

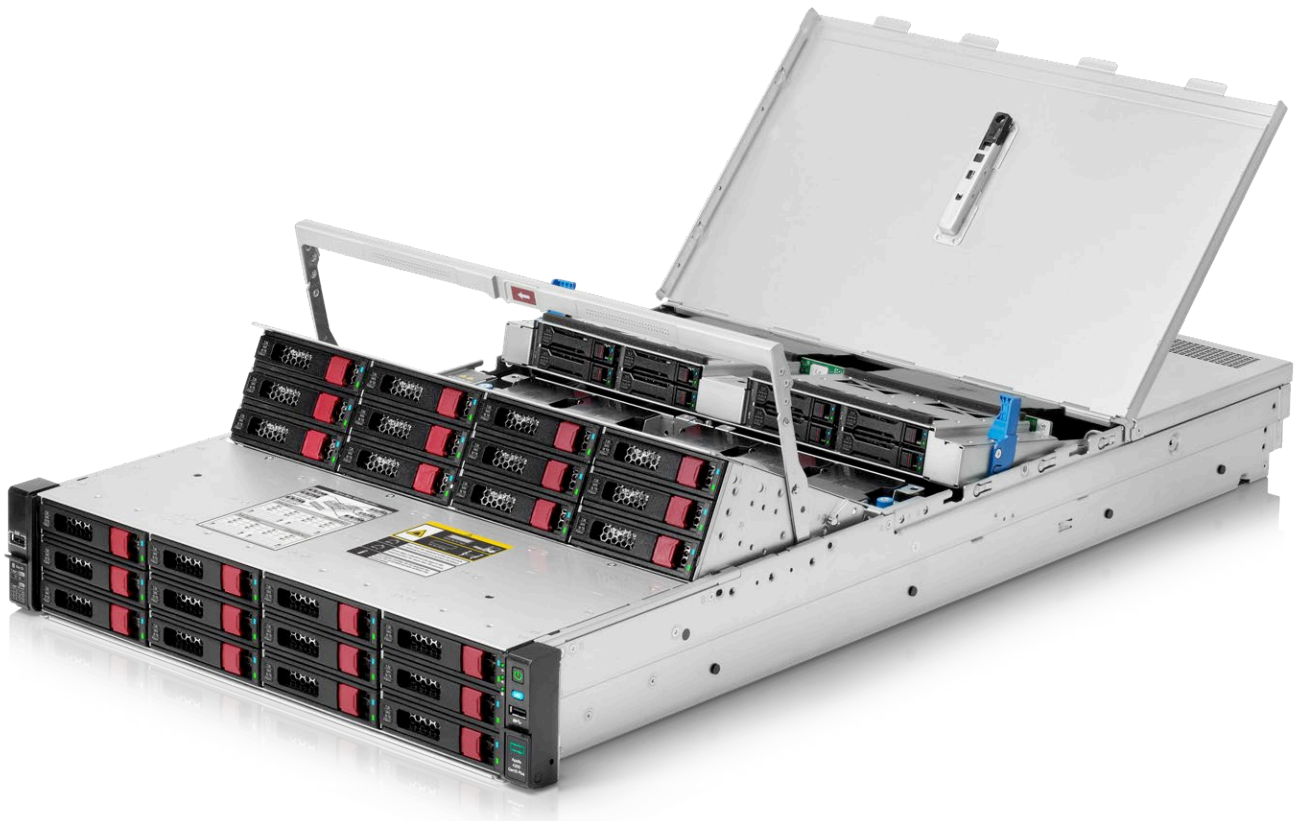
### Overview

#### HPE Apollo 4200 Gen10 Plus System

Do you need the most capacity with uncompromising performance, security, and intelligence in a datacenter-friendly 2U rackmount server footprint?

