory | Standard Memory<br>Replaced with Optional<br>Memory |
|-----|-----------------------|-----------------|--|---|
|     | E5-2670v3             | 64GB (4x16GB)   | 704GB (20x32GB,<br>4x16GB)             | 1536GB (24x64GB)                                    |
|     | E5-2660v4             | 64GB (4x16GB)   | 704GB (20x32GB,<br>4x16GB)             | 3072GB (24x128GB)                                   |
|     | E5-2650v4             | 32GB (2x16GB)   | 736GB (22x32GB,<br>2x16GB)             | 3072GB (24x128GB)                                   |
|     | E5-2650v3             | 32GB (2x16GB)   | 736GB (22x32GB,<br>2x16GB)             | 1536GB (24x64GB)                                    |
|     | E5-2640v4, E5-2630v4  | 16GB (1x16GB)   | 752GB (23x32GB,<br>1x16GB)             | 3072GB (24x128GB)                                   |
|     | E5-2630v3             | 16GB (1x16GB)   | 752GB (23x32GB,<br>1x16GB)             | 1536GB (24x64GB)                                    |
|     | E5-2603v4             | 8GB (1x8GB)     | 744GB (23x32GB,<br>1x8GB)              | 3072GB (24x128GB)                                   |
|     | E5-2603v3             | 8GB (1x8GB)     | 744GB (23x32GB,<br>1x8GB)              | 1536GB (24x64GB)                                    |

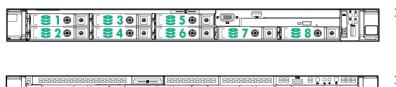
#### DDR4 memory options part number decoder

NOTE: Capacity references are rounded to the common gigabyte (GB) values.

- 8GB = 8,192MB
- 16GB = 16,384MB
- 32GB = 32,768MB
- 64GB = 65,536MB



#### Storage



| 2 3 6 6 7 8 6 6 6 | <b>SOM TO SIGN T</b>        |
|-------------------|-----------------------------|
|                   |                             |
| 3400 8600         | H 😂 7 @ @ H 😂 9 @ @ H I L I |
|                   |                             |

- 1-8 8 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays
- 1-4 4 x LFF SATA/SAS/SSD Hot Pluggable Hard Drives Bays
- 1-10 10 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

| System Unit | Dimensions                                       | 8 SFF and 10 SFF 1.7 x   | 17.1 x 27.5 inches (4.32 x 43.47 x 69.85 cm)   |
|-------------|--|--|--|
|             |  | 4 LFF - 1.7 x 17.1 x 29  | .5 inches (4.32 x 43.46 x 75.0 cm)   |
|             | Weight   | Maximum:   | 8 SFF Chassis 33.3 lb. (15.31 kg)  |
|             | (approximate)                                    | (all hard drives, power<br>supply, and processor<br>installed) | <b>NOTE:</b> Includes 2 SFF Option for a total of 10 SFF HDD.  |
|             |  | moranea  | 4 LFF Chassis 37 lb. (16.78kg)   |
|             |  | Minimum:   | 8SFF Chassis 27 lb. (12.25 kg)   |
|             |  | (one hard drive, power<br>supply, and processor<br>installed)  | 4 LFF Chassis 30.36 lb. (13.77 kg)   |
|             | Input Requirements                               | Rated Line Voltage   | 100 to 120 VAC   |
|             | (per power supply)                               |  | 200 to 240 VAC   |
|             | BTU Rating                                       | Maximum  | For 800W Power Supply: 3207 BTU/hr (at 100<br>VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr<br>(at 240 VAC) for China Only   |
|             |  |  | For 500W Power Supply: 1979 BTU/hr (at 100<br>VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr<br>(at 240 VAC) for China Only   |
|             | <b>Power Supply Output</b><br>(per power supply) | Rated Steady-State<br>Power                                    | For 1400W Power Supply: 1400W (at 240 VAC),<br>1400W (at 240 VAC)  |
|             |  |  | For 800W Power Supply: 800W (at 100 VAC),<br>800W (at 240 VAC), 800W (at 240 VAC) input<br>for China only  |
|             |  |  | For 500W Power Supply: 500W (at 100 VAC),<br>500W (at 240 VAC), 500W (at 240 VAC) input<br>for China only  |
|             |  | Maximum Peak Power   | For 1400W Power Supply: 1400W (at 200 to 240 1VAC), 1400W (at 240 VAC) input for China only  |
|             |  |  | For 800W Power Supply: 800W (at 100 to 127<br>VAC), 800W (at 200 to 240 1VAC), 800W (at<br>240 VAC) input for China only   |
|             |  |  | For 500W Power Supply: 500W (at 100 to 127<br>VAC), 500W (at 200 to 240 VAC), 500W (at 240<br>VAC) input for China only  |
|             | System Inlet Temperature                         | Standard Operating<br>Support                                  | 10° to 35°C (50° to 95°F) at sea level with an<br>altitude derating of 1.0°C per every 305 m (1.8°F<br>per every 1000 ft) above sea level to a maximum<br>of 3050 m (10,000 ft), no direct sustained<br>sunlight. Maximum rate of change is 20°C/hr<br>(36°F/hr). The upper limit and rate of change<br>may be limited by the type and number of options<br>installed.<br><b>NOTE:</b> System performance during standard<br>operating support may be reduced if operating<br>with a fan fault or above 30°C (86°F). |
|             |  | Extended Ambient<br>Operating Support                          | For approved hardware configurations, the<br>supported system inlet range is extended to be:<br>5° to 10°C (41° to 50°F) and 35° to 40°C (95° to<br>104°F) at sea level with an altitude derating of   |

