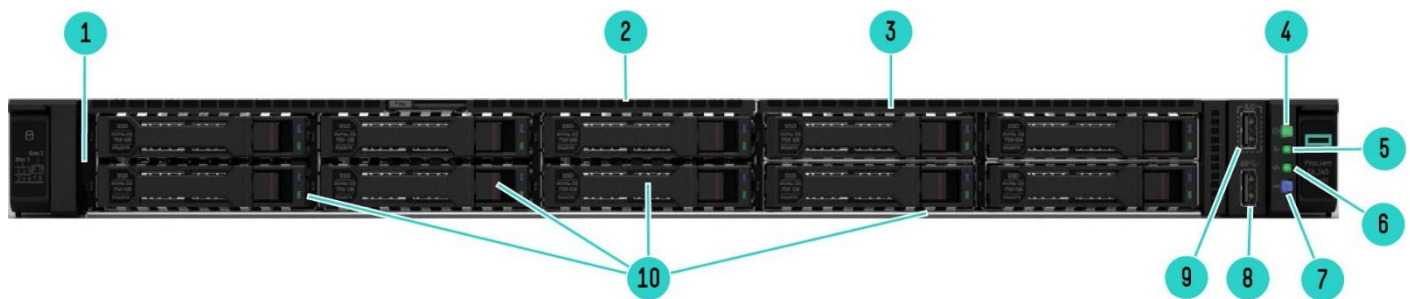


### Overview

### HPE ProLiant DL325 Gen11

Are you looking for a scalable, low-cost performance server solution for your virtualized and software-defined compute workloads? The HPE ProLiant DL325 Gen11 server is a low-cost 1U 1P solution that delivers exceptional value balancing compute, memory, and network bandwidth at 1P economics. Powered by 4th Generation AMD EPYC™ Processors with up to 128 cores, increased memory bandwidth (up to 3 TB), high-speed PCIe Gen5 I/O and EDSFF storage, and supporting up to 2 double-width GPUs at the front, this server is a superb low-cost, 1U 1P, performance solution for your virtualized workloads. The silicon root of trust anchors the server firmware, creating a fingerprint for the AMD Secure Processor that must be matched exactly before the server boot. The HPE ProLiant DL325 Gen11 server is an excellent choice for virtualized workloads such as software-defined compute, CDN, VDI, and secure edge apps that require balancing processor, memory, and network bandwidth.

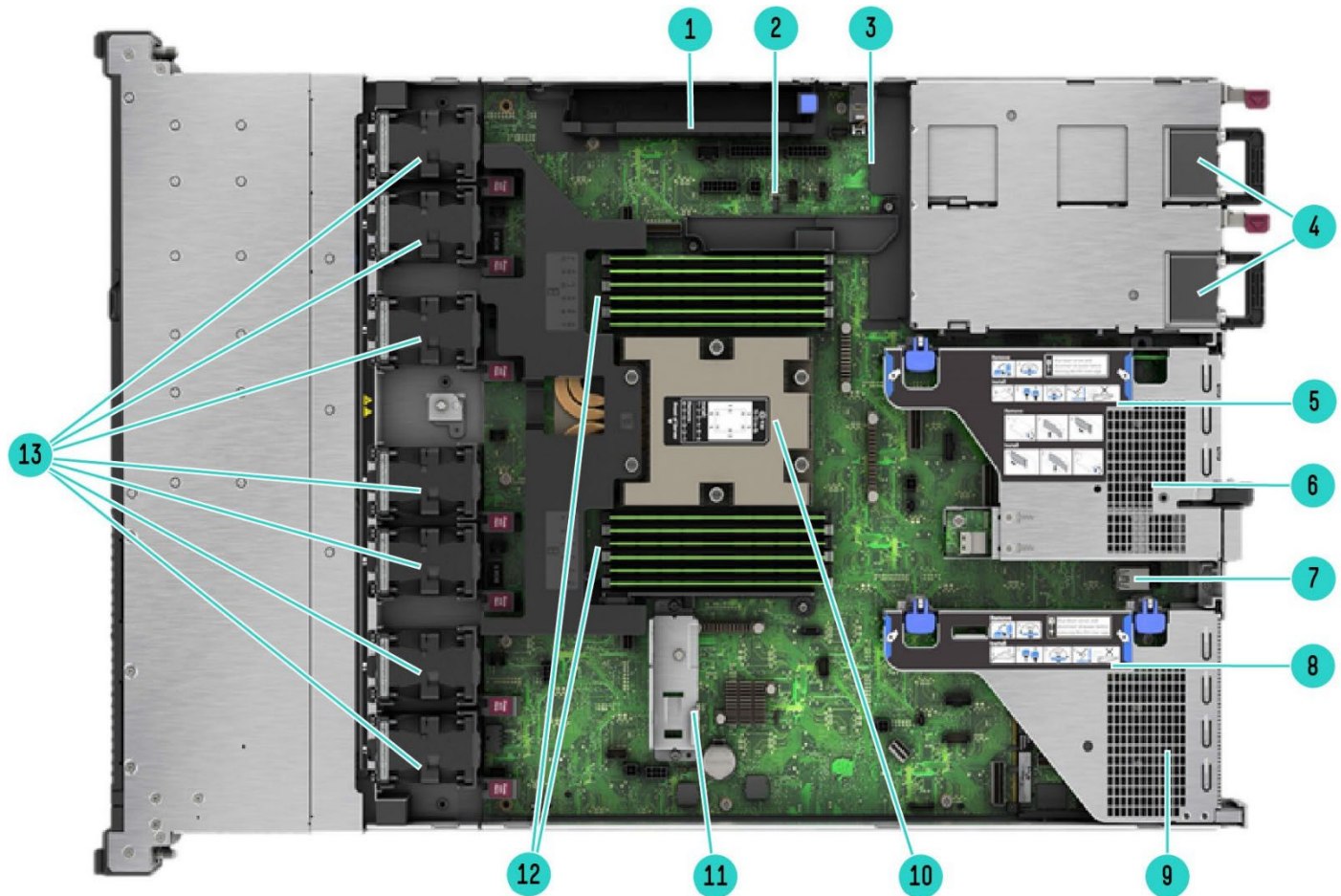


**Front View - 8 SFF + optional 2 SFF Drive Bay shown**

- |   |                        |
|---|------------------------|
| 1. Serial number pull tab                       | 6. NIC status LED      |
| 2. Quick removal access panel                   | 7. Unit ID button/ LED |
| 3. 2 SFF Cage Bay (Optional - shown) *          | 8. USB 3.2 Gen1 port   |
| 4. Power On/Standby button and system power LED | 9. iLO Service Port    |
| 5. Health LED                                   | 10. 8 SFF Cage Bay     |

**Notes:** Optional: Optical Drives

## Overview



### Internal View – Standard for all HPE ProLiant DL325 Gen 11

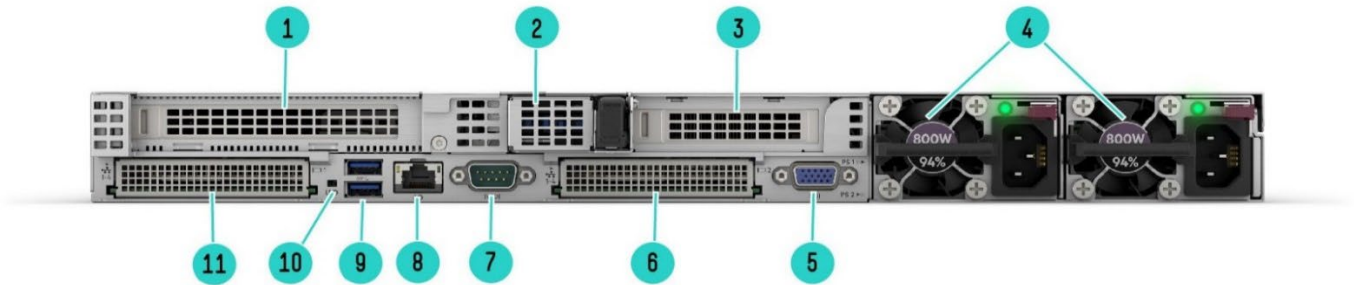
- |  |  |
|--|--|
| 1. Megacell battery holder                                     | 8. Primary PCIe 5.0 riser  |
| 2. Hard drive backplane power connectors                       | 9. OCP 3.0 Slot 21 (Under)   |
| 3. Chassis intrusion detection connector                       | 10. Processor is shown with Performance heat sink <sup>1</sup> (Up to 1) |
| 4. Up to 2 Hot Plug redundant HPE Flexible Slot Power supplies | 11. FHFL PCIe card holder  |
| 5. Secondary PCIe 5.0 riser                                    | 12. DDR5 DIMM slots <sup>2</sup>   |
| 6. OCP 3.0 Slot 22 (Under)                                     | 13. Hot-plug fans <sup>3</sup>   |
| 7. Internal Dual USB 3.2 Gen1 port                             |  |

#### Notes:

- <sup>1</sup>Optional: Standard Heat Sink and Closed-Loop Liquid Cooling Heat Sink
- <sup>2</sup>Fully populated 12 DIMMs shown.
- <sup>3</sup>7 dual-rotor standard fans shown. Optional: Performance Fans and Liquid Cooling Fans



## Overview



### Rear View – Secondary Low Profile Riser Shown

- |   |                                  |
|---|----------------------------------|
| 1. Slot 1 Primary PCIe 5.0 Riser                | 7. Optional Serial port          |
| 2. Optional NS204i-u hot-plug NVMe boot device  | 8. Dedicated iLO management port |
| 3. Slot 2 Secondary PCIe 5.0 Riser <sup>1</sup> | 9. USB 3.1 Gen1 Ports (2)        |
| 4. Hot-plug Power Supply 1 and 2 <sup>2</sup>   | 10. Unit ID LED                  |
| 5. Video (VGA) port                             | 11. OCP 3.0 Slot 21              |
| 6. OCP 3.0 Slot 22                              |                                  |

#### Notes:

- <sup>1</sup>Low profile and full height options
- <sup>2</sup>Hot-plug Power Supply 2 is optional

## What's New

- All new DL325 Gen11
- New 4<sup>th</sup> Generation AMD EPYC™ Processors, up to 128 cores, 400W, and 1150MB of L3 Cache.
- New DDR5 Smart Memory - 4800MT/s.
- New PCIe Gen5 support.
- New HPE Integrated Lights-Out 6 (iLO 6) server management software.
- New hot-pluggable NS204i-u Boot Device.
- New 20 EDSFF E3.S 1T Drive bays.
- New GPU support, up to four single-width or two double-width GPUs.
- OpenBMC Capable through iLO6 Transfer of Ownership Process

## Platform Information

### Form Factor

- 1U rack

### Chassis Types

- 8 SFF with optional 2 SFF drive bay or optical drive.
- 4 LFF with an optional optical drive
- 20 EDSFF E3.S 1T drive bay.
- 2 Single-Width or 2 Double-Width GPUs with 8 EDSFF or 4 SFF drive bay.

### System Fans

- Choice of Standard Fan Kit, Performance Fan, and Liquid cooling Fan Kit

#### Notes:

- The DL325 Gen11 supports up to 7 fans with fan redundancy built in. One fan rotor failure will place the server in degraded mode but fully functional. Two fan rotor failures could provide a warning and imminent server shutdown.
- Each Fan kit is designated to operate under different configurations. Please refer to the cooling option message in the unique option section for more information.

