# QuickSpecs

#### Overview

Shape the Future of QuickSpecs - Your Input Matters

## HPE ProLiant DL360 Gen11 - Carrier Grade Supplement

#### **NEBS Level 3 and ETSI Certified**

This section lists some of the steps required to configure a Factory Integrated Model compliant with typically requested telecom carrier NEBS and ETSI requirements. In addition to the worldwide compliance criteria applied to the commercial version of the product, all components listed in this document have been evaluated to the following criteria: SR-3580, Level 3, NEBS Criteria Levels

- GR-1089-CORE, EMC & Electrical Safety
- GR-63-CORE, Physical Protections
- GR-3108-CORE Outside Plant
- ETSI EN 300 386, Class A, EMC
- ETSI EN 300 019-2-1, Class 1.2, Storage
- ETSI EN 300 019-2-2, Class 2.3, Transportation
- ETSI EN 300 019-2-3, Class 3.1 & 3.1E, Stationary use at weather protected locations
- ETSI 300 132, Power supply interface to telecom equipment, -48VDC
- ETSI ETS 300 753, Acoustic noise

To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

Factory Integrated Models must start with a CTO Server. FIO indicates that this option is only available as a factory installable option. All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

#### **Notes:**

- To yield a carrier grade server that is compliant with all the required technical criteria, the product content is limited to what
  is listed in this document. In addition to this, the system maintenance switch #10 must be turned to the "ON" position to
  enable the expanded operating temperature range. Select HPE NEBS-compliant FIO Trigger System Setting (P40010-B21)
  for factory integration. Hardware from the following kits MUST be installed:
  - o HPE ProLiant DL3XX/560 Gen11 High Performance Heat Sink Kit (P48905-B21)
  - o HPE ProLiant DL3X0 Gen11 1U High Performance Fan Kit (P48908-B21)

Please refer to the HPE DL360 Gen11 Carrier Grade Conversion documentation on the HPE web site:

http://www.hpe.com/services/hpsc

Hewlett Packard Enterprise

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## **Configuration Information**

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

To ensure valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- FIO indicates that this option is only available as a factory installable option.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information

## **Step 1: Base Configuration**

CTO Server models do not include embedded LOM. To enable networking capability please select a validated alternative NIC - OCP or PCIe- from the Core Options section.

| CTO Server HPE DL360 Gen11 8SFF NC CTO Server |  |  |  |  |
|---|--|--|--|--|
| SKU Number                                    | P52499-B21   |  |  |  |
| TAA SKU*                                      | P52499-B21#GTA   |  |  |  |
| HPE Trusted Supply                            | Optional: HPE Trusted Supply Chain for HPE ProLiant (P36394-B21)   |  |  |  |
| Chain   |  |  |  |  |
| Processor                                     | Not included as standard.  |  |  |  |
| DIMM Slots                                    | 32-DIMM slots  |  |  |  |
| DIMM Blanks                                   | DIMM Blanks are required, embedded and shipped as default in all CTO Servers   |  |  |  |
| Storage Controller                            | Choice of Intel® VROC Software RAID capable  |  |  |  |
|   | Choice of HPE ProLiant external hardware controller  |  |  |  |
|   | Choice of HPE ProLiant Gen11 MR and SR PCIe and OCP plug-in Controller   |  |  |  |
| PCIe Slots                                    | Up to 3 Slots PCle 5.0 (Slot 1, 2 &3)  |  |  |  |
|   | One standard primary/butterfly riser: 2 slots as Slot 1 & Slot 2 (1 x16 FH / 1 x16 LP) and 4 x8  |  |  |  |
|   | front NVMe connectors  |  |  |  |
|   | Optional: Slot 3 in 1 x16 FH or LP slot  |  |  |  |
| 0.007.0.01.1                                  | All PCIe Slots are in design with up to 9.5" length  |  |  |  |
| OCP3.0 Slots                                  | PCIe 5.0: 2 slots (1x16/ 1x16)   |  |  |  |
| Drive Cage – included                         | 8SFF   |  |  |  |
|   | TriMode supported, must be selected if internal drives needed. Basic carrier (BC) support. (PCle4.0 storage)                               |  |  |  |
|   |  |  |  |  |
| Network Controller                            | "BCM 5719 1Gb 4p BASE-T OCP Adptr" to be defaulted in the configurator at OCP Slot 21.   |  |  |  |
|   | Customer is allowed to remove and select other cards (PCIe of OCP) from Networking, InfiniBand, Smart IO (HW) or Storage Offload category. |  |  |  |
|   | Silian 10 (Aw) or Storage Official Caregory.   |  |  |  |
|   | Choice of OCP3.0 or stand-up cards for primary networking selection plus additional/optional   |  |  |  |
|   | stand-up networking adapters.  |  |  |  |
| Fans  | Choice of  |  |  |  |
|   | 5 Standard Fans for one processor below 185W TDP   |  |  |  |
|   | Additional 2 Standard Fans for 2nd Processor below 185W TDP  |  |  |  |
|   | 7 High Performance Fan for processors 186W – 270W TDP  |  |  |  |
| Management                                    | HPE iLO with Intelligent Provisioning (standard)   |  |  |  |
| <b>-</b>                                      | HPE Compute Ops Management (a 3-year subscription included)  |  |  |  |
|   | Optional: iLO Advanced and OneView   |  |  |  |
| Video Output                                  | Rear: 1 VGA  |  |  |  |
| video odipui                                  | Optional:  |  |  |  |
|   | • 1 Front Display Port (standalone in 8SFF)  |  |  |  |
|   | 1 Rear Serial Port   |  |  |  |
| USB   | Front: 1 USB 3.2 Gen1 + iLO service port   |  |  |  |
| <del>-</del>                                  | Rear: 2 USB 3.2 Gen1   |  |  |  |
|   | Internal: 1 USB 3.2 Gen1 + 1 USB2.0  |  |  |  |
|   | Optional: 1 Front USB 2.0  |  |  |  |