# **Technical Specifications**

|                   |   | 1.0°C per every 175 m (1.8°F per every 574 ft)<br>above 900 m (2953 ft) to a maximum of 3050 m<br>(10,000 ft). The approved hardware<br>configurations for this system are listed at the<br>URL:<br>http://www.hpe.com/servers/ashrae  |
|-------------------|---|--|
|                   |   | For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: http://www.hpe.com/servers/ashrae |
|                   |   | System performance may be reduced if operating in the extended ambient operating range or with a fan fault.  |
|                   | Non-operating   | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).   |
| Relative Humidity | Operating   | Minimum to be the higher (more moisture) of -<br>12°C (10.4°F) dew point or 8% relative humidity.<br>Maximum to be the lower (less moisture) of 24°C<br>(75.2°F) dew point or 90% relative humidity.   |
| (non-condensing)  | Non-operating   | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.  |
| Altitude          | Operating   | 3050 m (10,000 ft). This value may be limited by<br>the type and number of options installed.<br>Maximum allowable altitude change rate is 457<br>m/min (1500 ft/min).   |
|                   | Non-operating   | 9144 m (30,000 ft). Maximum allowable altitude<br>change rate is 457 m/min (1500 ft/min).  |
| Acoustic Noise    | declared average bysta<br>(LpAm) when the produ<br>Noise emissions were m | A-Weighted sound power levels (LWAd) and<br>nder position A-Weighted sound pressure levels<br>uct is operating in a 23°C ambient environment.<br>neasured in accordance with ISO 7779 (ECMA 74)<br>ance with ISO 9296 (ECMA 109).  |
|                   | Idle  |  |
|                   | LWAd  | (1P non-redundant) 4.6 A Average Bystander   |
|                   |   | (2P redundant) 5.5 A Average Bystander   |
|                   | LpAm  | (1P non-redundant) 29 dBA  |
|                   | <b>o</b>  | (2P redundant) 37 dBA  |
|                   | Operating   |  |
|                   | LWAd  | (1P non-redundant) 4.6 A Average Bystander   |
|                   |   | (2P redundant) 6.2 C Average Bystander<br>(1P non-redundant) 30 dBA  |
|                   | LpAm  | (1P non-redundant) 30 dBA<br>(2P redundant) 46 dBA   |
|                   |   |  |