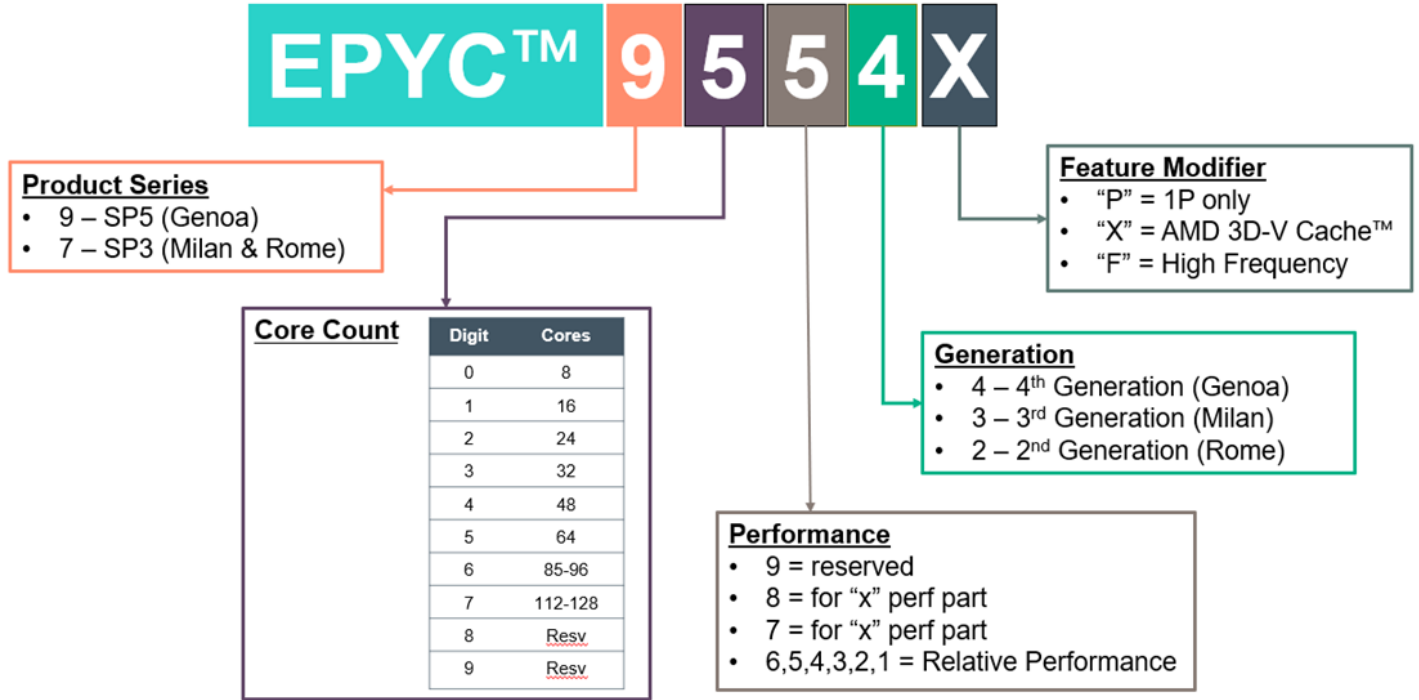


## Standard Features

**Processors** – One of the following, depending on the model.

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

<https://www.amd.com/en/processors/epyc-server-cpu-family>



4 <sup>th</sup> Gen AMD EPYC Processor	Cores	Base Frequency	Max Frequency	Max Memory	Wattage	Cache	Memory
EPYC 9754	128	2.25 GHz	3.1 GHz	3TB	360	256	4800MT/s
EPYC 9734	112	2.2 GHz	3.0 GHz	3TB	340	256	4800MT/s
EPYC 9654P	96	2.4 GHz	3.7 GHz	3TB	360	384	4800MT/s
EPYC 9684X	96	2.55 GHz	3.7 GHz	3TB	400	1150	4800MT/s
EPYC 9634	84	2.25 GHz	3.7 GHz	3TB	290	384	4800MT/s
EPYC 9554P	64	3.1 GHz	3.75 GHz	3TB	360	256	4800MT/s
EPYC 9534	64	2.45 GHz	3.7 GHz	3TB	280	256	4800MT/s
EPYC 9454P	48	2.75 GHz	3.8 GHz	3TB	290	256	4800MT/s
EPYC 9474F	48	3.6 GHz	4.1 GHz	3TB	360	256	4800MT/s
EPYC 9354P	32	3.25 GHz	3.8 GHz	3TB	280	256	4800MT/s
EPYC 9334	32	2.7 GHz	3.9 GHz	3TB	210	128	4800MT/s
EPYC 9374F	32	3.85 GHz	4.3 GHz	3TB	320	256	4800MT/s
EPYC 9384X	32	3.1 GHz	3.9 GHz	3TB	320	768	4800MT/s
EPYC 9254	24	2.9 GHz	4.15 GHz	3TB	200	128	4800MT/s
EPYC 9224	24	2.5 GHz	3.7 GHz	3TB	200	64	4800MT/s
EPYC 9274F	24	4.05 GHz	4.3 GHz	3TB	320	256	4800MT/s
EPYC 9124	16	3 GHz	3.7 GHz	3TB	200	64	4800MT/s
EPYC 9174F	16	4.1 GHz	4.4 GHz	3TB	320	256	4800MT/s
EPYC 9184X	16	3.55 GHz	4.2 GHz	3TB	320	768	4800MT/s

**Notes:**

- 6096pin LGA SP5 socket type, 128 PCIe 5.0 Lanes per processor.
- All 4<sup>th</sup> generation AMD EPYC processors can support up to 3TB of memory each under 1DPC, 12 channels per processor.
- The wattage information indicates the processor's default cTDP (Configurable TDP).



## Standard Features

### Chipset

No chipset – System on Chip (SoC) design.

### On System Management Chipset

HPE iLO 6 ASIC

**Notes:** Read and learn more in the [iLO QuickSpecs](#).

### Memory

<b>Type</b>	HPE DDR5 Smart Memory Registered (RDIMM)
<b>DIMM Slots Available</b>	12 12 DIMM slots per processor, 12 channels per processor, 1 DIMM per channel
<b>Maximum capacity (RDIMM)</b>	3.0 TB 12 x 256 GB RDIMM @ 4800 MT/s at 1 DPC

#### Notes:

- All processors support up to 3TB of memory per server.
- LRDIMM and Persistent Memory are not supported.
- For additional information, please see the [HPE DDR5 Smart Memory QuickSpecs](#)
- For the Memory Population Rules and Guidelines with AMD EPYC 9004 series processors, see details here: <https://www.hpe.com/psnow/doc/a50007481enw>

### Memory Protection

#### Advanced ECC

Advanced ECC uses single-device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip.

#### Online Spare

Memory online spare mode detects a rank that is degrading and switches operation to the spare rank.

**Notes:** For more information see our [Memory RAS feature technical whitepaper](#).

### Expansion Slots

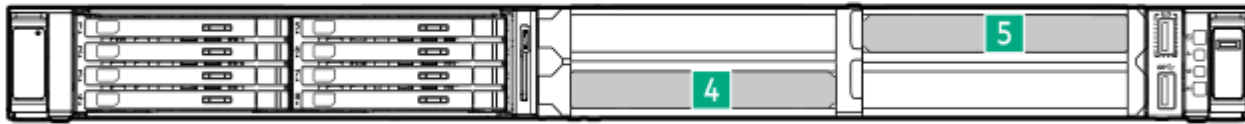
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor
1 (Default Primary Riser)	PCIe 5.0	X16	X16	Full-height, Full-length slot
2 (Secondary Riser)	PCIe 5.0	X16	X16	Low Profile or Full-height, Half-length slot
21	PCIe 5.0	X8	X16	OCP 3.0
22	PCIe 5.0	X8	X16	OCP 3.0

#### Notes:

- Both OCP slots (slot 21 and 22) support shared NIC and WOL (wake on lan) functions.
- If NS204i-u Boot Device is selected then low profile secondary riser (P55029-B21) must be selected.
- Requires a FHFL card holder to support the full-length cards at primary riser.



## Standard Features



Front risers of GPU CTO server

Front Riser				
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor
4	PCIe 5.0	X16	X16	Full-height, Full-length slot
5	PCIe 5.0	X16	X16	Full-height, Full-length slot

### Notes:

- When supporting Slot4 & Slot21 scenario, Slot4 & OCP 21 slot combined can support up to 112GB/s bandwidth due to AMD CPU limitation.
- When supporting Slot5 & Slot1 scenario, Slot 5 & Slot1 combined can support up to 112GB/s bandwidth due to AMD CPU limitation.
- The extension slots at the front of the GPU CTO server do not support external cabling.

## Storage Controllers

### Boot Device

- HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device

### Notes:

- Can only be selected without M.2 enablement kit.
- Includes Hot Plug capable dual 480GB NVMe M.2 automatically configured into a RAID 1 Mirror
- Externally accessible but does not occupy a PCIe slot
- Requires specific cable kit and secondary low-profile riser along with specific cooling selections based on configuration
  - HPE DL325 Gen11 NVMe/SATA M.2 Enablement kit

### Notes:

- Internal accessible but does not occupy a PCIe slot
- No hardware RAID support and requires selection of SATA or NVMe M.2 SSDs as none are included

### Essential RAID Controller

- HPE Smart Array E208e-p SR Gen10 Controller

### MR Gen11 Storage Controller

- HPE MR216i-p Gen11 x16 Lanes without Cache PCI SPDM Plug-in Storage Controller
- HPE MR216i-o Gen11 x16 Lanes without Cache OCP SPDM Storage Controller
- HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller
- HPE MR416i-o Gen11 x16 Lanes 8GB Cache OCP SPDM Storage Controller
- HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller

### SR Gen11 Storage Controller

- HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage

**Notes:** For additional details, please visit:

**[HPE Compute MR Gen11 Controllers QuickSpecs](#)**

**[HPE Compute SR Gen11 Controllers QuickSpecs](#)**



## Standard Features

### Internal Storage Devices

#### Optical Drive

- Available on 8SFF and 4LFF CTO Servers as an option (DVD-ROM or DVD-RW)

#### Drives

- None ship standard

Maximum Storage		
	Capacity	Configuration
Hot Plug LFF SAS HDD	80 TB	4 x 20 TB
Hot Plug LFF SATA HDD	80 TB	4 x 20 TB
Hot Plug SFF SAS SSD	76.8 TB	10 x 7.68 TB
Hot Plug SFF SATA SSD	76.8 TB	10 x 7.68 TB
Hot Plug SFF NVMe PCIe U.3 SSD	153.6 TB	10 x 15.36 TB
Hot Plug EDSFF E3.S 1T NVMe SSD	307.2 TB	20 x 15.36 TB
M.2 22110 NVMe SSD	3.84 TB	2 x 1.92 TB (via M.2 enablement Kit)
M.2 2280 SATA SSD	960 GB	2 x 480 GB (via M.2 enablement Kit)

### Interfaces

<b>Serial</b>	1 optional port - rear
<b>Video Port</b>	1 standard VGA Port - rear
<b>Network Ports</b>	None. Choice of OCP or stand-up card, supporting a wide arrange of NIC adapters BTO models will come pre-selected with a primary networking card.
<b>HPE iLO Remote Mgmt Port</b>	1 1Gb Dedicated - rear
<b>Front iLO Service Port</b>	1 standard
<b>USB 3.2 Gen1</b>	5 standard on all models: 1 front, 2 rear, 2 internal

### Graphics

#### Integrated Video Standard

- Video modes up to 1920 x 1200@60Hz (32 bpp)
- 16MB Video Memory

#### HPE iLO 6 on system management memory

- 64 MB Flash
- 8 Gbit DDR 4 with ECC protection

### Power Supply

- HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit  
**Notes: Available in 94% Power Efficiency.**
- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit  
**Notes: Available in 94% Power Efficiency.**
- HPE 1000W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit  
**Notes: Available in 96% Power Efficiency.**
- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit  
**Notes: Available in 94% Power Efficiency.**
- HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit  
**Notes: Available in 94% Power Efficiency. 200-240VAC power input only.**
- HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit



## Standard Features

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, and tool-less installation into HPE ProLiant 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](#).

For information on power specifications and technical content visit [HPE Server power supplies](#).

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## Operating Systems and Virtualization Software Support for ProLiant Servers

- [Windows Server 2019](#)
  - [Windows Server 2022](#)
  - [Red Hat Enterprise Linux \(RHEL\) 8.6](#)
  - [Red Hat Enterprise Linux \(RHEL\) 9.0](#)
  - [SUSE Linux Enterprise Server \(SLES\) 15 SP4](#)
  - [VMware ESXi 7.0 U3](#)
  - [VMware ESXi 8.0](#)
- 

## Industry Standard Compliance

- ACPI 6.1 Compliant
  - PCIe 5.0 Compliant
  - WOL Support
  - Microsoft® Logo certifications
  - PXE Support
  - VGA/Display Port
  - USB 3.2 Gen1 Compliant
  - USB 2.0 Compliant
  - Energy Star 4.0
  - SMBIOS 3.1
  - UEFI 2.7
  - UEFI Class 3
  - Redfish API
  - IPMI 2.0
  - Secure Digital 2.0
  - Advanced Encryption Standard (AES)
  - Triple Data Encryption Standard (3DES)
  - SNMP v3
  - TLS 1.2
  - DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
  - Active Directory v1.0
  - ASHRAE A3/A4
- Notes:** For additional technical thermal details regarding ambient temperatures, humidity, and features support please visit: [Extended Ambient Temperature Guidelines for HPE Gen11 servers](#)
- UEFI (Unified Extensible Firmware Interface Forum)
  - APML 1.0
- 





## Standard Features

### Embedded Management

#### HPE Integrated Lights-Out (HPE iLO)

Monitor your servers for ongoing management, service alerting, reporting, and remote management with HPE iLO.

Learn more at <http://www.hpe.com/info/ilo>.

#### UEFI

Configure and boot your servers securely with industry-standard Unified Extensible Firmware Interface (UEFI).

#### Intelligent Provisioning

Hassle-free server and OS provisioning for 1 or more servers with Intelligent Provisioning.

Learn more at [https://support.hpe.com/hpesc/public/docDisplay?docId=c04465280&docLocale=en\\_US](https://support.hpe.com/hpesc/public/docDisplay?docId=c04465280&docLocale=en_US)

#### iLO RESTful API

iLO RESTful API is DMTF Redfish API implementation and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at <http://www.hpe.com/info/restfulapi>.

#### OpenBMC Support

OpenBMC Capable through iLO6 Transfer of Ownership Process.

Learn more at [OpenBMC Support](#)

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### HPE Server UEFI

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secure configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant Gen11 servers have a UEFI Class 3 implementation.