## **Configuration Information**

| Security    | Trusted Platform Module (TPM) 2.0.   |  |  |
|-------------|--|--|--|
| Rail Kit    | <ul> <li>Optional Easy Install rails and CMA</li> <li>HPE Easy Install Rail 3 Kit (P52341-B21) is available for 8SFF CTO Server if Rack is selected</li> </ul> |  |  |
|             | <ul> <li>DL300 Gen10 Plus 1U CMA (P26489-B21) as optional. (If CMA is selected, then Rail Kit must be selected)</li> </ul>                                     |  |  |
| Form Factor | 1U Rack  |  |  |
| Warranty    | 3-year parts, 3-year labor, 3-year onsite support with next business day response.   |  |  |

#### **Notes:**

- All DL360 Gen11 CTO Server models require the selection of Processor, Memory and Power Supply. Backplane to be further selected in 8SFF CTO Server.
- HPE Trusted Supply Chain (P36394-B21) is an optional security upgrade intended for agencies and regulated industries needing enhanced security and compliance needs. Applying this option to a DL360 Gen11 CTO server ensures it is built in the USA in a secured facility by vetted HPE personnel assigned to the manufacturing processes. A multitude of checkpoints/inspections for malicious microcode and counterfeit parts are performed throughout the server build, and additional safeguards are put in place against cyber-exploits throughout the server lifecycle. The HPE ProLiant DL360 Gen11 Carrier Grade Supplement is re-branded as a HPE ProLiant DL360T Gen11 to denote the HPE Trusted Supply Chain security enhancements. The DL360T is Trade Agreement Act (TAA) compliant. See "HPE Security" section within this document for more detail and learn more at <a href="http://www.hpe.com/security">http://www.hpe.com/security</a>
- \*HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country. TAA compliance is only provided when HPE options are included as part of factory integrated orders (CTO).
- All CTO servers are Energy Star 3.0 compliant, excluding configuration with GPU.
- Supported Rail kit to be defaulted for CTO Model in the configurator. But customer can deselect the Rail kit if the CTO Model is selected without Rack (Standalone server).
- HPE rail kits are designed to work with HPE racks in compliance with industry standard EIA-310-E. In the event a customer elects to purchase a third-party rack for use with an HPE rail kit, any such use is at customer's own risk. HPE makes no express or implied warranties with respect to such third-party racks and specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications, installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