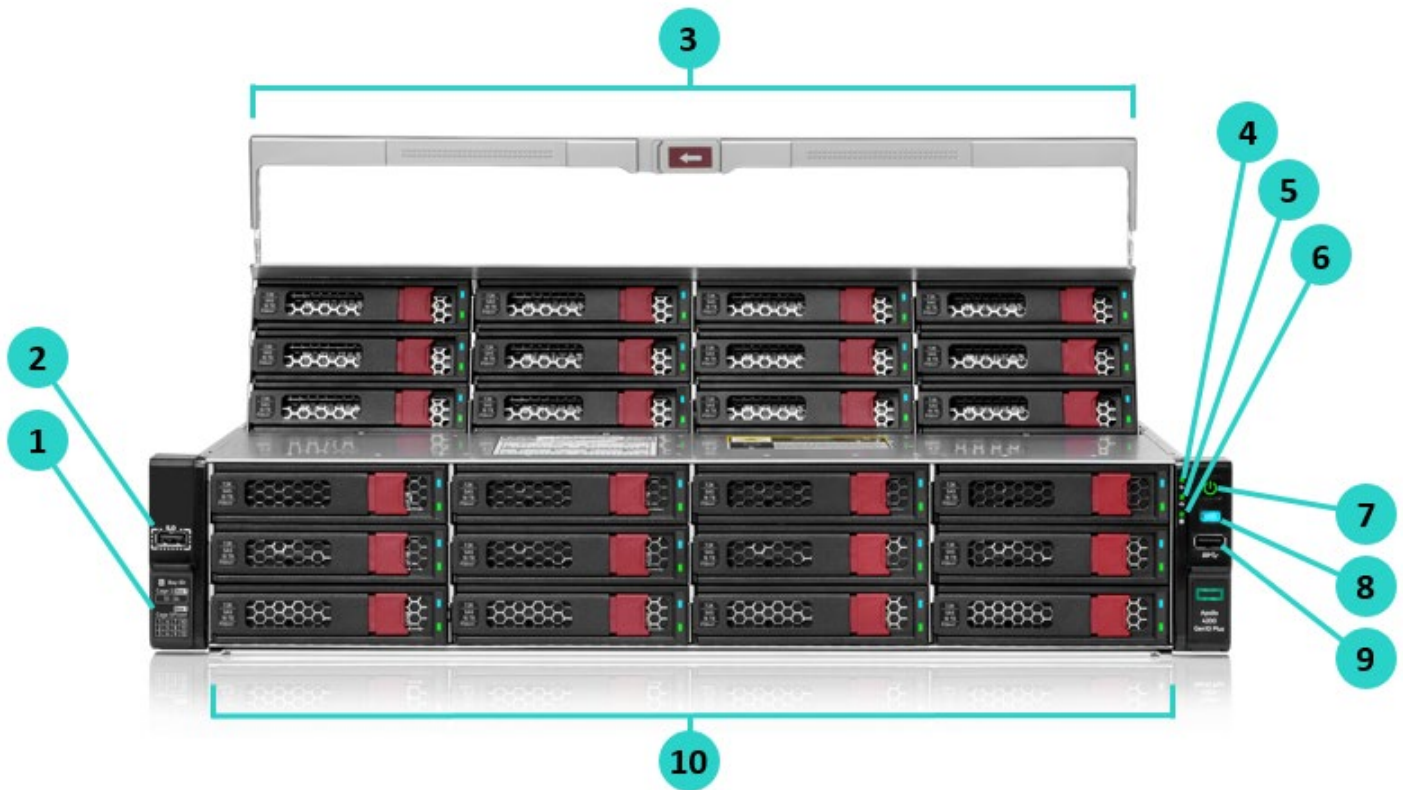
The HPE Apollo 4200 Gen10 Plus System, like the other members of the HPE Apollo 4000 Systems family, is specifically designed to unlock the business value of data stemming from digital transformation (DX) and data infrastructure modernization, at any scale, and with ideal economics. It is designed for both ends of the data-centric workload spectrum – from deeper data lakes and archives to performance-demanding machine learning (ML), data analytics, hyperconverged infrastructure, and cache-intensive workloads.

The HPE Apollo 4200 Gen10 Plus System provides the data infrastructure foundation for any successful data-driven organization.