#### UEFI enables numerous new capabilities specific to HPE ProLiant servers such as

- Secure Boot and Secure Start enable enhanced security
- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.1 Gen1 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization
- Embedded TPM Support

#### UEFI Boot Mode only

- NVMe Boot Support
- iSCSI Software Initiator Support.
- HTTP/HTTPS Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

#### Notes:

- For UEFI Boot Mode, boot environment and OS image installation should be configured properly to support UEFI
  - TPM is embedded on the DL325 Gen11 mainboard and does not require additional option kit selection to enable this function.
- 



## Standard Features

### Server Utilities

#### Active Health System

The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at <http://www.hpe.com/servers/ahs>.

#### Active System Health Viewing

The Active System Health Viewer (ASHV) is deprecated as of March 2022. Users are now recommended to use the InfoSight for Servers Portal for AHS viewing capabilities. In InfoSight for Servers portal, users will also be able to view hardware configuration details, firmware and driver information, warranty and support status of a server, wellness alerts, and create support cases for servers under a valid warranty or support contract.

HPE InfoSight provides the same security assurances as that of ASHV. Furthermore, InfoSight can be used as an ASHV replacement even if customers do not want to share ASHV logs and telemetry data on an ongoing basis.

#### Smart Update

Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP). Learn more at

<https://www.hpe.com/us/en/servers/smart-update.html>

#### iLO Amplifier Pack

Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory, and update Gen8, Gen9, Gen10, and Gen10 Plus HPE servers. Use an iLO Advanced License to unlock full capabilities.

Learn more at <http://www.hpe.com/servers/iLOamplifierpack>.

#### RESTful Interface Tool

RESTful Interface tool (iLOREST) is a single scripting tool to provision using iLO RESTful API to discover and deploy servers at scale. Learn more at <http://www.hpe.com/info/resttool>.

#### Scripting Tools

Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at <http://www.hpe.com/servers/powershell>.

#### HPE OneView Standard

HPE OneView is an on-premises, multi-generational server monitoring, and management solution. HPE OneView Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. Customers can upgrade their management experience with an HPE OneView Advanced license, all provided by the same tool. Learn more at

<http://www.hpe.com/info/oneview>.

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### HPE GreenLake for Compute Ops Management

HPE is intelligently transforming compute management with an intuitive cloud operating experience through HPE GreenLake cloud platform to streamline and secure operations from edge-to-cloud. Automated key lifecycle tasks, for onboarding, updating, managing, and monitoring HPE servers, brings agility and greater efficiencies to wherever compute devices reside via a unified single browser-based interface. Manage single locations or multiple, distributed sites. Keep tens to thousands of servers secure with batch policy controls and automated updates.

Compute Ops Management is cloud-native software that is continually updated with new services, features, patches, and fixes. The management application resides in the HPE GreenLake cloud platform (access via <https://console.greenlake.hpe.com>) and leverages the HPE GreenLake architecture, security, and unified operations.

A 3-year subscription to HPE GreenLake for Compute Ops Management is added by default when ordering an HPE ProLiant Gen11 rack, tower, or micro server.

For more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs:

<https://www.hpe.com/psnow/doc/a50004263enw>

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## Standard Features

### Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-3 validation (iLO 6 certification in progress)
- Common Criteria certification (iLO 6 certification in progress)
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- Tamper-free updates – components digitally signed and verified
- Secure Recovery – recover critical firmware to a known good state on detection of compromised firmware
- Ability to rollback firmware
- Secure erase of NAND/User data
- TPM (Trusted Platform Module) 2.0 option

**Notes:** TPM is embedded on the DL325 Gen11 mainboard and does not require additional option kit selection to enable this function.

- Bezel Locking Kit option
- Chassis Intrusion detection option

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### Server Management

#### HPE iLO Advanced

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the fully integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality.

#### HPE OneView Advanced

HPE OneView Advanced offers a sophisticated level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It builds upon the base features of HPE OneView Standard and provides full-featured licenses which can be purchased for managing multiple HPE server generations. To learn more visit <http://www.hpe.com/info/oneview>.

#### HPE InfoSight for Servers

HPE InfoSight for Servers combines the cloud-based machine learning of InfoSight with the health and performance monitoring of Active Health System (AHS) and iLO to optimize performance and predict and prevent problems. The end result is an intelligent environment that modernizes IT operations and enhances the support experience by predicting and preventing the infrastructure issues that lead to application disruptions, wasted IT staff time, and missed business opportunities.

Learn more at <https://www.hpe.com/servers/infosight>

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### Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of HPE Authorized Channel Partners resellers. Hardware diagnostic support and repair are available for three years from the date of purchase. Support for software and initial setup is available for 90 days from the date of purchase. Enhancements to warranty services are available through HPE Services operational 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.

**Notes:** Server Warranty includes 3-Year Parts, 3-Year Labor, and 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: <https://www.hpe.com/support/ProLiantServers-Warranties>



## Optional Features

### Rack and Power Infrastructure

The story may end with servers, but it starts with the foundation that makes compute go – and business grow. We've reinvented our entire portfolio of rack and power products to make IT infrastructure more secure, more practical, and more efficient. In other words, we've created a stronger, smarter, and simpler infrastructure to help you get the most out of your IT equipment. As an industry leader, Hewlett Packard Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management, and system access.

HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with the enhanced airflow and thermal management, flexible cable management, and a 10-year Warranty to support higher-density computing.

HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°C, include color-coded outlets and load segments, and a low-profile design for optimal access to the rack and support for dense rack environments.

HPE Uninterruptible Power Systems are cost-effective power protection for any type of workload. Some UPSs include options for remote management and extended runtime modules so your critical dense data center is covered in power outages.

HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs, and UPSs at [HPE Rack and Power Infrastructure](#).

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### One Config Simple (OCS/SCE)

OCS/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 it 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. <https://h22174.www2.hpe.com/SimplifiedConfig/Welcome>

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## Service and Support

### HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

<https://www.hpe.com/services>

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### Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

<https://www.hpe.com/services/consulting>

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### HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

[HPE Managed Services | HPE](#)

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### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

<https://www.hpe.com/services/operational>

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### HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

<https://www.hpe.com/services/complecare>

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### HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/services/techcare>

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## Service and Support

### HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

**Notes:** To review the list of Lifecycle Services available for your product go to:

<https://www.hpe.com/services/lifecycle>

For a list of the most frequently purchased services using service credits, see the [HPE Service Credits Menu](#)

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### Other Related Services from HPE Services:

#### HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

<https://www.hpe.com/services/training>

#### Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

#### Parts and Materials

HPE will provide HPE-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 quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

#### How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at <https://ssc.hpe.com/portal/site/ssc/>



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## Service and Support

### AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpesc/public/home/signin>

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### Consume IT On Your Terms

**HPE GreenLake** edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"

<https://www.hpe.com/us/en/contact-hpe.html>

For more information

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

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## Pre-Configured Models

### Pre-Configured models ship with the configurations below.

- Pre-Configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
- Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will not be shipped inside the server.
- Network Choice models do not include embedded LOM.

Base Models	
<b>SKU Number</b>	P66775-B21 P66775-291
<b>Model Name</b>	HPE ProLiant DL325 Gen11 9124 3.0GHz 16-core 1P 32GB-DR MR408i-o 8SFF 800W PS Server
<b>Chassis</b>	HPE ProLiant DL325 Gen11 8SFF Configure-to-order Server
<b>Processor</b>	9124 (16 core, 3.0 GHz, 200W)
<b>Number of Processors</b>	One with standard heatsink
<b>Memory</b>	32 GB (1x32 GB, 4800 MT/s)
<b>Network Controller</b>	Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE
<b>Storage Controller</b>	HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller
<b>Included Hard Drives</b>	None ship standard, 8 SFF supported
<b>Internal Storage</b>	8 SFF Chassis (upgradeable to 10 SFF front)
<b>Optical Drive</b>	Optional, None ship standard
<b>Expansion Slots</b>	1 PCIe x16 Primary Riser
<b>Power Supply</b>	1x HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
<b>Fans</b>	7x Standard Fans
<b>Management</b>	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download)
<b>Rail Kit</b>	HPE ProLiant DL3XX Gen11 Easy Install Rail 2 Kit
<b>Security</b>	TPM (Trusted Platform Module)
<b>Energy Star</b>	4.0 certified
<b>Form Factor</b>	1U Rack
<b>Warranty</b>	Server warranty includes 3-year parts, 3-year labor, 3-year onsite support with next business day response.





## Pre-Configured Models

Performance Models		
<b>SKU Number</b>	P66776-B21 P66776-291	P58691-421
<b>Model Name</b>	HPE ProLiant DL325 Gen11 9354P 3.25GHz 32-core 1P 32GB-DR MR408i-o 8SFF 800W PS Server	HPE ProLiant DL325 Gen11 9354P 3.25GHz 32-core 1P 32GB-R MR408i-o 8SFF 1000W PS EU Server
<b>Chassis</b>	HPE ProLiant DL325 Gen11 8SFF Configure-to-order Server	
<b>Processor</b>	9354P (32 core, 3.25 GHz, 280W)	
<b>Number of Processors</b>	One with performance heatsink	
<b>Memory</b>	32 GB (1x32 GB, 4800 MT/s)	
<b>Network Controller</b>	Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE	
<b>Storage Controller</b>	HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller	
<b>Included Hard Drives</b>	None ship standard, 8 SFF supported	
<b>Internal Storage</b>	8 SFF Chassis (upgradeable to 10 SFF front)	
<b>Optical Drive</b>	Optional, None ship standard	
<b>Expansion Slots</b>	1 PCIe x16 Primary Riser	
<b>Power Supply</b>	1x HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	1x HPE 1000W Flex Slot Titanium Hot Plug Power Supply Kit
<b>Fans</b>	7x Performance Fans	
<b>Management</b>	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download)	
<b>Rail Kit</b>	HPE ProLiant DL3XX Gen11 Easy Install Rail 2 Kit	
<b>Security</b>	TPM (Trusted Platform Module)	
<b>Energy Star</b>	4.0 certified	
<b>Form Factor</b>	1U Rack	
<b>Warranty</b>	Server warranty includes 3-year parts, 3-year labor, 3-year onsite support with next business day response.	



## Pre-Configured Models

Smart Choice Models		
<b>SKU Number</b>	P72990-005	P75342-DM5
<b>Model Name</b>	HPE ProLiant DL325 Gen11 9354P 3.25GHz 32c 1P 256GB-R 8SFF MR408i-o 800W PS Server	HPE ProLiant DL325 Gen11 9124 3.0GHz 16c 1P 32GB-R 8SFF MR408i-o 2x480GB SATA 2x800W RPS LA Server
<b>Chassis</b>	HPE ProLiant DL325 Gen11 8SFF Configure-to-order Server	
<b>Backplane</b>	-	8 SFF
<b>Processor</b>	9354P (32 core, 3.25 GHz, 280W)	9124 (16 core, 3.0 GHz, 200W)
<b>Number of Processors</b>	One with performance heatsink	One with standard heatsink
<b>Memory</b>	256 GB (4x64 GB, 4800 MT/s)	32 GB (1x32 GB, 4800 MT/s)
<b>Network Controller</b>	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE
<b>Storage Controller</b>	HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller	
<b>Included Hard Drives</b>	2x 1.92TB NVMe SSD	2x 480GB SATA SSD
<b>Internal Storage</b>	8 SFF Chassis (upgradeable to 10 SFF front)	-
<b>Optical Drive</b>	Optional, None ship standard	-
<b>Expansion Slots</b>	1 PCIe x16 Primary Riser	
<b>Power Supply</b>	2x HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	
<b>Fans</b>	7x Performance Fans	7x Standard Fans
<b>Management</b>	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download)	
<b>Rail Kit</b>	HPE ProLiant DL3XX Gen11 Easy Install Rail 2 Kit	
<b>Security</b>	TPM (Trusted Platform Module)	
<b>Energy Star</b>	4.0 certified	-
<b>Form Factor</b>	1U Rack	
<b>Warranty</b>	Server warranty includes 3-year parts, 3-year labor, 3-year onsite support with next business day response.	

### Country Code Key

- -B21 = Worldwide
- -005 = HPE Smart Choice for US and Canada
- -291 = Japan
- -421 = Europe, the Middle East and Africa
- -DM5 = HPE Smart Choice for LATAM



## Pre-Configured Models

### HPE Smart Choice purchase program

- HPE Smart Choice purchase program is designed to make it easier to do business with HPE by offering fully configured solutions.
  - Order popular configs in a single SKU.
  - Get immediate purchase price in minutes.
  - Get fast, predictable shipping.
- 



## Configuration Information

### Smart Templates from HPE

HPE is releasing new Smart Template technology in the One Config Advanced (OCA) configurator. These Templates represent the CTO equivalents of the top-selling BTO configurations. They are intended to provide simple starting points to assist you in easily creating and customizing your desired Server solutions. HPE Servers that have Platform Templates, developed by HPE Product Managers, will have a separate tab in the HPE OCA configurator.

### Workload Solutions Templates from HPE

The Workload Solutions Templates build on the Smart Templates technology to easily develop working configurations of the most compelling Workload Solutions. The templates complement the Reference Builds developed by HPE. Workload Solutions templates preconfigure some of the key architecture decisions and make it easier for Sellers to get started and complete a differentiated server solution for your customer's specific workload.

