

### Overview

#### HPE ProLiant DL365 Gen10 Plus - 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

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 and hardware from the following kits *MUST* be installed:
  - HPE DL38X Gen10 Plus Maximum Performance Fan Kit – P26477-B21
  - HPE DL38X Gen10 Plus High Performance Heat Sink Kit – P19368-B21

Please refer to the HPE DL365 Gen10 Plus Carrier Grade Conversion documentation on the HPE web site:

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

## Standard Features

**Processors** Up to 2 of the following depending on model.

**Notes:** For more information regarding AMD EPYC processors, please see the following:

<https://www.amd.com/en/products/epyc>

AMD EPYC Processor	Cores	Base Frequency	Max Frequency	Max Memory	Wattage	Cache	Memory
EPYC 7713	64	2.0 GHz	3.675 GHz	4TB	225W	256MB	3200MT/s
EPYC 7643	48	2.3 GHz	3.6 GHz	4TB	225W	256MB	3200MT/s
EPYC 7543	32	2.8 GHz	3.7 GHz	4TB	225W	256MB	3200MT/s
EPYC 7513	32	2.6 GHz	3.65 GHz	4TB	200W	128MB	3200MT/s
EPYC 7453	28	2.75 GHz	3.45 GHz	4TB	225W	64MB	3200MT/s
EPYC 7443	24	2.85 GHz	4.0 GHz	4TB	200W	128MB	3200MT/s
EPYC 7413	24	2.65 GHz	3.6 GHz	4TB	180W	128MB	3200MT/s
EPYC 7313	16	3.0 GHz	3.7 GHz	4TB	155W	128MB	3200MT/s

**Notes:**

- All AMD EPYC processors can support up to 4TB of memory per each single CPU
- More EPYC processors will be supported on the server later in time
- Rome processors don't support storage tri-mode controllers



## Configuration Information

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

#### Network Choice (NC) Models

Network Choice models do not include embedded LOM. To enable networking capability please select either a FlexibleLOM NIC or a validated alternative from the Core Options section.

CTO Server	DL365 Gen10 Plus 8SFF CTO Server
SKU Number	P38578-B21
TAA SKU*	P43251-B21
Processor	Not included as standard
DIMM Slots	32-DIMM slots*
Storage Controller	Choice of HPE modular Smart Array and PCIe plug-in controller
PCIe	Two standard in primary riser, up to three slots with 2 processors
Drive Cage - included	8 SFF
Network Controller	Choice of OCP or stand up card
Fans	1 CPU – 5 Standard Fans 2 CPU – 7 Standard Fans
USB	Front: 1 USB 3.1 Gen1 + iLO service port Rear: 2 USB 3.1 Gen1 + 1 VGA port

#### Notes:

- \*32 DIMM slots require selection of 2 processors
- 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).
- TAA compliant configuration requires TAA versions of the CTO Server SKUs.
- All CTO servers are Energy Star 3.0 compliant.

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

Please select one –B21 processor required below.

For second processor, please select the same processor model with –B21 from Core Options – HPE Processors section.

For example: first processor, select P38693-B21 then for second processor, select P38693-B21 as well.

#### Notes:

- Mixing of 2 different processor models are NOT allowed.
- DDR4 memory speed will depend on the quantity and type of DIMMs installed.

### Step 2a: Choose Processors

#### Description

#### SKU

#### Processor Option Kits

**Notes:** System might throttle over 30C and it is expected.

#### AMD EPYC 3rd Generation Processors

AMD EPYC 7713 2.0GHz 64-core 225W Processor for HPE	P38693-B21
AMD EPYC 7643 2.3GHz 48-core 225W Processor for HPE	P39365-B21
AMD EPYC 7543 2.8GHz 32-core 225W Processor for HPE	P38687-B21
AMD EPYC 7513 2.6GHz 32-core 200W Processor for HPE	P38684-B21
AMD EPYC 7453 2.75GHz 28-core 225W Processor for HPE	P38678-B21
AMD EPYC 7443 2.85GHz 24-core 200W Processor for HPE	P38681-B21
AMD EPYC 7413 2.65GHz 24-core 180W Processor for HPE	P38675-B21
AMD EPYC 7343 3.2GHz 16-core 190W Processor for HPE	P38672-B21