### **Technical Specifications**

|                                 | processors, one 500GE<br>DDR4 RDIMM's 2133M<br><b>NOTE:</b> 2P Configuration<br>processors, one 500GE<br>16GB DDR4 RDIMM's 2<br>controller PCI card with<br><b>NOTE:</b> Values are subj<br>reference only.<br><b>NOTE:</b> Performance of<br>depending on the system | ect to change without notification and are for<br>system, options, and ancillary equipment will vary<br>em configuration.<br>ed do not account for non-Hewlett Packard |
|---------------------------------|---|--|
| <b>Emissions Classification</b> | FCC Rating  | Class A  |
| (EMC)                           | Normative Standards   | CISPR 22; EN55022; EN55024; FCC CFR 47, Pt<br>15; ICES-003; CNS13438; GB9254; K22;K24; EN<br>61000-3-2; EN 61000-3-3; EN 60950-1; IEC<br>60950-1                       |
|                                 | sample (type) testing,  | mance to cited product specifications is based on<br>evaluation, or assessment. This product or family<br>o bear the appropriate compliance logos and                  |

| HPE Dynamic Smart | Number of PCI links                 | Four                            |
|-------------------|-------------------------------------|---------------------------------|
| Array B140i       | PCI link rate                       | 4Gb/s                           |
| Controller        | Storage protocol support            | SATA                            |
|                   | • • • • • •                         |                                 |
|                   | SAS/SATA peak data<br>transfer rate | 6Gb/s                           |
|                   | Number of SAS/SATA links            | 10 links                        |
|                   | SAS/SATA connectivity               | 2x4 connectors; 2x1 connectors  |
|                   | Expander support                    | No                              |
|                   | Drives supported (max)              | Up to 10 Internal Drives        |
|                   | RAID support                        | 0, 1, 10, 5 SATA                |
|                   | Software management                 | HPE SSA, SMH, SIM               |
|                   | Warranty                            | Server warranty                 |
|                   | HPE Secure Encryption               | Not Supported                   |
|                   | license                             |                                 |
|                   | HPE SmartCache License              | Not Supported                   |
|                   | HPE Smart Storage                   | Supported                       |
|                   | Administrator                       |                                 |
|                   |                                     |                                 |
| HPE Ethernet 1Gb  | Network Interface                   | 10Base-T/100Base-TX/1000Base-TX |

4-port 331i Adapter Compatibility

IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX PCI Express, two lanes (x2)

# **Technical Specifications**

| Controller            | BCM5719                               |  |
|-----------------------|---------------------------------------|--|
| Network Transfer Rate | 10Base-T (Half-Duplex)                | 10 Mb/s per port, 40 Mb/s combined   |
|                       | 10Base-T (Full-Duplex)                | 20 Mb/s per port, 80 Mb/s combined   |
|                       | 100Base-TX (Half-<br>Duplex)          | 100 Mb/s per port, 400 Mb/s combined   |
|                       | 100Base-TX (Full-Duplex)              | 200 Mb/s per port, 800 Mb/s combined   |
|                       | 1000Base-TX (Half and<br>Full-Duplex) | 1000 Mb/s per port, 4000 Mb/s combined   |
|                       | 1000Base-TX (Full-<br>Duplex)         | 2000 Mb/s per port, 8000 Mb/s combined   |
| Connector             | Four RJ-45                            |  |
| Cable Support         | 10 Base-T<br>10/100/1000 Base-TX      | Categories 3, 4 or 5 UTP; up to 328 ft (100 m)<br>Category 5 or higher UTP; up to 328 ft (100 m) |

| Environment-<br>friendly Products<br>and Approach | End-of-life Management and<br>Recycling | Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.   |
|---|---|---|
|   |   | http://www.hpe.com/recycle  |
|   |   | The EU WEEE directive (2002/95/EC) requires manufacturers to provide<br>treatment information for each product type for use by treatment facilities.<br>This information (product disassembly instructions) is posted on the<br>Hewlett Packard Enterprise web site. These instructions may be used by<br>recyclers and other WEEE treatment facilities as well as Hewlett Packard<br>Enterprise OEM customers who integrate and re-sell Hewlett Packard<br>Enterprise equipment. |