### Mainstream SKUs

HPE launched the Mainstream SKU initiative as a market-driven approach to Demand Steering. It is a simplified portfolio of our top selling options that meet the current and future market trends. HPE has committed to providing a more predictable and faster experience for these options. Mainstream SKUs enjoy higher safety stock levels and have high fulfillment service levels than non-Mainstream SKUs. Mainstream orders are fulfilled +30% faster than non-Mainstream orders, have fewer shortages, and better recovery dates. This platform has Mainstream SKUs in the options portfolio and is eligible for an improved Mainstream experience. Mainstream SKUs are designated with a Mainstream symbol in our configurators.

### Mainstream Configurations

HPE is using the new Smart Templates technology to present Mainstream configurations. All the options in a Mainstream configuration are pre-selected Mainstream SKUs to optimize the performance, predictability, and fulfillment experience. Check the Template section in our configurators for eligible Mainstream configurations.

### European Union Erp Lot 9 Regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

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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.



## Configuration Information

**Step 1: Base Configuration** (choose one (1) of the following configurable server models from the tables below)

CTO Server	HPE ProLiant DL325 Gen11 8SFF Configure-to-order Server	HPE ProLiant DL325 Gen11 4LFF Configure-to-order Server	HPE ProLiant DL325 Gen11 EDSFF Configure-to-order Server	HPE ProLiant DL325 Gen11 GPU Configure-to-order Server
<b>SKU Number</b>	P54199-B21	P54200-B21	P54201-B21	P54202-B21
<b>TAA SKU</b>	P54199-B21#GTA	P54200-B21#GTA	P54201-B21#GTA	P54202-B21#GTA
<b>HPE Trusted Supply Chain</b>	P36394-B21 – Optional			
<b>Processor</b>	Not included as standard			
<b>DIMM Slots</b>	12-DIMM slots			
<b>Storage Controller</b>	Choice of HPE storage controllers		Not supported	
<b>PCIe</b>	1 PCIe 5.0 x16 Primary Riser			3 PCIe 5.0 x16 Risers (Slot 1,4,5)
<b>OCP3.0 Slot</b>	2 PCIe 5.0 x8			
<b>Drive Cage - included</b>	Not included	4 LFF	20 EDSFF E3.S 1T	Not included
<b>Network Controller</b>	Choice of either OCP 3.0 or select stand-up network adapters for primary networking selection plus additional/optional stand-up network adapters <b>Notes: No embedded networking</b>			
<b>Cooling</b>	Choice of Standard, Performance, or Closed-Loop Liquid Cooling Heat Sink Choice of Standard, Performance, or Liquid Cooling Fan Kit			
<b>Management</b>	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download), HPE GreenLake for Compute Ops Management (subscription included)			
<b>Video</b>	1 VGA rear			
<b>USB</b>	Front: 1 USB 3.2 Gen1 + iLO service port Rear: 2 USB 3.2 Gen1 Internal: 2 USB 3.2 Gen1			
<b>Security</b>	TPM2.0 (Trusted Platform Module) embedded <b>Notes: Disabled on shipments to China</b>			
<b>Rail Kit</b>	Optional Easy Install rails and CMA			
<b>Form Factor</b>	1U Rack			
<b>Warranty</b>	3-year parts, 3-year labor, 3-year onsite support with next business day response.			

### Notes:

- 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.
- 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 DL325 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. See “HPE Security” section within this document for more detail and learn more at <http://www.hpe.com/security>
- All CTO servers are Energy Star 4.0 compliant.



## Configuration Information

CTO Server	8SFF CTO server	4LFF CTO server	EDSFF CTO server	GPU CTO server
<b>Included Drive Cage</b>	Not available	4 LFF backplane	20 EDSFF backplane	Not available
<b>Universal Media Bay</b>	1 Optional	Not Available	Not Available	Not available
<b>ODD</b>	1 Optional	1 Optional	Not Available	Not available
<b>4 LFF SAS/SATA</b>	Not Available	1 Optional	Not Available	Not available
<b>8 SFF SAS/SATA</b>	1 Optional	Not Available	Not Available	Not available
<b>8 SFF NVMe</b>	1 Optional	Not Available	Not Available	Not available
<b>2 SFF SAS/SATA</b>	1 Optional	Not Available	Not Available	Not available
<b>2 SFF NVMe</b>	1 Optional	Not Available	Not Available	Not available
<b>20 EDSFF NVMe</b>	Not Available	Not Available	1 Optional	Not available
<b>4 SFF NVMe</b>	Not Available	Not Available	Not Available	1 Optional
<b>8 EDSFF NVMe</b>	Not Available	Not Available	Not Available	1 Optional

### Notes:

- This applies to CTO configurations, field upgrades may differ depending on field configuration.
- Drive cage kits need to be ordered separately for the 8SFF CTO server and GPU CTO server.

## Step 2: Choose Core Options

- Choice of 1 Processor model and Heat Sink Kit
  - Requires necessary Heat Sink for different processor wattage.
- Choice of DDR5 memory options.
  - Requires necessary Fan Kits for different memory configurations and subjects to the recommended system ambient temperature.
- Choice of Drive cage, Storage Controllers, and Storage Controller Cables
- Choice of SSD, HDD, and Optical Drive
- Choice of OS Boot Devices
- Choice of Riser Cards
- Choice of Networking options
  - PCIe standup or OCP 3.0. Requires necessary Fan Kits and subjects to the recommended system ambient temperature.
- Choice of Accelerator options
- Choice of Power and Cooling options
- Choice of Security options
- Choice of Software as a Service Management - HPE GreenLake for Compute Ops Management and HPE OneView

## Step 3: Choose Additional Options

- Choice of Embedded Management
- Choice of Rail Kits
- Choice of Rack options
- Choice of Support Services



## Core Options

### Choice of Core Options

#### Processor

##### Please select ONE 4th Generation AMD EPYC Processor

AMD EPYC 9754 2.25GHz 128-core 360W Processor for HPE	P60463-B21
AMD EPYC 9734 2.2GHz 112-core 340W Processor for HPE	P60465-B21
AMD EPYC 9654P 2.4GHz 96-core 360W Processor for HPE	P53697-B21
AMD EPYC 9684X 2.55GHz 96-core 400W Processor for HPE	P63493-B21
AMD EPYC 9634 2.25GHz 84-core 290W Processor for HPE	P53705-B21
AMD EPYC 9534 2.45GHz 64-core 280W Processor for HPE	P53699-B21
AMD EPYC 9554P 3.1GHz 64-core 360W Processor for HPE	P53703-B21
AMD EPYC 9454P 2.75GHz 48-core 290W Processor for HPE	P53709-B21
AMD EPYC 9474F 3.6GHz 48-core 360W Processor for HPE	P53706-B21
AMD EPYC 9334 2.7GHz 32-core 210W Processor for HPE	P53712-B21
AMD EPYC 9354P 3.25GHz 32-core 280W Processor for HPE	P53704-B21
AMD EPYC 9374F 3.85GHz 32-core 320W Processor for HPE	P53710-B21
AMD EPYC 9384X 3.1GHz 32-core 320W Processor for HPE	P63492-B21
AMD EPYC 9254 2.9GHz 24-core 200W Processor for HPE	P53707-B21
AMD EPYC 9224 2.5GHz 24-core 200W Processor for HPE	P58540-B21
AMD EPYC 9274F 4.05GHz 24-core 320W Processor for HPE	P53711-B21
AMD EPYC 9124 3.0GHz 16-core 200W Processor for HPE	P53702-B21
AMD EPYC 9174F 4.1GHz 16-core 320W Processor for HPE	P53698-B21
AMD EPYC 9184X 3.55GHz 16-core 320W Processor for HPE	P63491-B21

#### Notes:

- Processors less than or equal to 240W require Standard Heat Sink (P58456-B21).
- Processors more than 240W and less than or equal to 300W require Performance Heat Sink (P58457-B21)
- Processors more than or equal to 320W require Closed-Loop Liquid Cooling Heat Sink (P58463-B21).

## Memory

Please select one or more memory from below.

For new DDR5 memory, please go to **[HPE DDR5 Smart Memory QuickSpecs](#)**

For details on the Memory Population Rules and Guidelines with AMD EPYC 9004 series processors, please go to:

**<https://www.hpe.com/psnow/doc/a50007481enw>**

#### Notes:

- Quantity of memory DIMMs selected per socket must be 1, 2, 4, 6, 8, 10, or 12.
- The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model
- The maximum speed capability of the memory system is governed by the combination of the CPU and any other DIMMs installed in the server. If higher speed DIMMs are installed with a CPU that only supports a lower memory speed, the DIMMs will only run at the (lower) memory speed supported by the processor. Likewise, if memory DIMMs are mixed with slower DIMMs within a server, all DIMMs will run at the slower memory speed. For further information please refer to the Memory Population Rules for your specific server.

#### Registered DIMMs (RDIMMs)

HPE 16GB (1x16GB) Single Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit	P50309-B21
HPE 32GB (1x32GB) Dual Rank x8 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit	P50311-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-40-39-39 EC8 Registered Smart Memory Kit	P50312-B21
HPE 96GB (1x96GB) Dual Rank x4 DDR5-4800 CAS-46-45-45 EC8 Registered Smart Memory Kit	P66676-B21

## Core Options

HPE 128GB (1x128GB) Quad Rank x4 DDR5-4800 CAS-46-39-39 EC8 Registered 3DS Smart Memory Kit	P50313-B21
HPE 256GB (1x256GB) Octal Rank x4 DDR5-4800 CAS-46-39-39 EC8 Registered 3DS Smart Memory Kit	P50314-B21

### Notes:

- Mixing of x4 memory and x8 memory is not supported
- Mixing of 3DS memory and non-3DS memory is not supported.
- Supported memory configuration and recommended system ambient temperature:

Memory	SFF/LFF/GPU CTO server			EDSFF CTO server	
	Std Fans (P58461-B21)	Perf Fans (P58462-B21)	LC Fans (P59668-B21)	Perf Fans (P58462-B21)	LC Fans (P59668-B21)
<= 64GB DIMM (P50309-B21, P50311-B21, P50312-B21)	30C	30C	30C	25C	25C
96GB DIMM (P66676-B21) 128GB DIMM (P50313-B21)	Not Support	30C	25C	25C	25C Max = 8 for 128G DIMM
256GB DIMM (P50314-B21)	Not Support	25C	25C Max = 4	25C	Not Support

### Notes:

- Blank = no limitation.
- Not Support = Configuration not allowed because of thermal limitation.
- Requires Performance or Liquid Cooling Fan Kit for 96GB, 128GB and 256GB DIMMs.
- Max=4 of 256GB DIMM memory can be selected if the Liquid Cooling Heat Sink/ Liquid Cooling Fan Kit is selected.
- Max=8 of 96/128GB DIMM memory can be selected if the Liquid Cooling Heat Sink/ Liquid Cooling Fan Kit is selected along with the EDSFF CTO server.

## Storage

### Drive cages

#### Notes:

- For the 8SFF CTO server, If 8SFF Backplane is not selected then Internal Controllers, Controller cables and Drives must not be allowed for selection. This config will be shipped as a driveless config.
- Maximum one(1) 2SFF backplane kits can be selected together with 8SFF backplane kit, to support up to 10SFF in total.
- The type of drives that each drive cage supports are listed in the below table.

PN	Description	SATA	SAS	NVMe	NVMe	NVMe
				U.3 Static SSD	U.3 SSD	U.2 SSD
P54999-B21	HPE DL325 Gen11 8SFF x1 TM BP Kit	X	X	X	X	Not Support
P55000-B21	HPE DL325 Gen11 8SFF x4 TM BP Kit	X	X	X	X	Not Support
P56652-B21	HPE DL325 Gen11 2SFF x4 TM BP Kit	X	X	X	X	Not Support
P64521-B21	HPE DL325 Gen11 4SFF x4 NVMe Kit	X	X	X	X	Not Support

HPE ProLiant DL325 Gen11 8SFF x1 Tri-Mode U.3 Backplane Kit

P54999-B21

#### Notes:

- Supports 8 SFF SAS/SATA/ NVMe (U.3) Basic Carrier (BC) Drives.
- This drive cage can only be selected with 8SFF CTO Server.
- Max = 1.
- Requires Tri-Mode controllers if NVMe u.3 drives are selected with this backplane kit.
- if this Backplane kit is selected then one of the following cable options is supported:





## Core Options

- o with PCIe controllers: 8SFF x1 Tri-Mode Secondary Cable Kit (P57009-B21).
- o with OCP controllers: 8SFF x1 OCP2 Tri-Mode Cable Kit (P59619-B21).
- o Onboard SATA: no cable kit selection required.