## Configuration Information

AMD EPYC 7313 3.0GHz 16-core 155W Processor for HPE

P38669-B21

### 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>

For Gen10 Plus memory speed table, please go to: <http://www.hpe.com/docs/amd-speed-table-Gen10Plus>

#### Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit.	P07640-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07642-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-B21

#### Notes:

- Mixing of x4 & x8 memory is not allowed
- 3200 MT/s memory SKUs can run the transfer rate of 3200 MT/s at both 1 DIMM and 2 DIMM per channel

#### Memory Blank Kit

HPE DDR4 DIMM Blank Kit	P07818-B21
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**Notes:** DIMM blank kit cannot be selected when 32 DIMMs are ordered

### Step 2c: Choose Power Supplies

Select one or two power supplies from below.

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

#### HPE Flex Slot Power Supplies

HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit	P17023-B21
HPE 1600W -48VDC Power Cable Lug Kit	P36877-B21

#### Notes:

- P36877-B21 is to be used with HPE 1600W Flex Slot -48VDC Power Supply Kit
- Only one power cable lug kit needs to be selected with the power supply

#### Notes:

- Select one or more power supplies.
- 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/poweradvisor>.
- 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 ProLiant DL36X Gen10 Plus Low Profile Riser Kit	P26471-B21
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#### Notes:

- A Max Qty=1 of the following list of Secondary riser options is allowed per server.
- Slot 3 supports PCIe 4.0 Low Profile / Half Length, x16 bandwidth / x16 connector
- This riser will not support GPUs
- This riser requires the selection of a second processor



## Configuration Information

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

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## Core 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.

### HPE Unique Options

#### Cooling Options

HPE DL385 Gen10 1U High Performance Heat Sink Kit	P19368-B21
HPE ProLiant DL36X Gen10 Plus High Performance Fan Kit	P26477-B21

#### Hard Drive Kits

HPE ProLiant DL365 Gen10 Plus 8SFF SAS/SATA BC Backplane Kit	P38579-B21
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#### Optical Drive Options

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21
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##### Notes:

- This option cannot be selected along with HPE Universal SATA AIC HHHL M.2 SSD Kit (878783-B21)
- This option cannot be selected with a 2SFF drive cage.

HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21
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##### Notes:

- This option cannot be selected along with HPE Universal SATA AIC HHHL M.2 SSD Kit (878783-B21)
- This option cannot be selected with a 2SFF drive cage.

#### System Insight Display Options

HPE ProLiant DL360 Gen10 Plus SFF System Insight Display Power Module Kit	P26447-B21
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**Notes:** Only quantity of one can be supported.

### HPE Processors

#### AMD EPYC 3rd Generation Processors

AMD EPYC 7713 2.0GHz 64-core 225W Processor for HPE	P38693-B21
AMD EPYC 7643 2.3GHz 48-core 225W Processor for HPE	P39365-B21
AMD EPYC 7543 2.8GHz 32-core 225W Processor for HPE	P38687-B21
AMD EPYC 7513 2.6GHz 32-core 200W Processor for HPE	P38684-B21
AMD EPYC 7443 2.85GHz 24-core 200W Processor for HPE	P38681-B21
AMD EPYC 7413 2.65GHz 24-core 180W Processor for HPE	P38675-B21
AMD EPYC 7313 3.0GHz 16-core 155W Processor for HPE	P38669-B21

### HPE Memory

#### Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit.	P07640-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07642-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-B21

**Notes:** Mixing of x4 & x8 memory is not allowed



## Core Options

### HPE Storage Controllers

**Notes:** For additional details, please see [HPE Smart Array Gen10 Controllers Data Sheet at:](https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00017196ENW)

<https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00017196ENW>

### HPE Flexible Smart Array Controllers

#### HPE Smart Array Controllers

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

**Notes:** If this controller is selected along with any other x16 PCIe Card, then the HPE DL360 Gen10+ SFF Internal Cable Kit (P26449-B21) is required.

Only need to support by field-upgrade. Because CTO chassis already contains the cables.

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

**Notes:** If this controller is selected along with any other x16 PCIe Card, then the HPE DL360 Gen10+ SFF Internal Cable Kit (P26449-B21) is required.