## **Step 2: Choose Core Options**

- Mixing of 2 different processor models is not supported.
- CTO server will populate necessary heatsink and fan kits per system thermal requirements and processor models.
- DIMM Blanks are pre-selected as default, minimum Q'ty 1 of memory need to be selected in 1 Processor configuration, and minimum Q'ty 2 of memory need to be selected in 2 Processor configuration.
- Choice of hardware storage controllers
- Choice of ODD drive and storage device
- Factory Configuration Settings
- Choice of riser card for PCle5.0 slots enablement
- Choice of Networking solution
- Choice of Power and Cooling solution
- Choice of Security Options

## **Configuration Information**

## **Step 3: Choose Additional Options**

- Choice of Accessories
- Choice of Intel® Virtual RAID on CPU Premium & Standard FIO Software for HPE
- Choice of Embedded Management
- Choice of Racks
- Choice of USB and SD Options (if available)
- Choice of Enterprise Mainstream Flash Media Kits for Memory Cards

## **Choose Core Options**

- Mixing of 2 different processor models is not supported.
- CTO server will populate necessary fan kits per system thermal requirements and processor models.

### **Processor**

Please select one or two matching processors.

## 4th Generation Intel Xeon-Gold 6

| <b>Notes:</b> All SKUs below ship with processor only. Adequate fans and heatsinks must be selected.            |            |
|---|------------|
| Intel Xeon-Gold 6454S 2.2GHz 32-core 270W Processor for HPE   | P49654-B21 |
| Intel Xeon-Gold 6448Y 2.1GHz 32-core 225W Processor for HPE   | P49600-B21 |
| Intel Xeon-Gold 6448H 2.4GHz 32-core 250W Processor for HPE   | P49622-B21 |
| Intel Xeon-Gold 6442Y 2.6GHz 24-core 225W Processor for HPE   | P49599-B21 |
| Intel Xeon-Gold 6438Y+ 2.0GHz 32-core 205W Processor for HPE  | P49615-B21 |
| Intel Xeon-Gold 6438N 2.0GHz 32-core 205W Processor for HPE   | P49638-B21 |
| Intel Xeon-Gold 6430 2.1GHz 32-core 270W Processor for HPE  | P49614-B21 |
| Intel Xeon-Gold 6426Y 2.5GHz 16-core 185W Processor for HPE   | P49598-B21 |
| Intel Xeon-Gold 6421N 1.8GHz 32-core 185W Processor for HPE   | P49641-B21 |
| Notes: Max 1  |            |
| Intel Xeon-Gold 6418H 2.1GHz 24-core 185W Processor for HPE   | P49621-B21 |
| Intel Xeon-Gold 6416H 2.2GHz 18-core 165W Processor for HPE   | P49620-B21 |
| Intel Xeon-Gold 6414U 2.0GHz 32-core 250W Processor for HPE   | P49619-B21 |
| Notes: Max 1  |            |
| 4 <sup>th</sup> Generation Intel Xeon-Gold 5  |            |
| Intel Xeon-Gold 5420+ 2.0GHz 28-core 205W Processor for HPE   | P49613-B21 |
| Intel Xeon-Gold 5418Y 2.0GHz 24-core 185W Processor for HPE   | P49612-B21 |
| Intel Xeon-Gold 5418N 1.8GHz 24-core 165W Processor for HPE   | P49640-B21 |
| Intel Xeon-Gold 5416S 2.0GHz 16-core 150W Processor for HPE   | P49653-B21 |
| Intel Xeon-Gold 5411N 1.9GHz 24-core 165W Processor for HPE   | P49639-B21 |
| Notes: Max 1  |            |
| 4 <sup>th</sup> Generation Intel Xeon-Silver  |            |
| Intel Xeon-Silver 4416+ 2.0GHz 20-core 165W Processor for HPE   | P49611-B21 |
| Intel Xeon-Silver 4410Y 2.0GHz 12-core 150W Processor for HPE   | P49610-B21 |
| 4 <sup>th</sup> Generation Intel Xeon-Bronze  |            |
| Intel Xeon-Bronze 3408U 1.8GHz 8-core 125W Processor for HPE  | P49617-B21 |
| Notes: Max 1  |            |
| Heatsinks   |            |
| For more details, please refer to the support matrix in Power and Cooling solutions (Additional Option section) |            |
| HPE ProLiant DL3XX/560 Gen11 High Performance Heat Sink Kit   | P48905-B21 |



#### Memory

Please select one or more memory DIMMs from below.