HPE ProLiant DL325 Gen11 8SFF x4 Tri-Mode U.3 BC Backplane Kit

P55000-B21

### Notes:

- Supports 8 SFF SAS/SATA/ NVMe (U.3) Basic Carrier (BC) Drives.
- This drive cage can only be selected with 8SFF CTO Server.
- Max = 1.
- Requires Tri-Mode controllers if SAS/SATA SFF drives are selected with this backplane kit.
- if this 8SFF x4 U.3 Backplane kit is selected then one of the following cable options is supported:
  - o with SR932i-p: 8SFF x4 Primary SR932i-p Tri-Mode Cable Kit (P57004-B21) or 8SFF x4 Secondary SR932i-p Tri-Mode Cable Kit (P57005-B21).
  - o with PCIe controllers: 8SFF x2 Tri-Mode Secondary Cable Kit (P57006-B21).
  - o with OCP controllers: 8SFF x2 Tri-Mode OCP2 Cable Kit (P57008-B21).
  - o NVMe Direct Attach: no cable kit selection required.
- Requires Performance Fan Kit (P58462-B21) or Liquid Cooling Fan Kits (P59668-B21).

HPE ProLiant DL325 Gen11 2SFF x4 Tri-Mode U.3 BC Backplane Kit

P56652-B21

### Notes:

- Supports 2 SFF SAS/SATA/ NVMe (U.3) Basic Carrier (BC) Drives.
- This drive cage can only be selected with 8SFF CTO Server.
- Max = 1.
- if this 2SFF U.3 Backplane kit is selected then one of the following cable options is supported:
  - o with PCIe controllers: 2SFF x4 Secondary Tri-Mode Cable Kit (P59621-B21).
  - o with OCP controllers: 2SFF x4 OCP2 Tri-Mode Cable Kit (P59620-B21).
  - o NVMe Direct Attach: no cable kit selection required.
  - o Onboard SATA: 2SFF SATA Direct Attach Cable Kit (P59617-B21).
- Requires 8SFF x1 U.3 Backplane Kit (P54999-B21) or 8SFF x4 U.3 Backplane Kit (P55000-B21) in the order.
- If this drive cage is selected then optical drives (726536-B21 & 726537-B21) cannot be selected.

HPE ProLiant DL325 Gen11 4SFF x4 NVMe Drive Cage Kit

P64521-B21

### Notes:

- Supports 4 SFF NVMe (U.3) Basic Carrier (BC) Drives.
- This drive cage can only be selected with GPU CTO Server.
- Max = 1.
- if this 4SFF U.3 Backplane kit is selected then one of the following cable options is supported:
  - o with PCIe controllers: 4SFF x4 Secondary Tri-Mode Cable Kit (P70318-B21).
  - o with OCP controllers: 4SFF x4 OCP2 Tri-Mode Cable Kit (P69876-B21).
  - o NVMe Direct Attach: no cable kit selection required.

HPE ProLiant DL325 Gen11 8EDSFF x4 Drive Cage Kit

P64522-B21

### Notes:

- Supports 8 EDSFF NVMe Drives direct attach. No additional cable kit selection required
- This drive cage can only be selected with GPU CTO Server.
- Max = 1.



## Core Options

HPE ProLiant DL325 Gen11 GPU 4SFF x2 OCP Tri-Mode Backplane Kit

P70287-B21

### Notes:

- Supports 4 SFF NVMe (U.3) Basic Carrier (BC) Drives.
- This drive cage can only be selected with GPU CTO Server.
- Max = 1.
- This drive cage can only support connection to OCP controllers in x2 bandwidth

## Storage Controller

The Gen11 storage controller portfolio has been updated to include new technology like OCP3.0 as well as PCIe adapters. For a more detailed breakout of the available Gen11 controllers visit the storage controllers QuickSpecs site:

**[HPE Compute MR Gen11 Controllers Quick Spec](#)**

**[HPE Compute SR Gen11 Controllers Quick Spec](#)**

### Notes:

- When selecting SR RAID controllers for external storage (E208e-p, 804398-B21) and MR RAID controllers for internal storage, please be aware these two products use different RAID configuration tools.
- Mixing of MR (MegaRAID) series controllers and SR (SmartRAID) series controllers is not allowed.

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

804398-B21

### Notes:

- This controller supports up to 8 SAS/SATA Drives (external).
- Controller Based Encryption (CBE) with a remote key management server is not supported. Local key management(LKM) is supported.
- One Button Secure Erase (OBSE) used to sanitize drives and factory reset the controller is not supported.

HPE MR216i-o Gen11 x16 Lanes without Cache OCP SPDM Storage Controller

P47789-B21

### Notes:

- This controller supports up to 16 SAS/SATA/NVMe Drives.

HPE MR408i-o Gen11 x8 Lanes 4GB Cache OCP SPDM Storage Controller

P58335-B21

### Notes:

- This controller supports up to 8 SAS/SATA/NVMe Drives.
- Requires 96W Smart Stg Li-ion Batt 145mm Kit (P01366-B21) or Smart Hybrid Capacitor w/ 145mm Cbl (P02377-B21).

HPE MR416i-o Gen11 x16 Lanes 8GB Cache OCP SPDM Storage Controller

P47781-B21

### Notes:

- This controller supports up to 16 SAS/SATA/NVMe Drives.
- Requires 96W Smart Stg Li-ion Batt 145mm Kit (P01366-B21) or Smart Hybrid Capacitor w/ 145mm Cbl (P02377-B21).

HPE MR216i-p Gen11 x16 Lanes without Cache PCI SPDM Plug-in Storage Controller

P47785-B21

**Notes:** This controller supports up to 16 SAS/SATA/NVMe Drives.

HPE MR416i-p Gen11 x16 Lanes 8GB Cache PCI SPDM Plug-in Storage Controller

P47777-B21

### Notes:

- This controller supports up to 16 SAS/SATA/NVMe Drives.
- Requires 96W Smart Stg Li-ion Batt 145mm Kit (P01366-B21) or Smart Hybrid Capacitor w/ 145mm Cbl (P02377-B21).

HPE SR932i-p Gen11 x32 Lanes 8GB Wide Cache PCI SPDM Plug-in Storage Controller

P47184-B21

### Notes:

- This controller supports up to 32 SAS/SATA/NVMe Drives.
- Requires 96W Smart Stg Li-ion Batt 145mm Kit (P01366-B21) or Smart Hybrid Capacitor w/ 145mm Cbl (P02377-B21).



## Core Options

### Battery and Hybrid Capacitor

HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21
HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21
HPE ProLiant DL325 Gen11 Megacell Extension Cable Kit	P56659-B21

#### Notes:

- If HPE 96W Smart Stg Li-ion Batt 145mm Kit is selected then HPE Smart Hybrid Capacitor 145mm kit cannot be selected and vice versa.
- If M.2 enablement Kit and "96W Smart Stg Li-ion Batt 145mm Kit OR Smart Hybrid Capacitor w/ 145mm Kit" are selected then Megacell Ext Cbl Kit must be selected.

### Storage Controller Cables

HPE ProLiant DL325 Gen11 8SFF x4 Primary SR932i-p Tri-Mode Cable Kit	P57004-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to SR932i-p controllers at the primary riser slot with up to x4 speed.	
HPE ProLiant DL325 Gen11 8SFF x4 Secondary SR932i-p Tri-Mode Cable Kit	P57005-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to SR932i-p controllers at the secondary riser slot with up to x4 speed.	
HPE ProLiant DL325 Gen11 8SFF x2 Secondary Tri-Mode Cable Kit	P57006-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at primary riser slot with x2 speed.	
HPE ProLiant DL325 Gen11 8SFF x2 OCP2 Tri-Mode Cable Kit	P57008-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at OCP22 slot with x2 speed.	
HPE ProLiant DL325 Gen11 8SFF x1 Secondary Tri-Mode Cable Kit	P57009-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at secondary riser slot with x1 speed.	
HPE ProLiant DL325 Gen11 8SFF x1 OCP2 Tri-Mode Cable Kit	P59619-B21
<b>Notes:</b> supports 8 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at OCP22 slot with x1 speed.	
HPE ProLiant DL325 Gen11 2SFF SATA Direct Attach Cable Kit	P59617-B21
<b>Notes:</b> supports 2 SFF SATA direct attach.	
HPE ProLiant DL325 Gen11 2SFF x4 OCP2 Tri-Mode Cable Kit	P59620-B21
<b>Notes:</b> supports 2 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at OCP22 slot with up to x4 speed.	
HPE ProLiant DL325 Gen11 2SFF x4 Secondary Tri-Mode Cable Kit	P59621-B21
<b>Notes:</b> supports 2 SFF U.3 SAS/SATA/NVMe connecting to storage controllers at secondary riser slot with up to x4 speed.	
HPE ProLiant DL325 Gen11 20EDSFF x2 NVMe Direct Attach Cable Kit	P57010-B21
<b>Notes:</b> Supports 20 EDSFF E3.S 1T NVMe direct attach with x2 speed.	
HPE ProLiant DL3X5 Gen11 16EDSFF x2 PCIe Tri-Mode Cable Kit	P69878-B21
<b>Notes:</b> Supports 16 EDSFF NVMe connecting to storage controllers at Primary riser with up to x2 speed.	
HPE ProLiant DL3X5 Gen11 GPU 4SFF x4 PCIe Tri-Mode Cable Kit	P70318-B21
<b>Notes:</b> Supports 4 SFF SAS/SATA/NVMe connecting to storage controllers at secondary riser slot with up to x4 speed in GPU CTO server.	
HPE ProLiant DL365 Gen11 GPU 4SFF x4 OCP Tri-Mode Cable Kit	P69876-B21
<b>Notes:</b> Supports 4 SFF SAS/SATA/NVMe connecting to storage controllers at OCP22 slot with up to x4 speed in GPU CTO server.	
HPE ProLiant DL3X5 Gen11 1P GPU 8SFF/EDSFF x4 Tri-Mode PCIe Cable Kit	P70406-B21
<b>Notes:</b> Supports 8 EDSFF NVMe connecting to storage controllers at Primary riser with up to x4 speed in GPU CTO server.	



## Core Options

## Supported Storage Configurations

## 8SFF CTO server

Max Qty	Drives			Backplane		Storage Controller + Cable Kit
	SAS	SATA	U.3 NVMe	Box1	Box2	
8	-	8	-	P54999-B21	-	8SFF DA (SATA)
8	8	8	8	P54999-B21	-	OCP Ctrlr + P59619-B21
8	8	8	8	P54999-B21	-	PCIe Ctrlr + P57009-B21
8	-	-	8	P55000-B21	-	8SFF DA (NVMe x4)
8	8	8	8	P55000-B21	-	8SFF x4 SR932i-p + P57004-B21 (Pri.)
8	8	8	8	P55000-B21	-	8SFF x4 SR932i-p + P57005-B21 (Sec.)
8	8	8	8	P55000-B21	-	8SFF x2 PCIe Ctrlr + P57006-B21 (Pri.)
8	8	8	8	P55000-B21	-	8SFF x2 OCP Ctrlr + P57008-B21
10	-	8	2	P54999-B21	P56652-B21	8SFF DA (SATA); 2SFF DA (NVMe x4)
10	-	10	-	P54999-B21	P56652-B21	10SFF DA (SATA) + P59617-B21
10	2	10	2	P54999-B21	P56652-B21	8SFF DA (SATA); 2SFF OCP Ctrlr + P59620-B21
10	8	8	10	P54999-B21	P56652-B21	8SFF x1 OCP Ctrlr + P59619-B21; 2SFF DA (NVMe x4)
10	8	10	8	P54999-B21	P56652-B21	8SFF x1 OCP Ctrlr + P59619-B21; 2SFF DA (SATA) + P59617-B21
10	10	10	10	P54999-B21	P56652-B21	8SFF x1 OCP Ctrlr + P59619-B21; 2SFF x4 PCIe Ctrlr + P59621-B21 (Sec.)
10	10	10	10	P54999-B21	P56652-B21	10SFF x1 OCP Ctrlr + P59619-B21 & P59620-B21
10	10	10	10	P54999-B21	P56652-B21	10SFF x1 PCIe Ctrlr + P57009-B21 & P59621-B21 (Sec.)
10	-	-	10	P55000-B21	P56652-B21	10SFF DA (NVMe x4)
10	-	10	8	P55000-B21	P56652-B21	8SFF DA (NVMe x4); 2SFF DA (SATA) + P59617-B21
10	2	10	10	P55000-B21	P56652-B21	8SFF DA (NVMe x4); 2SFF x4 PCIe Ctrlr + P59621-B21 (Sec.)
10	2	10	10	P55000-B21	P56652-B21	8SFF DA (NVMe x4); 2SFF x4 OCP Ctrlr + P59620-B21
10	10	10	10	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57004-B21 (Pri.); 2SFF OCP Ctrlr + P59620-B21
10	8	8	10	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57004-B21 (Pri.); 2SFF DA (NVMe x4)
10	8	10	8	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57004-B21 (Pri.); 2SFF DA (SATA) + P59617-B21
10	10	10	10	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57005-B21 (Sec.); 2SFF OCP Ctrlr + P59620-B21
10	8	8	10	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57005-B21 (Sec.); 2SFF DA (NVMe x4)
10	8	10	8	P55000-B21	P56652-B21	8SFF x4 SR932i-p + P57005-B21 (Sec.); 2SFF DA (SATA) + P59617-B21
10	10	10	10	P55000-B21	P56652-B21	10SFF x2 SR932i-p + P57006-B21 & P59621-B21 (Sec.)
10	10	10	10	P55000-B21	P56652-B21	8SFF x2 OCP Ctrlr + P57008-B21; 2SFF PCIe Ctrlr + P59621-B21 (Sec.)
10	10	10	10	P55000-B21	P56652-B21	8SFF x2 PCIe Ctrlr + P57006-B21 (Sec.); 2SFF OCP Ctrlr + P59620-B21

## Notes:

- DA = Direct Attach; Ctrlr = controller
- If no controller or cable kit information in the table then cable kit selection is not required.