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit P01366-B21

HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit P02377-B21

### Cable Kits

HPE ProLiant DL360 Gen10 Plus SFF Internal Cable Kit P26449-B21

**Notes:** If a non-controller is installed in slot 1, and customer selects the controller for mounting in slot2, then customer must select this cable kit to connect to slot2.

Only need to support by field-upgrade. Because CTO chassis already contains the cables.

HPE ProLiant DL36X Gen10 Plus 2SFF Tri-Mode Cable Kit P36657-B21

**Notes:** If U.3 or U.2 BP Kit & AROC type Tri-mode controller card controller are selected, then q'ty one of this kit must be selected.

HPE ProLiant DL36X Gen10 Plus Rear Serial Port Cable Kit P26475-B21

HPE DL385 Gen10 Plus OCP Upgrade Cable Kit P14603-B21

**Notes:** Maximum supported quantity is one

### HPE Hard Disk Drives

For HDDs with optimal product availability, HPE advocates HDDs from the list located here:

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

HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD P28028-B21

HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD P40432-B21

HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD P28586-B21

### HPE Solid State Drives

For SSD selection guidance, please visit <https://ssd.hpe.com/>

For SSDs with optimal product availability, HPE advocates SSDs from the list located here:

#### Read Intensive - 12G SAS - SFF - Solid State Drives

HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD P40506-B21

#### Internal Dual M.2 Kit

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



## Core Options

### Hard Drive Blank Kits

HPE Small Form Factor Hard Drive Blank Kit

666987-B21

**Notes:** Hard drive blanks should be applied to drive slots with no drives populated

### HPE Networking

#### 10 Gigabit Ethernet adapters

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

#### 10/25 Gigabit Ethernet adapters

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

P26262-B21

**Notes:** Please see the related NIC QuickSpecs for Technical Specifications and additional information:

<https://h20195.www2.hpe.com/v2/getpdf.aspx/A00002507ENW.pdf>

#### OCP Adapters

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

P08449-B21

Marvell QL41132HQU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE

P08452-B21

#### Notes:

- OCP adapters do not consume PCIe slot.
- Only 1 slot is available for OCP adapters.

### HPE Graphics Options

NVIDIA T4 16GB Computational Accelerator for HPE

ROW29C

### HPE Power Supplies

HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit

865438-B21

**Notes:** Flex Slot Titanium power supplies support power efficiency of up to 96% 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%

HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit

P17023-B21

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

HPE 1600W -48VDC Power Cable Lug Kit

P36877-B21

#### Notes:

- P36877-B21 is to be used with HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit
- Only one power cable lug kit needs to be selected with the power supply





## Additional Options

HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit P13771-B21

**Notes:** Max q'ty =1

HPE Gen10 TPM 1.2 FIO Setting 872108-B21

**Notes:**

- This option requires the selection of TPM BR Module Kit (P13771-B21)
- If TPM BR Module Kit (P13771-B21) is selected along with Legacy BIOS Mode (758959-B22) then this option must be selected.

HPE Server Platform LDevID FIO Setting P49803-B21

**Notes:**

- Directs HPE manufacturing site to create, digitally sign and store a platform certificate on the server.
- Requires HPE Trusted Platform Module (TPM).
- Locally Significant Device Identifier (LDevID) certificates are part of a Zero Trust Architecture. This SKU instructs factory to provision LDevID on HPE iLO.

HPE Server Identity LDevID FIO Setting P49814-B21

**Notes:** Locally Significant Device Identifier (LDevID) certificates are part of a Zero Trust Architecture. This SKU instructs factory to provision LDevID on HPE iLO.

## HPE Rack Options

### Rail Kits

**Notes:** 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 ProLiant DL300 Gen10 Plus 1U SFF Easy Install Rail Kit P26485-B21

HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit P26489-B21

## HPE USB and SD Options

### HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD RAID 1 USB Boot Drive P21868-B211

**Notes:** In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.

SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published Customer Advisory **Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 (Or Later).**

For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.



Summary of Changes

Date	Version History	Action	Description of Change
18-Mar-2024	Version 2	Changed	Additional Options section was updated.
05-Jul-2022	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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