

### Overview

### HPE ProLiant DL325 Gen10 Plus Server 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
- 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

**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, system maintenance switch #10 must be turned on to enable the expanded operating temperature range

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## Configuration Information

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 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.

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

| CTO Server            | HPE ProLiant DL325 Gen10 Plus CTO Server                                                     |
|-----------------------|----------------------------------------------------------------------------------------------|
| SKU Number            | P18606-B21                                                                                   |
| Processor             | Not included as standard                                                                     |
| DIMM Slots            | 16-DIMM slots                                                                                |
| Storage Controller    | Choice of HPE modular Smart Array and PCIe plug in controller                                |
| PCIe                  | Two standard in primary riser                                                                |
| Drive Cage - included | No Drive Cage                                                                                |
| Network Controller    | Choice of OCP and stand up card                                                              |
| Fans                  | Not included as standard*                                                                    |
| Management            | HPE iLO with Intelligent Provisioning (standard), iLO Advances and OneView (optional)        |
| USB                   | Front: 1 USB 3.1 Gen1 + iLO service port<br>Rear: 2 USB 3.1 Ge 1<br>Internal: 1 USB 3.1 Gen1 |

#### Notes:

- \*The number of fans depends on type and number of drive cages.
- All CTO servers are Energy Star 3.0 compliant.
- CTO servers do not ship with rail kits, they need to be ordered separately
- CTO server (P18606-B21 ) requires a drive cage to be selected

### Step 2a: Choose Required Options – Processors (only one of the following unless otherwise noted)

Please select one –L21 processor required below.

#### Notes:

- All CTO Models ship with redundant fan configuration.
- DDR4 memory speed will depend on the quantity and type of DIMMs installed.
- Processors with greater than 150W will ship with the High Performance heatsink.

#### Processor Option Kits

AMD EPYC 7702P (2.0GHz/64-core/200W) FIO Processor Kit for HPE ProLiant DL325 Gen10 Plus

P19622-L21

**Notes:** Ships with High Performance Heatsink.

### Step 2b: Choose Memory Options

Please select one or more memory from below.

For new Gen10 Plus memory population rule whitepaper and optimal memory performance guidelines, please go to:

<http://www.hpe.com/docs/amd-population-rules-Gen10Plus>

#### Notes:

- Memory DIMM availability with a server platform is dependent upon completion of certification testing.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.



## Configuration Information

### Registered DIMMs (RDIMMs)

|                                                                                   |            |
|-----------------------------------------------------------------------------------|------------|
| HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit | P07638-B21 |
| HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit | P07642-B21 |

#### Notes:

- Mixing of x4 & x8 memory is not allowed
- 3200 MT/s memory SKUs offer a transfer rate of 3200 MT/s at 1 DIMM per channel and 2933 MT/s at 2 DIMMs per channel

### Step 2c: Choose Power Supplies

Select one or two power supplies from below.

**Notes:** Mixing of 2 different power supplies is NOT allowed.

|                                                                   |            |
|-------------------------------------------------------------------|------------|
| HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | 865414-B21 |
| HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit   | 865434-B21 |

#### Notes:

- 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: <http://www.hpe.com/info/hppoweradvisor>.
- All power supplies in a server should match. Mixing Power Supplies is not supported.

### Step 3: Choose Additional Factory Integratable Options

One of the following from each list may be selected if desired at time of factory integration

#### HPE Unique Options

|                                                            |            |
|------------------------------------------------------------|------------|
| HPE DL325 Gen10 Plus 8SFF Smart Carrier FIO Drive Cage Kit | P15511-B21 |
|------------------------------------------------------------|------------|

**Notes:** This is supported with the CTO Model (P18606-B21) only.

|                                              |            |
|----------------------------------------------|------------|
| HPE DL325 Gen10 Plus 8SFF SATA FIO Cable Kit | P16987-B21 |
|----------------------------------------------|------------|

**Notes:** This option kit is used for CTO server (P18606-B21) with 8SFF drive cage selection, to connect to the embedded controller on mother board.