## Core Options

## GPU CTO server

Max Qty	Drives				Backplane		Storage Controller + Cable Kit
	SAS	SATA	U.3 NVMe	EDSFF	Box1	Box2	
4	-	-	-	-	P64521-B21	-	4SFF NVMe x4 DA
4	4	4	4		P64521-B21	-	PCIe Ctrlr + P70318-B21
4	4	4	4		P64521-B21	-	OCP Ctrlr + P69876-B21 (x4 speed)
4	4	4	4		P70287-B21	-	OCP Ctrlr (x2 speed)
8	-	-	-	8	P64522-B21	-	8EDSFF NVMe x4 DA
8	-	-	-	8	P64522-B21	-	SR932i-p + P70406-B21

## EDSFF CTO server

Max Qty	Drives				Backplane		Storage Controller + Cable Kit
	SAS	SATA	U.3 NVMe	EDSFF	Box1	Box2	
20	-	-	-	20	Included	-	20EDSFF NVMe x4 DA
20	-	-	-	20	Included	-	P57010-B21 (x2 DA)
16	-	-	-	16	Included	-	SR932i-p + P69878-B21

## Notes:

- DA = Direct Attach; Ctrlr = controller; Included = item included in the CTO server or option kit.
- If no controller or cable kit information in the table then cable kit selection is not required.



## Core Options

### HPE Drives

#### Solid State Drives

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

##### Read Intensive - 12G SAS - SFF

HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40506-B21
HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40507-B21
HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40508-B21
HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40509-B21
HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49031-B21
HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49035-B21
HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49041-B21
HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49045-B21

##### Mixed Use - 12G SAS - SFF

HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40510-B21
HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40511-B21
HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40512-B21
HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49049-B21
HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49047-B21
HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49053-B21
HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49057-B21
HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49029-B21

##### Mixed Use - 12G SAS - LFF

HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	P37009-B21
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##### Read Intensive - 6G SATA - SFF

HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40496-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 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40499-B21
HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40500-B21
HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40501-B21
HPE 480GB SATA 6G Read Intensive SFF BC PM893a SSD	P63886-B21
HPE 3.84TB SATA 6G Read Intensive SFF BC PM893a SSD	P63910-B21

##### Mixed Use - 6G SATA - SFF

HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40502-B21
HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40503-B21
HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40504-B21
HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40505-B21

##### Read Intensive - 6G SATA - LFF

HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	P47808-B21
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##### Read Intensive - NVMe - SFF

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50216-B21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50219-B21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50222-B21
HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50224-B21
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	P63829-B21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	P63833-B21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	P63837-B21



## Core Options

HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	P63841-B21
HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	P64842-B21
HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	P64844-B21
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	P64846-B21
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	P64848-B21
HPE 15.36TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static SPDM Multi Vendor SSD	P69255-B21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	P70434-B21
HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	P70436-B21
<b>Mixed Use - NVMe - SFF</b>	
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
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	P63845-B21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	P63849-B21
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	P63853-B21
HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	P64999-B21
HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	P65007-B21
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	P65015-B21
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	P65023-B21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	P70426-B21
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	P70428-B21
<b>SED (Self-Encryption Drive) – SATA- SFF</b>	
HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	P58244-B21
HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	P58236-B21
HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	P58248-B21
HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	P58240-B21
<b>SED (Self-Encryption Drive) – SAS SFF</b>	
HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	P41399-B21
HPE 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-2 PM7 SSD	P63871-B21
<b>SED (Self-Encryption Drive) – NVMe - SFF</b>	
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	P41403-B21
<b>Read Intensive – NVMe - EDSFF E3.S 1T</b>	
HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	P56585-B21
HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	P57799-B21
HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	P57803-B21
HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	P57807-B21
HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	P61179-B21
HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	P61183-B21
HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	P61187-B21
HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	P56585-B21
HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	P69234-B21
HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	P69237-B21
HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	P69239-B21
HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	P69546-B21
HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	P70392-B21
HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	P70395-B21
HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	P70397-B21



## Core Options

### Mixed Use - NVMe – EDSFF E3.S 1T

HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	P61191-B21
HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	P61195-B21
HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	P69241-B21
HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	P69243-B21
HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	P69245-B21
HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	P70399-B21
HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	P70401-B21
HPE 12.8TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	P70403-B21

### Very Read Optimized – NVMe – EDSFF E3.S 1T

HPE 3.84TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	P63930-B21
HPE 7.68TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	P63934-B21
HPE 15.36TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	P63938-B21

### Hard Disk Drive

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

HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P28028-B21
HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P28352-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P28586-B21
HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P40430-B21
HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P40432-B21
HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P53560-B21
HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P53561-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P53562-B21

**Notes:** If 15K drives are selected then 25C is the recommended system ambient temperature.

#### Midline - 12G SAS - LFF Drives

HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-B21
HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09155-B21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-B21
HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-B21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-B21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-B21
HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23608-B21
HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53553-B21

#### Midline - 6G SATA - LFF Drives

HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-B21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-B21
HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-B21
HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-B21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-B21
HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-B21
HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23449-B21
HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37678-B21
HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53554-B21

#### SED (Self-Encryption Drive)

HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Self-encrypting FIPS HDD	P28618-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Self-encrypting FIPS HDD	P28622-B21





## Core Options

### Optical Drive

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21
HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21
HPE Mobile USB DVD-RW Optical Drive	701498-B21
HPE ProLiant DL325 Gen11 8SFF Display Port/USB/Optical Drive Blank Kit	P56654-B21
HPE ProLiant DL325 Gen11 4LFF Display Port/USB/Optical Drive Blank Kit	P56655-B21

#### Notes:

- If the 2SFF drive cage (P56652-B21) is selected then optical drives cannot be selected and vice versa.
- If the optical drive is selected along with the 8SFF CTO server (P54199-B21), then the 8SFF ODD blank kit (P56654-B21) must be selected.
- If the optical drive is selected along with the 4LFF CTO server (P54200-B21), then the 4LFF ODD blank kit (P56655-B21) must be selected.
- Both 8SFF ODD blank kit (P56654-B21) and 4LFF ODD blank kit (P56655-B21) support one (1) Display Port and one (1) USB 2.0 port.

### Boot Controllers

HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device	P48183-B21
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#### Notes:

- RAID 1 is preconfigured on this option and additional RAID cannot be applied on this Boot Device
- Requires Performance Fan Kits (P58462-B21) or Liquid Cooling Fan Kits (P59668-B21)
- If this NS204i-u boot device is selected along with the SFF/LFF CTO servers and Liquid Cooling Fan Kits, then the 2SFF drive cage (P56652-B21) cannot be selected, and recommended system ambient temperature is 25C.
- Not allowed If this NS204i-u boot device is selected along with the EDSFF CTO servers and Liquid Cooling Fan Kit.
- If this NS204i-u boot device is selected then the Secondary Low Profile riser (P55029-B21) and NS204i-u Cable Kit (P57013-B21) must be selected.
- For additional information, please visit [HPE OS Boot Device QuickSpecs](#)

HPE ProLiant DL3X5 Gen11 NS204i-u NVMe Hot Plug Boot Device Cable Kit	P57013-B21
HPE ProLiant DL325 Gen11 NVMe/SATA M.2 Enablement Kit	P57014-B21

#### Notes:

- Requires two (2) M.2 SSD Drives In the same interface (SATA or NVMe).
- No RAID is supported on this M.2 enablement kit.
- If this M.2 enablement kit is selected along with the SFF/LFF CTO servers and Liquid Cooling Fan Kit (P59668-B21), then the 2SFF drive cage (P56652-B21) cannot be selected and recommended system ambient temperature is 25C.
- Not allowed If this M.2 enablement kit is selected along with the EDSFF CTO servers and Liquid Cooling Fan Kit.

### Read Intensive - 6G SATA - M.2 - Solid State Drives

HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47818-B21
HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	P40513-B21
HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	P40514-B21
HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	P40515-B21
HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 PM9A3 SSD	P69543-B21

### Risers

**Notes:** The Primary riser shipping default in ALL CTO server is PCIe Gen5 x16 FH HL.

HPE ProLiant DL3X5 Gen11 1U x16 Low Profile Secondary Riser Kit	P55029-B21
HPE ProLiant DL3X5 Gen11 1U x16 Riser Kit	P56915-B21

#### Notes:

- Both riser kits are in the secondary slot.
- Requires Low Profile Secondary riser kit if NS204i-u (P48183-B21) is selected.



## Core Options

HPE ProLiant DL325 Gen11 FHFL Add-on Cards Support Kit

P64520-B21

**Notes:** this kit supports single-width FHFL add-on PCIe cards at the primary riser position

## HPE Networking

**Notes:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information:

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

## PCIe Adapters

### 1 Gigabit Ethernet adapter

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

P21106-B21

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE

P51178-B21

### 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

**Notes:** Require Performance Fan Kits (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature

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

Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

P08443-B21

Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

P42044-B21

Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE

P08458-B21

### 100/200 Gigabit Ethernet adapters

**Notes:** Require Performance Fan Kits (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature

Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE

P25960-B21

Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE

P21112-B21

Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE

P10180-B21

### Storage Offload Adapter

HPE Ethernet 10/25Gb 2-port Secure Network Adapter

S2A69A

HPE NV60100M 100Gb 2-port Storage Offload Adapter

R8M41A

**Notes:** Require Performance Fan Kits (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature

HPE Slingshot SA210S Ethernet 200Gb 1-port PCIe NIC

R4K46A

### Notes:

- Can only be selected or configured for a Cray or Slingshot Solution. Not allowed for a Non-Cray or Non-Slingshot Solution
- Cannot have the following networking options configured within the same server: Slingshot 11 or Slingshot 22.

## OCP 3.0 Adapter

### 1 Gigabit Ethernet OCP adapters

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

P08449-B21

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE

P51181-B21

### 10 Gigabit Ethernet OCP Adapters

Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE

P26256-B21

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE

P10097-B21



## Core Options

### 10/25 Gigabit Ethernet OCP adapters

**Notes:** Require Performance Fan Kits (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P26269-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10106-B21
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P42041-B21

### 100/200 Gigabit Ethernet adapters

Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE	P22767-B21
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**Notes:**

- Require Performance Fan Kits (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature
- Requires OCP1 upgrade cable kit (P56658-B21) to support PCIe Gen5 x16 bandwidth on OCP21 slot

### Recommended System Ambient Temperature

P/N	SFF/LFF CTO servers				EDSFF CTO server			
	Perf Fans (P58462-B21)		LC Fans (P59668-B21)		Perf Fans (P58462-B21)		LC Fans (P59668-B21)	
	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser
P08443-B21	30C	30C	30C	30C	30C	25C	25C	Not support
P26264-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P42044-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P08458-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P21112-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P10180-B21	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P25960-B21	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
R8M41A	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P/N	OCP21	OCP22	OCP21	OCP22	OCP21	OCP22	OCP21	OCP22
P10106-B21	30C	25C	30C	25C	30C	25C	25C	Not support
P42041-B21	30C	25C	30C	25C	30C	Not support	Not support	Not support
P26269-B21	30C	Not support	30C	Not support	30C	Not support	Not support	Not support
P22767-B21	30C	Not support	30C	Not support	30C	Not support	Not support	Not support



## Core Options

P/N	GPU CTO server*			
	Perf Fans (P58462-B21)		LC Fans (P59668-B21)	
	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser
P08443-B21	30C	25C	30C	25C
P26264-B21	30C	Not support	25C	Not support
P42044-B21	30C	Not support	25C	Not support
P08458-B21	30C	Not support	25C	Not support
P21112-B21	30C	Not support	25C	Not support
P10180-B21	30C	Not support	Not support	Not support
P25960-B21	30C	Not support	Not support	Not support
R8M41A	30C	Not support	Not support	Not support
P/N	OCP21	OCP22	OCP21	OCP22
P10106-B21	30C	25C	30C	25C
P42041-B21	30C	25C	30C	25C
P26269-B21	30C	Not support	25C	Not support
P22767-B21	30C	Not support	25C	Not support

### Notes:

- Not support = configuration not allowed because of thermal limitation.
- The thermal condition of GPU CTO server is based on 2pcs 72W GPUs installed at the front cage.