#### http://www.hpe.com/recycle

| Date        | Version History       | Action  | Description of Change  |
|-------------|-----------------------|---------|--|
| 5-Jun-2017  | From Version 30 to 31 | Added   | Added new Solid State Drives offering to the HPE Drives section.   |
|             |                       | Changed | HPE InfiniBand section was revised.  |
| 8-May-2017  | From Version 29 to 30 | Added   | New HPE Computation and Graphics Accelerators options were added.  |
|             |                       | Changed | Processor and Power Supply sections under Standard<br>Features were revised.   |
|             |                       |         | HPE Power Supplies section was revised.  |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 3-Apr-2017  | From Version 28 to 29 | Changed | Internal View image call outs were revised.  |
| 27-Mar-2017 | From Version 27 to 28 | Added   | Added new Hard Drives and new HPE Networking option.   |
|             |                       | Changed | HPE I/O Expansion Options section was revised.   |
| 17-Feb-2017 | From Version 26 to 27 | Changed | HPE Memory section under Core Options was revised.   |
| 13-Feb-2017 | From Version 25 to 26 | Added   | Added new HDD and SSD offering to the HPE Drives section.  |
|             |                       | Changed | Graphics and HPE StoreVirtual VSA were revised.  |
| 28-Nov-2016 | From Version 24 to 25 | Added   | Added new LFF Hard Drives, new Fiber Channel HBAs up to 32Gb, and new E5-2699A v4 processor.   |
|             |                       | Changed | Processors, Memory, Maximum Internal Storage, HPE<br>Drives, and HPE Computation and Graphics<br>Accelerators were revised.  |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 7-Oct-2016  | From Version 23 to 24 | Changed | Notes under the HPE Computation and Graphics<br>Accelerators section were revised.   |
| 26-Sep-2016 | From Version 22 to 23 | Added   | Added new SATA LFF hard drives offering.<br>New NVIDIA Tesla M4 4GB Module was added.  |
|             |                       | Changed | Maximum Internal Storage was revised.  |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 19-Aug-2016 | From Version 21 to 22 | Changed | Smart Buy models section was revised for the NA version only.  |
| 15-Aug-2016 | From Version 20 to 21 | Added   | Added new Networking, Storage, and Unique options.   |
|             |                       | Changed | Overview, Memory, Standard Features section, Pre-<br>configured Models,<br>Configuration Information - Factory Integrated Models,<br>HPE Drives, InfiniBand, and Computation and Graphics<br>Accelerators were revised.            |
| 8-Jul-2016  | From Version 19 to 20 | Changed | Smart Buy models section was revised for the NA version only.  |
| 6-Jun-2016  | From Version 18 to 19 | Added   | Added new HPE 25GB Ethernet Adapters, HPE 100GB<br>OPA Adapter, HPE 128GB DIMM ( 8Rx4 PC4-2400T-<br>L) Kit, HPE NVIDIA Quadro M2000 GPU Module, HPE<br>StoreFabric 84Q 4-port 8Gb FC HBA, and new 2TB,<br>4TB, and 8TB LFF Drives. |
|             |                       | Changed | Memory, Maximum Internal Storage, Pre-configured<br>Models, HPE Unique Options, HPE Memory, HPE<br>Drives, HPE InfiniBand, HPE Power Supplies, HPE   |