#### BIOS Mode

|                             |            |
|-----------------------------|------------|
| HPE Legacy FIO Mode Setting | 758959-B22 |
|-----------------------------|------------|

#### Notes:

- UEFI is the default, this FIO part can be used for CTO to enable Legacy mode.
- If Legacy FIO Mode Setting (758959-B22) is selected with Embedded controller (in AHCI mode) as primary controller then RAID Setting is not supported.

### Step 4: Choose additional options for Factory Integration from Core and Additional Options sections below

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



## Core Options

### HPE Unique Options

HPE DL325 Gen10 Plus 8SFF to 16SFF Smart Carrier Drive Cage Upgrade Kit P15497-B21

**Notes:** This is used to support additional 8SFF SAS/SATA with CTO Model (P18606-B21)

HPE DL325 Gen10 Plus x16 Low Profile PCIe Riser Kit P17264-B21

**Notes:**

- This riser sits into the secondary PCIe slot
- This riser can support only low profile PCIe Cards
- x16 LP Riser Kit and x16 FHHL Riser Kit cannot be selected together.

### HPE Optical Drives

HPE 9.5mm SATA DVD-RW Optical Drive 726537-B21

### HPE Drives

#### Enterprise - 12G SAS - SFF Drives

HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD 870753-B21

HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872475-B21

HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD 870757-B21

HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872477-B21

HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872479-B21

HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD 872481-B21

HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD 881457-B21

HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD 765466-B21

#### SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 Plus servers and to provide the best product availability, HPE recommends SSDs from the list located here: <http://www.hpe.com/products/recommend>.

#### Internal Dual M.2 Kit

HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit 878783-B21

**Notes:**

- The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.
- M.2 kit can only be populated in Slot 1 with 24SFF U.3 CTO.
- This kit cannot be selected along with 2SFF UFF Enablement Kit (P15540-B21)

## HPE Networking

### 1 Gigabit Ethernet adapters

HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter 647594-B21

HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter 615732-B21

HPE Ethernet 1Gb 4-port BASE-T I350-T4V2 Adapter 811546-B21

### 10 Gigabit Ethernet adapters

HPE Ethernet 10Gb 4-port SFP+ X710-DA4 Adapter 869585-B21

HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter 727055-B21

HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter 817738-B21

HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter 813661-B21

HPE Ethernet 10Gb 2-port BASE-T 57810S Adapter 656596-B21

**Notes:**

- This option can be populated only in Slot 1 or Slot 3
- If QTY=2, FHHL secondary riser kit will be required



## Core Options

### 10/25 Gigabit Ethernet adapters

|                                                                     |            |
|---------------------------------------------------------------------|------------|
| Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | P13188-B21 |
| HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter             | 817753-B21 |

### FlexibleLOM Adapters

|                                                             |            |
|-------------------------------------------------------------|------------|
| HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter | 817749-B21 |
| HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter      | 817709-B21 |
| HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter          | 727054-B21 |
| HPE Ethernet 10Gb 2-port FLR-T X550-AT2 Adapter             | 817745-B21 |
| HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter             | 665240-B21 |
| HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter               | 629135-B22 |

### OCP Adapters

|                                                               |            |
|---------------------------------------------------------------|------------|
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE | P08449-B21 |
|---------------------------------------------------------------|------------|

#### Notes:

- This adapter is default NIC options for all CTO servers
- This OCP3 adapter will require HPE DL325 Gen10 Plus OCP Upgrade Cable Kit (P16976-B21) to expand the bandwidth to x16

### HPE InfiniBand

|                                                            |            |
|------------------------------------------------------------|------------|
| HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter | 872726-B21 |
|------------------------------------------------------------|------------|

### HPE Power Supplies

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 Gen10 Plus 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.