## HPE InfiniBand

### Notes:

- Requires Performance Fan Kit (P58462-B21) or Liquid Cooling fan kits (P59668-B21) and subject to the recommended system ambient temperature
- Requires OCP upgrade cable kit (P56658-B21) for 200Gb OCP adapters (P31323-B21 or P31348-B21)
- For more information, please visit: [HPE InfiniBand Options for HPE ProLiant and Apollo Servers](#)

HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter	P23665-B21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter	P23666-B21
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter	P23664-B21
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter	P31324-B21
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter	P31323-B21
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter	P31348-B21
HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter	P45641-B21
HPE InfiniBand NDR200 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter	P45642-B21
HPE InfiniBand NDR200/Ethernet 200GbE 2-port QSFP112 PCIe5 x16 MCX755106AC-HEAT Adapter	P65333-B21
HPE InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter	P45641-B23
HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter	P45642-B22



## Core Options

### Recommended System Ambient Temperature

P/N	SFF/LFF CTO servers				EDSFF CTO server			
	Perf Fans (P58462-B21)		LC Fans (P59668-B21)		Perf Fans (P58462-B21)		LC Fans (P59668-B21)	
	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser
P23665-B21	30C	30C	30C	30C	30C	25C	25C	Not support
P23664-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P23666-B21	30C	25C	30C	25C	30C	Not support	25C	Not support
P31324-B21	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P45641-B21/23	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P45642-B21/22	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P65333-B21	30C	Not support	25C	Not support	30C	Not support	Not support	Not support
P/N	OCP21	OCP22	OCP21	OCP22	OCP21	OCP22	OCP21	OCP22
P31323-B21	30C	Not support	25C	Not support	25C	Not support	Not support	Not support
P31348-B21	30C	Not support	Not support	Not support	Not support	Not support	Not support	Not support
P/N	GPU CTO server*							
	Perf Fans(P58462-B21)		LC Fans(P59668-B21)					
	Pri. Riser	Sec. Riser	Pri. Riser	Sec. Riser				
P23665-B21	30C	25C	30C	25C				
P23664-B21	30C	Not support	25C	Not support				
P23666-B21	30C	Not support	25C	Not support				
P31324-B21	30C	Not support	Not support	Not support				
P45641-B21/23	30C	Not support	Not support	Not support				
P45642-B21/22	30C	Not support	Not support	Not support				
P65333-B21	30C	Not support	Not support	Not support				
P/N	OCP21	OCP22	OCP21	OCP22				
P31323-B21	25C	Not support	Not support	Not support				
P31348-B21	25C	Not support	Not support	Not support				

**Notes:** Not support = configuration not allowed because of thermal limitation.

- The thermal condition of GPU CTO server is based on 2pcs 72W GPUs installed at the front cage.

### Accelerators

NVIDIA A2 16GB PCIe Non-CEC Accelerator for HPE

R9H23C

#### Notes:

- This is a PCIe Gen4 x 8 single-width HHHH GPU card.
- Max = 2 at the rear.
- This GPU can only be selected with 8SFF/4LFF/EDSFF CTO Server.
- If this GPU is installed in PCIe Slot2 with Performance Fan kits (P58462-B21), the recommended system ambient temperature is 25C.
- If this GPU is installed on either PCIe Slot1 or Slot2 with Liquid Cooling Fan kits (P59668-B21), the recommended system ambient temperature is 25C.

## Core Options

NVIDIA L4 24GB PCIe Accelerator for HPE

S0K89C

### Notes:

- This is a PCIe Gen4 x 16 single-width HHHL GPU card.
- Max = 4, 2 at the front and 2 at the rear.
- This GPU can only be selected with GPU CTO Server.
- If this GPU is installed in PCIe Slot2 with Performance Fan kits (P58462-B21), the recommended system ambient temperature is 25C.
- This GPU cannot be selected with Liquid Cooling Fan kits (P59668-B21) on either PCIe Slot1 or Slot2 due to thermal limitation.

## HPE Storage Options

### Emulex Fibre Channel HBAs

HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter

R2J62A

HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter

R2J63A

HPE SN1700E 64Gb 1-port Fibre Channel Host Bus Adapter

R7N77A

HPE SN1700E 64Gb 2-port Fibre Channel Host Bus Adapter

R7N78A

### QLogic Fibre Channel HBAs

HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter

R2E08A

HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter

R2E09A

HPE SN1700Q 64Gb 1-port Fibre Channel Host Bus Adapter

R7N86A

HPE SN1700Q 64Gb 2-port Fibre Channel Host Bus Adapter

R7N87A

## Power and Cooling

### Cooling

**Notes:** Require one (1) Heat Sink and Seven (7) Fan Kit in the order.

HPE ProLiant DL3X5 Gen11 1U CPU Standard Heat Sink Kit

P58456-B21

**Notes:** Required For processors less than or equal to 240W

HPE ProLiant DL3X5 Gen11 1U CPU Performance Heat Sink Kit

P58457-B21

**Notes:** Required for For processors more than or equal to 260W and less than or equal to 300W

HPE ProLiant DL325 Gen11 Closed-loop Liquid Cooling FIO Heat Sink Kit

P58463-B21

### Notes:

- This Closed-loop liquid cooling Heat Sink FIO kit is designed for processors higher than or equal to 320W.
- Requires Liquid Cooling Fan Kits (P59668-B21).
- The HPE DL325 Gen11 Closed-Loop Liquid Cooling Heat Sink FIO kit is subject to a Maximum Usage Limitation of not exceeding five (5) years of operation and is required to be replaced when reaching limitation. Parts and components that Hewlett Packard Enterprise determines have reached or exceeded their Maximum Usage limitations will not be provided, repaired, or replaced under warranty or service contract. Contact your local sales representative for additional information.

– For more information see our [HPE ProLiant Gen11 Closed-Loop Liquid Cooling Heat Sink FAQs](#)

HPE ProLiant DL3XX Gen11 1U Standard Fan Kit

P58461-B21

HPE ProLiant DL3XX Gen11 1U Performance Fan Kit

P58462-B21

HPE ProLiant DL325 Gen11 Liquid Cooling Fan Kit

P59668-B21



## Core Options

CTO	Drive Cage	CPU	Heat Sink	Fan	Sys Temp	96/128G DIMM	256G DIMM	NS204i-u/ M.2 Kit
SFF	8SFF x1	<=240W	Standard	Standard*	30C	Not Support	Not Support	Not Support
	10SFF x1	<=240W	Standard	Performance	30C	30C	25C	30C
	8SFF x4	<=300W	Performance	Performance	30C	30C	25C	25C
	10SFF x4	<=300W	Performance	Performance	30C	30C	25C	Not Support
	8SFF x4	>300W	Liquid Cool	Liquid Cool	30C	25C	25C Max=4	25C
	10SFF x4	>300W	Liquid Cool	Liquid Cool	30C	25C	25C Max=4	Not Support
LFF	4LFF x1	<=240W	Standard	Standard*	28C	Not Support	Not Support	30C
	4LFF x1	<=240W	Standard	Performance	30C	30C	25C	30C
	4LFF x1	<=300W	Performance	Performance	30C	30C	25C	25C
	4LFF x1	>300W	Liquid Cool	Liquid Cool	30C	25C	25C Max =4	25C
EDSFF	20EDSFF	<=300W	Performance	Performance	25C	25C	25C	25C
	20EDSFF	>300W	Liquid Cool	Liquid Cool	25C	25C Max =8	Not Support	Not Support
GPU	4SFF or 8EDSFF	<=240W	Standard	Performance	30C	30C	25C	30C
		<=300W	Performance	Performance	30C	30C	25C	30C
		>300W	Liquid Cool	Liquid Cool	25C	25C	25C Max =4	Not Support

### Notes:

- Require Performance Fan with <=240W CPU if any of the below options are selected with 8SFF/4LFF CTO server
  - o 8SFF x4 U.3 backplane kit (P55000-B21)
  - o 2SFF x4 U.3 backplane kit (P56652-B21)
  - o 96GB, 128GB, or 256GB DIMM
  - o NS204i-u (P48183-B21) or M.2 enablement kit (P57014-B21)
  - o Networking options: 10/25G, 100/200G, and Infiniband options.
  - o Graphic options
- Liquid cooling fan (P59668-B21) can only be selected with liquid cooling heat sink (P58463-B21)

## Power Supplies

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, and tool-less installation into HPE ProLiant 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:

- Select a minimum (1), maximum (2) power supplies
- All power supplies in a server should match. Mixing Power Supplies is not supported.
- 1600W Power supplies only support high line voltage (200VAC to 240VAC).
- Before 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: <https://poweradvisorex.it.hpe.com/?Page=Index>
- HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit [HPE Power Cords and Cables](#) for a full list of optional power cords

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38995-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
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38997-B21
HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit	P44712-B21

## Core Options

HPE 1600W -48VDC Power Cable Lug Kit P36877-B21  
**Notes:** Must be selected along with HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit (P17023-B21)

## HPE Security

HPE Trusted Supply Chain for HPE ProLiant P36394-B21

### Notes:

- HPE Trusted Supply Chain is an optional security upgrade intended for agencies and regulated industries needing enhanced security and compliance needs. Applying this option to a DL325 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. Learn more at <http://www.hpe.com/security>
- This option requires the selection of HPE Gen11 Intrusion Detection Kit (P48922-B21)
- This option requires the selection of either HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features (BD505A) or HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features (512485-B21)
- This option is limited to stand-alone DL325Gen11 CTO servers only. The HPE Trusted Supply Chain configuration will not be available if the server is ordered as factory integrated into a rack
- One instance of the following Electronic License to Use is required per order (not per server): R6X85AAE (HPE Trusted Supply Chain E-LTU)
- This option cannot be selected with TAA instruction SKU or TAA CTO Models.

HPE ProLiant DL3XX Gen11 Intrusion Cable Kit P48922-B21

**Notes:** This provides a physical connection from the chassis board and hood and detects any physical intrusion into the chassis, providing security during the entire supply chain process of shipping, receiving distribution, and operation.

HPE ProLiant Gen11 1U Common Bezel Kit P50450-B21

HPE Bezel Lock Kit 875519-B21

**Notes:** The Bezel lock kit (875519-B21) must be selected with the bezel kit (P50450-B21)

HPE iLO Common Password FIO Setting P08040-B21

### Notes:

- Replaces iLO default randomized password by an HPE defined common password. HPE highly recommends changing this password immediately after the initial onboarding process.
- Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services

## Additional Cable Options

HPE ProLiant DL3X5 Gen11 OCP1 Upgrade Cable Kit P56658-B21

**Notes:** Supports PCIe x16 bandwidth at OCP slot 21. Required if one of the following options is in the order

- OCP InfiniBand network adapters (P31323-B21, P31348-B21)
- BCM 57504 10/25GbE 4p SFP28 Adaptor (P26269-B21)
- Intel E810 100GbE 2p QSFP28 OCP3 Adptr (P22767-B21)

HPE ProLiant DL3X5 Serial Port Enablement Kit P50887-B21

**Notes:** This cable kit supports an optional serial port at the rear of the server.

## Software as a Service Management

### HPE GreenLake for Compute Ops Management

HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS R7A11AAE

HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS R7A12AAE

HPE Compute Cloud Management Server FIO Enablement S1A05A





## Core Options

### HPE OneView

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 including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
HPE OneView including 3yr 24x7 Support Track 1-server LTU	E5Y36A
HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView for ProLiant DL Server including 3yr 24x7 Support Bundle Track 1-server LTU	E5Y44A

For more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs:

<https://www.hpe.com/psnow/doc/a50004263enw>

Supported Servers – CTO only. No OEM. – Complete list can be found here: Latest Supported Server List:

<https://www.hpe.com/info/com-supported-servers>

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## 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 an HPE approved configurator. Contact your local sales representative for additional information.

### Embedded Management

#### HPE iLO Advanced

HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A
HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21

### Rail Kits

Easy Install rail kits contain telescoping rails which allow for in-rack serviceability.

To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative.

#### 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.
- 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 the number of people to use for any installation.

HPE ProLiant DL3XX Gen11 Easy Install Rail 3 Kit	P52341-B21
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**Notes:** This Rail kit can be selected only with the 4LFF/EDSFF CTO server.

HPE DL3XX Gen11 Easy Install Rail 2 Kit	P52351-B21
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**Notes:** This Rail kit can be selected only with the 8SFF CTO server.

HPE Easy Install Rail 7 Kit	P52339-B21
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**Notes:** This Rail kit can be selected only with the GPU CTO server.

HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21
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**Notes:** CMA can be selected only with the Rail kit.

### HPE Tape Backup

For the complete range of tape drives, autoloaders, libraries, and media see:

<https://www.hpe.com/us/en/storage/storeever-tape-storage.html>.

For hardware and software compatibility of Hewlett Packard Enterprise tape backup products

<http://www.hpe.com/storage/BURCompatibility>.

### HPE Racks

- Please see the HPE Advanced Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Advanced Series Racks**
- Please see the HPE Enterprise Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Enterprise Series Racks**



## Additional Options

### HPE Power Distribution Units (PDUs)

- Please see the [HPE Basic Power Distribution Units \(PDU\) QuickSpecs](#) for information on these products and their specifications.
- Please see the [HPE Metered Power Distribution Units \(PDU\) QuickSpecs](#) for information on these products and their specifications.
- Please see the [HPE Intelligent Power Distribution Unit \(PDU\) QuickSpecs](#) for information on these products and their specifications.
- Please see the [HPE Metered and Switched Power Distribution Units \(PDU\) QuickSpecs](#) for information on these products and their specifications.