For new Gen11 memory population rule whitepaper and optimal memory performance guidelines, please go to:

#### http://www.hpe.com/docs/memory-population-rules

Server memory population rules for HPE Gen11 servers with 4th Gen Intel Xeon Scalable processors

For more information, please see the **HPE DDR5 Smart Memory QuickSpecs** 

#### **Notes:**

- The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- Quantity of memory DIMMs selected per socket must be 1, 2, 4, 6, 8, 12 or 16.
- x8 and x4 cannot be mixed.
- Mixing of different Rank Memory is not allowed if less than 16 quantity of Memory is selected for 1 Processor configuration.
- Mixing of different Rank Memory is not allowed if less than 32 quantity of Memory is selected for 2 Processor configuration.
- If different Rank Memory are mixed, then quantity of each Memory part number must be same.

### Registered DIMMs DDR5 (RDIMMs)

| HPE 16GB (1x16GB) Single Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit | P43322-B21 |
|---|------------|
| HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit   | P43328-B21 |
| HPE 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit   | P43331-B21 |
| HPE DIMM blanks   |            |
| HPE DDR4 DIMM Blank Kit   | P07818-B21 |

**Notes:** Embedded and shipped as default in all DL360 Gen11 CTO Servers, to enhance thermal condition. Leverage the same DIMM blanks from DL360 Gen10 Plus.

#### **Storage Devices**

#### **Hardware Storage Controller**

| HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage Controller              | P47184-B21 |
|--|------------|
| HPE MR216i-p Gen11 x16 Lanes without Cache PCI SPDM Plug-in Storage Controller               | P47785-B21 |
| HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller                   | P47777-B21 |
| HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller | 804398-B21 |

#### Storage Battery

| HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit   | P01366-B21 |
|--|------------|
| HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit          | P02377-B21 |
| HPE ProLiant DL360 Gen11 Storage Controller Enablement Cable Kit | P48918-B21 |

## **Internal Storage Controller Cables**

HPE ProLiant DL360 Gen11 8SFF PCIe Controller Cable Kit P48909-B21

## **RAID Settings**

#### Drive cage and backplane (8 SFF CTO server only)

User Selection: Min 0 // Max 2. If front drives are needed in the 8 SFF server, please select one backplane from list below. HPE DL360 Gen11 Basic Carrier (BC) drive cages and drive backplanes

**Notes:** For all backplanes below:

- Supports Basic Carrier Drives.
- Includes cabling.

HPE ProLiant DL360 Gen11 8SFF x1 U.3 Tri-Mode Backplane Kit

P48895-B21

#### **Notes:**

Supports SATA, SAS and NVMe Basic Carrier (BC) drives.



- NVMe SSDs must be U.3. If 8SFF x1 drive cage is connected to Direct Attach (without internal controller and 8SFF cable), then only SATA drive can be selected in this drive cage.
- No NVMe Direct Attach support.
- Not supported with SR932i-p Tri-Mode controller.
- Supports HPE Gen11 SAS/SATA controller if only SAS/SATA drives are installed.

HPE ProLiant DL3X0 Gen11 1U 8SFF Display Port/USB/Optical Drive Blank Kit

P48926-B21

### **Optical Drive**

| •                                    |            |
|--------------------------------------|------------|
| HPE 9.5mm SATA DVD-ROM Optical Drive | 726536-B21 |
| HPE 9.5mm SATA DVD-RW Optical Drive  | 726537-B21 |

#### **Storage**

- Maximum limit for SAS/ SATA/ NVMe will vary depending upon the selected drive cage, controller and cable combination.
- Direct Attach supports only SATA or NVMe drives. If SAS drive is selected, then Internal controller must be selected.
- If 8SFFx1 drive cage is connected to Direct Attach (without internal controller and 8SFF cable), then only SATA drive can be selected in this drive cage.