#### Notes:

- 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: <http://www.hpe.com/info/hppoweradvisor>.
- All power supplies in a server should match. Mixing Power Supplies is not supported.
- Option kits contain the specified power supply and a PDU IEC cable.
- HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit **HPE power cords** for a full list of optional HPE power cords.

|                                                                   |            |
|-------------------------------------------------------------------|------------|
| HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit | 865414-B21 |
|-------------------------------------------------------------------|------------|

**Notes:** Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.

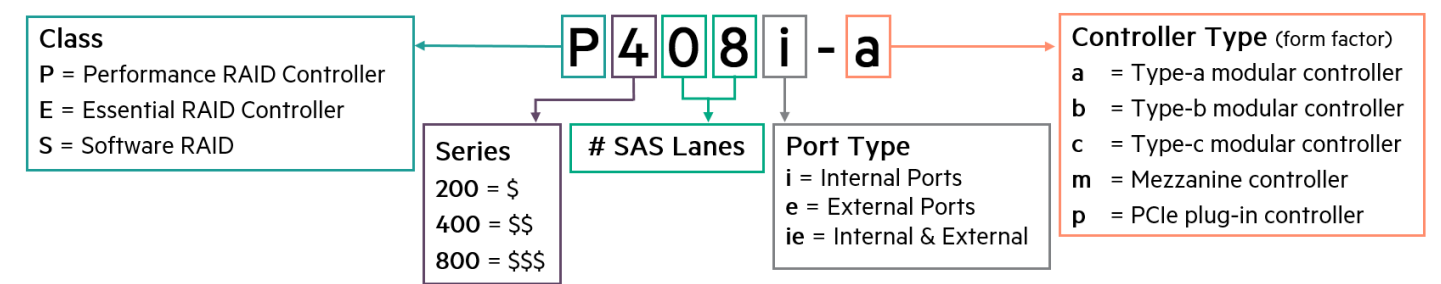
|                                                                 |            |
|-----------------------------------------------------------------|------------|
| HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit | 865434-B21 |
|-----------------------------------------------------------------|------------|

**Notes:** Flex Slot -48VDC power supplies support power efficiency of up to 94%.



Additional Options

HPE Smart Array Controllers



Smart Array Controllers

HPE 12W Smart Storage Lithium-ion Battery 782961-B21

Notes:

- All performance RAID controllers are supported by the HPE Smart Storage Battery (782961-B21), which supports multiple devices and is sold separately
- Does not occupy a PCIe expansion slot.

HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller 804405-B21

HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller 830824-B21

Essential RAID Controllers

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804398-B21

HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804394-B21

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller 869079-B21

Notes: Does not occupy a PCIe expansion slot.

HPE Cable Options

HPE DL325 Gen10 Plus 8SFF Smart Array Modular Controller Cable Kit P16979-B21

Notes: This option kit is required to support E208i-a/P408i-a controller on generic CTO with 8SFF drive cage selection

HPE DL325 Gen10 Plus 8SFF Smart Array PCIe Controller Cable Kit P16983-B21

Notes: This option kit is required to support E208i-p/P408i-p controller on generic CTO with 8SFF drive cage selection

HPE DL3XX Gen10 Rear Serial Cable and Enablement Kit 873770-B21

Notes: This option kit is used to enable serial port

QLogic Fibre Channel HBAs

HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter P9D94A



Additional Options

HPE Rack Options

Rail Kits

Notes:

- CTO servers do not ship with rail kits ,they need to be ordered seperately
- 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.
- 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.

HPE DL325 Gen10 Plus 1075mm Easy Install Rail Kit

P18544-B21

Notes: Required with generic CTO model (P18606-B21)

HPE DL325 Gen10 Plus Cable Management Arm

P18546-B21



## Technical Specifications

### Environment-friendly Products and Approach - End-of-life Management and 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.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site.

These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

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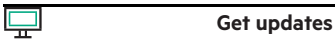
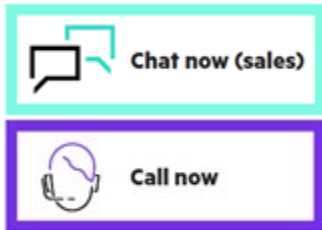
## Summary of Changes

| Date        | Version History | Action  | Description of Change                   |
|-------------|-----------------|---------|-----------------------------------------|
| 18-Mar-2024 | Version 3       | Changed | Additional Options section was updated. |
| 15-Nov-2021 | Version 2       | Changed | Obsolete SKUs were removed.             |
| 06-Jul-2020 | 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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