### HPE Uninterruptible Power Systems (UPS)

- To learn more, please visit the [HPE Uninterruptible Power Systems \(UPS\) web page](#).
- Please see the [HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs](#) for information on these products and their specifications.
- Please see the [HPE Line Interactive Single Phase UPS QuickSpecs](#) for information on these products and their specifications.

### HPE Rack Options

- Please see the [HPE KVM Switches web page](#) for information on these products and their specifications

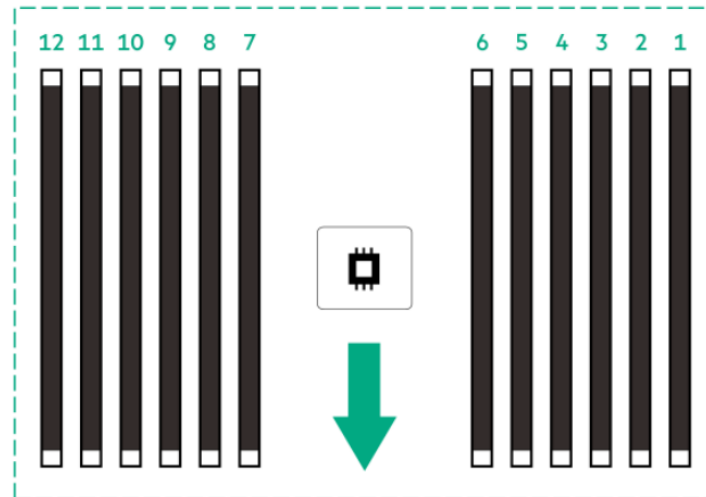
### HPE Support Service

#### Tech Care

HPE 3 Year Tech Care Essential DL325 GEN11 Service	H78S6E
HPE 3 Year Tech Care Essential wDMR DL325 GEN11 Service	H78S7E
HPE 5 Year Tech Care Essential DL325 GEN11 Service	H78V0E
HPE 5 Year Tech Care Essential wDMR DL325 GEN11 Service	H78V1E



## Memory



The arrow points to the front of the server

### General Memory Population Rules and Guidelines:

- Install DIMMs only after the corresponding processor is installed.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- 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 number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, and the number and model of installed processors qualified on the platform.
- To realize the performance memory capabilities listed in this document, HPE DDR5 Smart Memory is required. For additional information, please see the: [HPE DDR5 Smart Memory QuickSpecs](#)
- For details on the Memory Population Rules and Guidelines with AMD EPYC 9004 series processors, please go to: <https://www.hpe.com/psnow/doc/a50007481enw>



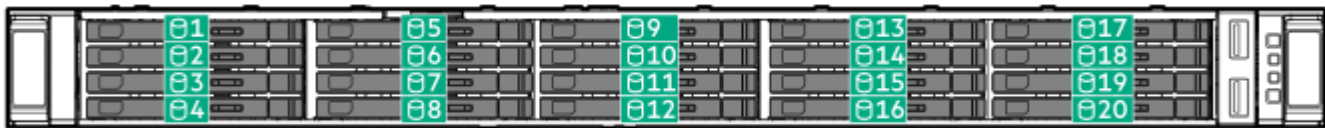
Storage



4LFF drives



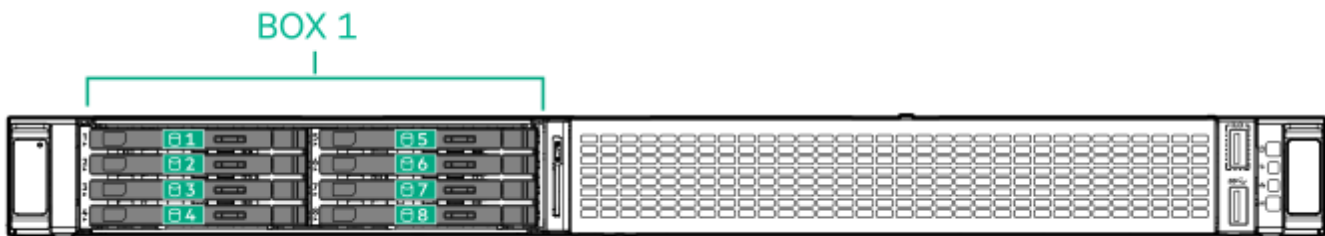
8SFF + Optional 2SFF (SAS/SATA/ NVMe)



20 EDSFF E3.S 1T Drives



4 SFF Drives in GPU CTO server



8 EDSFF Drives in GPU CTO server



## Technical Specifications

### System Unit

#### Dimensions (Height x Width x Depth)

- 8SFF chassis:
  - 4.29 X 43.46 X 64.94 cm
  - 1.69 X 17.11 X 25.57 In
- 4LFF & EDSFF chassis:
  - 4.29 X 43.46 X 70.89 cm
  - 1.69 X 17.11 X 27.91 In
- GPU Chassis
  - 4.29 X 43.46 X 81.84 cm
  - 1.69 X 17.11 X 32.22 In
- Package
  - 24.2 X 60 X 91.6 cm
  - 9.53 X 23.6 X 36.06 In

#### Weight (approximate)

- 8SFF chassis:
  - Minimum: 8 SFF chassis with 0 drives, 1 processor, 1 power supply, 1 standard heatsink, 1 DIMM, 1 Smart Array controller, and 7 standard fans.
    - 12.56 kg
    - 27.69 lb
  - Maximum: 8 SFF chassis with 8 drives, 1 processor, 2 power supply, 1 standard heatsink, 12 DIMM, 1 Smart Array controller, and 7 standard fans.
    - 15.54 kg
    - 34.27 lb
  - Package
    - 4.21 kg
    - 9.281 lb
- 4LFF chassis:
  - Minimum: 4 LFF chassis with 0 drives, 1 processor, 1 power supply, 1 performance heatsink, 1 DIMM, 1 Smart Array controller, and 7 performance fans.
    - 14.31 kg
    - 31.54 lb
  - Maximum: 4 LFF chassis with 4 drives, 1 processor, 1 power supply, 1 performance heatsink, 1 DIMM, 1 Smart Array controller, and 7 performance fans.
    - 17.07 kg
    - 37.63 lb
  - Package
    - 4.145 kg
    - 9.138 lb
- EDSFF chassis:
  - Minimum: EDSFF chassis with 1 drive, 1 processor, 1 power supply, 1 standard heatsink, 2 DIMM, and 7 performance fans.
    - 13.71 kg
    - 30.23 lb
  - Maximum: EDSFF chassis with 20 drives, 1 processor, 1 power supply, 1 performance heatsink, 12 DIMM, and 7 performance fans.
    - 17.76 kg
    - 39.15 lb



## Technical Specifications

- GPU Chassis
  - Minimum: GPU chassis with 2 EDSFF drives, 1 double-width accelerators, 1 processor, 1 power supply, 1 standard heatsink, 2 DIMM, and 7 performance fans.
    - 16.59 kg
    - 36.58 lb
  - Maximum GPU chassis with 8 EDSFF drives, 2 double-width accelerators, 1 processor, 1 power supply, 1 performance heatsink, 12 DIMM, and 7 performance fans.
    - 21.05 kg
    - 46.41 lb

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### Input Requirements(per power supply)

#### Rated Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC

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### BTU Rating

#### Maximum

- For 1600W Power Supply: 5918 BTU/hr (at 200 VAC), 5884 BTU/hr (at 240 VAC) for China
- For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only
- For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VAC) for China Only

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### Power Supply Output(per power supply)

- **Rated Steady-State Power**
  - For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VAC)
  - For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only
  - For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only
- **Maximum Peak Power**
  - For 1600W Power Supply: 1600W (at 200 to 240 1VAC), 1600W (at 240 VAC) input for China only
  - For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only
  - For 500W Power Supply: 500W (at 100 to 127 VAC), 500W (at 200 to 240 VAC), and 500W (at 240 VAC) input for China only



## Technical Specifications

### System Inlet Temperature

- **Standard Operating Temperature**

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. The maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.

System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).

- **Extended Ambient Operating Temperature**

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 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>

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). The maximum rate of change is 20°C/hr (36°F/hr).

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### Relative Humidity(non-condensing)

- **Operating**

8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.

- **Non-operating**

5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

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### Altitude

- **Operating**

3050 m (10,000 ft). This value may be limited by the type and number of options installed. The maximum allowable altitude change rate is 457 m/min (1500 ft/min).

- **Non-operating**

9144 m (30,000 ft). The maximum allowable altitude change rate is 457 m/min (1500 ft/min).

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### Emissions Classification (EMC) – Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

[https://support.hpe.com/hpesc/public/docDisplay?docLocale=en\\_US&docId=c03471072](https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=c03471072)

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## Technical Specifications

### Acoustic Noise

Listed are the declared mean A-Weighted sound power levels (LwAm), declared average bystander position A-Weighted sound pressure levels (LpAm), and the statistical adder for verification, Kv, is a quantity to be added to the declared mean A-weighted sound power level, LwA,m when the product is operating in a 23°C ambient environment. Noise emissions were measured under ISO 7779 (ECMA 74) and declared under ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

<b>Idle</b>	
LwA,m	5.1 B Perf 4.7 B Value
LpAm	37 dBA Perf 35 dBA Value
Kv	0.4 B Perf 0.4 B Value
<b>Operating</b>	
LwA,m	5.9 B Perf 5.7 B Value
LpAm	47 dBA Perf 42 dBA Value
Kv	0.4 B Perf 0.4 B Value

#### Notes:

- The declared mean A-weighted sound power level, LwA,m, is computed as the arithmetic average of the measured.
- A-weighted sound power levels for a randomly selected sample, rounded to the nearest 0,1 B.
- The declared mean A-weighted emission sound pressure level, LpA,m, is computed as the arithmetic average of the measured A-weighted emission sound pressure levels at the bystander positions for a randomly selected sample, rounded to the nearest 1 dB.
- The statistical adder for verification, Kv, is a quantity to be added to the declared mean A-weighted sound power level, LwA,m, such that there will be a 95 % probability of acceptance when using the verification procedures of ISO 9296, if no more than 6,5 % of the batch of new equipment, has A-weighted sound power levels greater than (LwA,m + Kv).
- The quantity, LwA,c (formerly called LWAd), can be computed from the sum of LwA,m, and Kv.
- All measurements made to conform to ISO 7779 / ECMA-74 and declared to conform to ISO 9296 / ECMA-109.
- B, dB, abbreviations for bels and decibels, respectively, where 1 B = 10 dB.
- The results in this declaration apply only to the model numbers listed above when operating and tested according to the indicated modes and standards. A system with additional configuration components or increased operating functionality may increase the noise emission values.
- System under abnormal conditions may increase the noise level, persons in the vicinity of the product [cabinet] for extended periods should consider wearing hearing protection or using other means to reduce noise exposure.

### 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 website. 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.



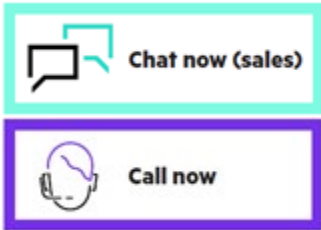
## Summary of Changes

Date	Version History	Action	Description of Change
15-Jul-2024	Version 20	Changed	Pre-Configured Models section was updated.
01-Jul-2024	Version 19	Changed	Core Options section was updated.
03-Jun-2024	Version 18	Changed	Pre-Configured Models and Core Options sections were updated.
20-May-2024	Version 17	Changed	Configuration Information and Core Options sections were updated.
15-Apr-2024	Version 16	Changed	Pre-Configured Models section was updated.
01-Apr-2024	Version 15	Changed	Core Options section was updated.
04-Mar-2024	Version 14	Changed	Overview, Standard Features, Pre-Configured Models, Configuration Information, Core Options and Additional Options sections were updated.
04-Dec-2023	Version 13	Changed	Service and Support and Core Options sections were updated.
02-Oct-2023	Version 12	Changed	Overview, Standard Features, Pre-Configured Models and Core Options sections were updated.
05-Sep-2023	Version 11	Changed	Overview, Standard Features, Pre-configured Models, Configuration Information, and Core Options sections were updated.
07-Aug-2023	Version 10	Changed	Overview, Standard Features, Pre-Configured Models, Configuration Informtaion, Core Options, Additional Options, Storage, and Technical Specifications sections were updated.
10-Jul-2023	Version 9	Changed	Overview, Standard Features, Service and Support, Pre-Configured Models, Configuration Information, Core Options and Memory sections were updated.
13-Jun-2023	Version 8	Changed	Overview, Standard Features, Service and Support, Pre-Configured Models and Core Options sections were updated.
01-May-2023	Version 7	Changed	Standard Features and Core Options sections were updated
03-Apr-2023	Version 6	Changed	Overview, Standard Features, Configuration Information, Core Options, Additional Options, Memory, Storage and Technical Specifications sections were updated.
06-Mar-2023	Version 5	Changed	Overview, Standard Features, Configuration Information, additional Options and Technical Specifications sections were updated.
06-Feb-2023	Version 4	Changed	Overview, Standard Features, Configuration Information, additional Options and Technical Specifications sections were updated.
19-Dec-2022	Version 3	Changed	Overview and Standard Features sections were updated.
05-Dec-2022	Version 2	Changed	All sections were updated.
10-Nov-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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