For SSD selection guidance, please visit: <a href="http://ssd.hpe.com/">http://ssd.hpe.com/</a>

### NVMe Gen4 - SSD and AIC - Read Intensive & Mixed Used

HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD

HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD

HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD

HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD

### Read Intensive - NVMe - SFF - Solid State Drives

| HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50219-B21 |
|---|------------|
| HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD | P50216-B21 |
| Mixed Use - NVMe - SFF  |            |
| HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD       | P50227-B21 |
| HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD       | P50230-B21 |
| HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD       | P50233-B21 |
| SSD - Read Intensive  |            |
| Read Intensive - 12G/24G SAS - SFF - Solid State Drives                     |            |
| HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD         | P40509-B21 |
| HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD         | P40508-B21 |
| HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                   | P49035-B21 |
| HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                   | P49031-B21 |
| HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD         | P40507-B21 |
| HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD          | P40506-B21 |
| HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD                    | P49029-B21 |
| Read Intensive - 6G SATA - SFF - Solid State Drives                         |            |
| HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD                   | P40501-B21 |
| HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD                   | P40500-B21 |
| HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD                   | P40499-B21 |
| HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD                    | P40497-B21 |
| HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD                    | P40498-B21 |
| HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD                    | P40496-B21 |
| SSD – Mixed Use   |            |
| Mixed Use - 12G/24G SAS - SFF - Solid State Drives                          |            |



P40512-B21

P49053-B21

P40511-B21

P49049-B21

| HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD  Mixed Use - 6G SATA - SFF - Solid State Drives  | P40510-B21<br>P49047-B21   |
|--|--|
| HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD  | P40505-B21<br>P40504-B21<br>P40503-B21<br>P40502-B21   |
| HDD- Enterprise 15K/10K -SFF Enterprise - 12G SAS - SFF Drives  HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD  HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD  HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD  HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD  HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD  HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD  HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD  HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P28352-B21<br>P53562-B21<br>P28586-B21<br>P40432-B21<br>P53560-B21<br>P53561-B21<br>P28028-B21<br>P40430-B21 |
| Factory Configuration Settings  HPE NEBS-compliant FIO Trigger System Setting  Notes: Selecting this will enable NEBS expanded operating temperature range by turning ON system maintenance switch #10   | P40010-B21   |
| Riser Cards  Standard Primary (Butterfly) Riser: (embedded in all CTO and BTO Server)  • Slot 1 - 1x PCle 5.0 x16 Full-height, up to 9.5" length (or Half-length card)  • Slot 2 - 1x PCle 5.0 x16 Low-profile, up to 9.5" length (or Half-length card)  HPE ProLiant DL360 Gen11 x16 LP Riser Kit  Notes:  - Referred as Secondary Low Profile (LP) riser.  - 2nd Processor is required.  - Slot 3: 1xPCle5.0 x 16 Low-profile, up to 9.5" length (or Half-length card)   | P48903-B21   |
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE  OCP 3.0 Enablement HPE ProLiant DL360 Gen11 CPU1 to OCP2 x8 Enablement Kit HPE ProLiant DL3XX Gen11 OCP1 x16 Enablement Kit HPE ProLiant DL3XX Gen11 CPU2 to OCP2 x8 Enablement Kit  | P10097-B21<br>P10106-B21<br>P42041-B21<br>P51911-B21<br>P48827-B21<br>P48830-B21                             |
| HPE InfiniBand  HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCle4 x16 MCX653105A-HDAT Adapter  HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCle4 x16 MCX653106A-HDAT Adapter  HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCle4 x16 MCX653105A-ECAT Adapter  HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCle4 x16 MCX653106A-ECAT Adapter   | P23664-B21<br>P31324-B21<br>P23665-B21<br>P23666-B21   |
| Networking InfiniBand PCIe   |  |
| HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCle4 x16 MCX653105A-HDAT Adapter HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCle4 x16 MCX653106A-HDAT Adapter  | P23664-B21<br>P31324-B21   |



| HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter   | P23665-B21    |
|--|---------------|
| HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCle4 x16 MCX653106A-ECAT Adapter   | P23666-B21    |
| Ethernet PCIe  |               |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE  | P08443-B21    |
| Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE  | P08458-B21    |
| Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE   | P25960-B21    |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE   | P21106-B21    |
| Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE  | P21112-B21    |
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE  | P26253-B21    |
| Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE  | P26259-B21    |
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE  | P26262-B21    |
| Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE  | P26264-B21    |
| Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE  | P42044-B21    |
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE  | P51178-B21    |
| Ethernet OCP   |               |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE  | P08449-B21    |
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE   | P10097-B21    |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE   | P10106-B21    |
| Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE   | P22767-B21    |
| Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE   | P42041-B21    |
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE   | P51181-B21    |
| Transceiver  |               |
| HPE BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver  | 453151-B21    |
| HPE BladeSystem CClass Virtual Connect 1G SFP RJ45 Transceiver   | 453154-B21    |
| HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver   | 455883-B21    |
| HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver   | 455886-B21    |
| HPE 25Gb SFP28 SR 100m Transceiver   | 845398-B21    |
| HPE 100Gb QSFP28 MPO SR4 100m Transceiver  | 845966-B21    |
| HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable  | Q9S71A        |
| OCP3.0 Enablement Kit  |               |
| HPE ProLiant DL3XX Gen11 OCP1 x16 Enablement Kit   | P48827-B21    |
| HPE ProLiant DL3XX Gen11 CPU2 to OCP2 x8 Enablement Kit  | P48830-B21    |
| HPE ProLiant DL360 Gen11 CPU1 to OCP2 x8 Enablement Kit  | P51911-B21    |
|  |               |
| Power and Cooling  |               |
| Power Supplies   |               |
| HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit  | P38995-B21    |
| HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit  | 865438-B21    |
| HPE 1000W Flex Slot Titanium Hot Plug Power Supply Kit   | P03178-B21    |
| HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit   | P17023-B21    |
| Notes: If 1600W DC Power supply is selected, then either "HPE 1600W DC PSU Power Cable Kit" or "HPE                            |               |
| 1600W DC PSU Power Lug Option Kit" must be selected and quantity must match. vice versa  | D70007 D21    |
| HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit   | P38997-B21    |
| Notes: Only supports high line voltage (200 VAC to 240 VAC).   |               |
| Accessory  | D7 / O77 D0 / |
| HPE 1600W -48VDC Power Cable Lug Kit   | P36877-B21    |
| <b>Notes:</b> Both "HPE 1600W DC PSU Power Lug Option Kit" and "HPE 1600W DC PSU Power Cable Kit" cannot be selected together. |               |
| be selected together.  |               |

#### **Power Cords**

HPE 1600W -48VDC 600V 3.5m Power Cable Kit

P22173-B21

**Notes:** Both "HPE 1600W DC PSU Power Lug Option Kit" and "HPE 1600W DC PSU Power Cable Kit" cannot be selected together.

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 Gen11 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.

Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: **HPE Power Advisor** 

HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit <u>HPE power cords and cables</u> for a full list of optional power cords. The standard 6-foot IEC C-13/C-14 jumper cord (A0K02A) is included with each standard AC power supply option kit.

For information on power specifications and technical content visit HPE Flexible Slot power supplies

### **Power Cooling Options**

#### **Heatsinks**

HPE ProLiant DL3XX/560 Gen11 High Performance Heat Sink Kit

P48905-B21

Fan Kits

HPE ProLiant DL3X0 Gen11 1U High Performance Fan Kit

P48908-B21

## **Additional Options**

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

## **Choose Additional Options**

## **Accessories**

## Management Hardware

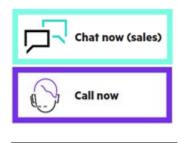
| Maximum 1 of each can be selected.                                   |            |
|--|------------|
| HPE ProLiant DL36X Gen11 Rear Serial Port Cable Kit                  | P48921-B21 |
| HPE ProLiant DL360 Gen11 SFF System Insight Display Power Module Kit | P48927-B21 |
| Rack Options   |            |
| HPE ProLiant DL3XX Gen11 Easy Install Rail 3 Kit                     | P52341-B21 |
| HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit   | P26489-B21 |

## **Summary of Changes**

| Date        | <b>Version History</b> | Action  | Description of Change                           |
|-------------|------------------------|---------|---|
| 18-Aug-2025 | Version 5              | Changed | Standard Features section was updated.          |
| 17-Jun-2024 | Version 4              | Changed | Overview and Core Options sections were updated |
| 06-May-2024 | Version 3              | Changed | Core Options section was updated                |
| 04-Mar-2024 | Version 2              | Changed | Core Options section was updated                |
| 06-Nov-2023 | Version 1              | New     | New QuickSpecs                                  |

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

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