|             |                       |         | Computation and Graphics Accelerators, HPE Insight<br>Software, HPE PCIe Workload Accelerator Options,<br>HPE Storage Controllers, HPE Disk Backup, and HPE  |
|-------------|-----------------------|---------|--|
| 22-Apr-2016 | From Version 17 to 18 | Changed | Storage Options were updated.<br>Smart Buy model 800079-S01 was revised.   |
| 15-Apr-2016 | From Version 16 to 17 | Changed | Smart Buy models section was revised for the NA  |
| 12-Abi-2010 |                       | Changeu | version only.  |
| 5-Apr-2016  | From Version 15 to 16 | Added   | Added new NVIDIA Quadro M4000 GPU module.  |
| с , ,рс_с   |                       | Changed | What's New section was updated.<br>Standard Features/Memory and HPE Memory sections<br>were revised.   |
| 31-Mar-2016 | From Version 14 to 15 | Added   | Added Intel E5-2600v4 Processors support, new HPE<br>Smart Memory DDR4 2400MHz, new HPE Persistent<br>Memory, new HPE Flexible Smart Array P840ar<br>controller, new NVIDIA Quadro GPU options, and new<br>TPM 2.0 module. |
|             |                       | Changed | Embedded Management, Security, Warranty, Service<br>and Support, Pre-configured Models, Memory, and<br>Storage Options sections were revised.  |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 26-Feb-2016 | From Version 13 to 14 | Changed | Note for front view image – callout #9 was updated.  |
| 16-Feb-2016 | From Version 12 to 13 | Added   | New HDD offering was added to HPE Drives.  |
|             |                       | Changed | Maximum Internal Storage, HPE Power Supplies, HPE<br>Computation and Graphics Accelerators, HPE Disk<br>Backup, HPE Data Center Racks, and HPE Power<br>Distribution Units (PDUs) were revised.                            |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 17-Dec-2015 | From Version 11 to 12 | Added   | Smart Buy models were added to the NA version.   |
| 1-Dec-2015  | From Version 10 to 11 | Added   | New HDD offering was added to HPE Drives.<br>New options added to HPE PCIe Workload Accelerator<br>Options, HPE Tape Backup, and HPE Disk Storage<br>Systems.  |
|             |                       | Changed | On System Management Chipset, Embedded<br>Management, and Server utilities were revised.   |
|             |                       |         | Product images were updated.   |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 28-Sep-2015 | From Version 9 to 10  | Added   | Added support for PCIe Solid State Drives, additional<br>6Gb SATA SSD drives, support for new Network<br>adapters, and support for new PCIe workload<br>accelerators.  |
|             |                       |         | Added new HPE OneView management software.   |
|             |                       | Changed | Internal Storage Devices, Maximum Internal Storage, and HPE Drives were updated.   |
|             |                       | Removed | Obsolete SKUs were removed from the QuickSpecs.  |
| 17-Aug-2015 | From Version 8 to 9   | Added   | Added new Solid State Drives offering.   |
|             |                       | Changed | What's New changed to:<br>Support for PCIe Solid State Drives<br>Support for additional 6Gb SATA SSD drives  |

|             |                             |         | Maximum Internal Storage and HPE Unique Options were revised.   |
|-------------|-----------------------------|---------|---|
| 1-Jun-2015  | From Version 7 to 8         | Added   | New DVD Universal Media Bay option was added.   |
|             |                             |         | New larger capacity HDDs (up to 8TB LFF), Max capacity 32TB were added.   |
|             |                             |         | New higher capacity memory (64GB), Max capacity<br>1.5TB was added.   |
|             |                             |         | New Networking options were added.  |
|             |                             |         | Optional Software was added to HPE Storage<br>Controllers.  |
|             |                             | Changed | HPE Disk Backup and HPE Uninterruptible Power<br>Systems (UPS) were updated.  |
| 30-Mar-2015 | From Version 6 to 7         | Added   | New Hard Drives offering. Added new HPE PCIe<br>Workload Accelerator Options. Optional Software<br>added to HPE Storage Controllers. Added new HPE<br>Care Pack Services.   |
|             |                             | Changed | What's New, Core Options, and Additional Options were revised.  |
|             |                             | Removed | Removed obsolete HPE Care Pack Services.  |
| 17-Feb-2015 | From Version 5 to 6         | Added   | Added Smart Buy Models to the NA version only.  |
| 9-Feb-2015  | From Version 4 to 5         | Added   | Added What's New section.   |
|             |                             |         | Added new HPE Drives, Pre-configured Models, and G4 UPS models.   |
|             |                             | Changed | HPE Processors, HPE Disk Backup, HPE Tape Backup,<br>HPE Rack Mount Consoles, KVM Switches, and<br>Keyboards, HPE Uninterruptible Power Systems (UPS),<br>and HPE Computation and Graphics Accelerators<br>sections were revised.     |
| 1-Dec-2014  | From Version 3 to 4         | Changed | Changes were made throughout the QuickSpecs.  |
| 13-Oct-2014 | From Version 2 to 3         | Added   | 6G SATA Enterprise Value G1 Solid State Drives were added to Core Option section.   |
|             |                             |         | HPE PCIe Workload Accelerator Options, HPE USB and SD options were added to the Additional Options section.   |
|             |                             |         | Smart Buys section was added to NA version.   |
|             |                             | Changed | Call outs description for images, Standard Features,<br>Optional Features, Pre-Configured Models,<br>Configuration Information - Factory Integrated Models,<br>Core Options, Additional Options, and Memory sections<br>were revised. |
| 23-Sep-2014 | From version 1 to version 2 | Changed | Changes were made throughout the QuickSpecs.  |





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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less

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