HPE Apollo 4200 Gen10 Plus System

## Overview

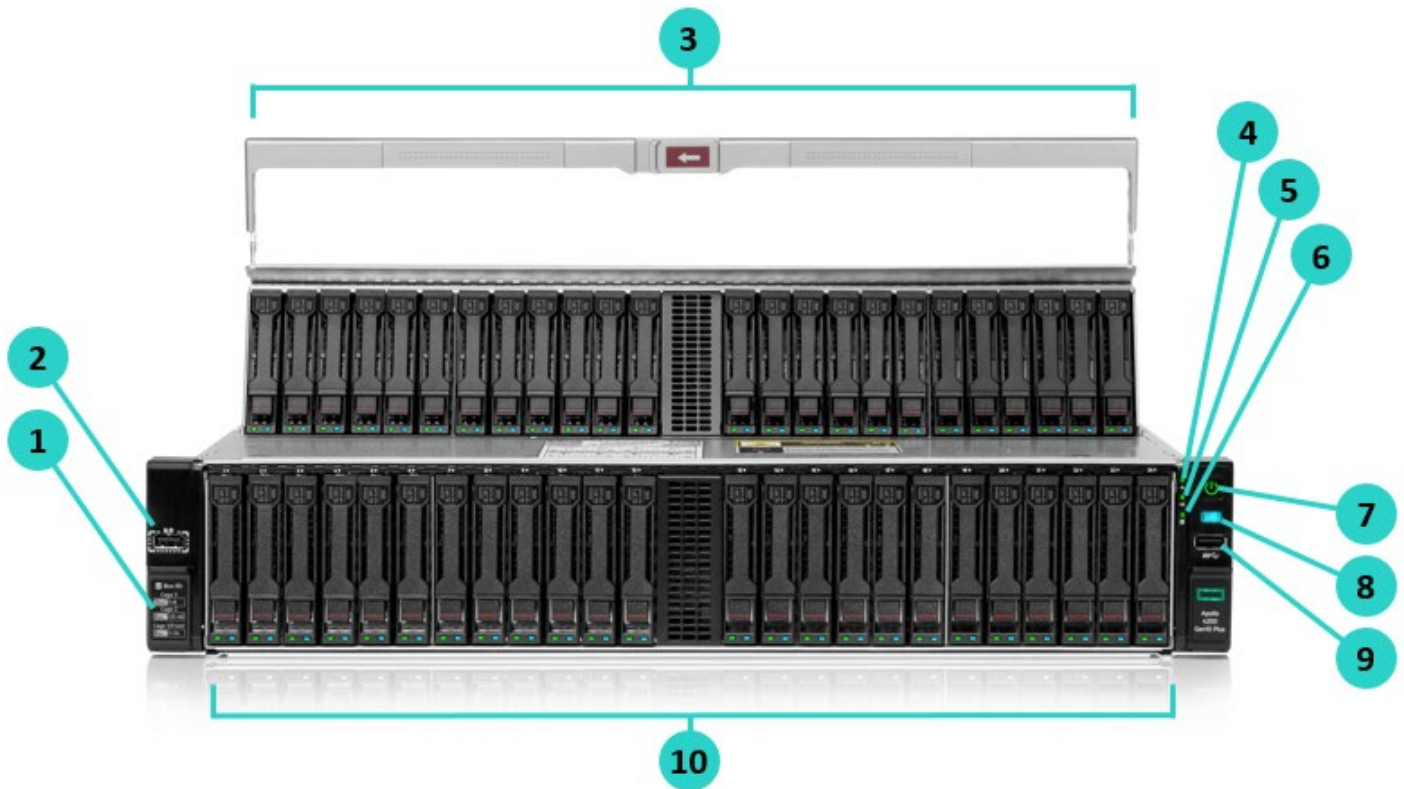


**HPE Apollo 4200 Gen10 Plus 24LFF TAA-compliant Configure-to-order System Front View**

- |    |   |     |   |
|----|---|-----|---|
| 1. | Drive support label                               | 6.  | Front drive health/thermal LED                    |
| 2. | iLO Service Port                                  | 7.  | Power On/Standby button and system power LED      |
| 3. | Drive Cage 2 LFF SAS/SATA/SSD hot-plug drive bays | 8.  | UID LED/button                                    |
| 4. | Health LED  | 9.  | USB 3.0 port                                      |
| 5. | NIC status LED                                    | 10. | Drive Cage 1 LFF SAS/SATA/SSD hot-plug drive bays |



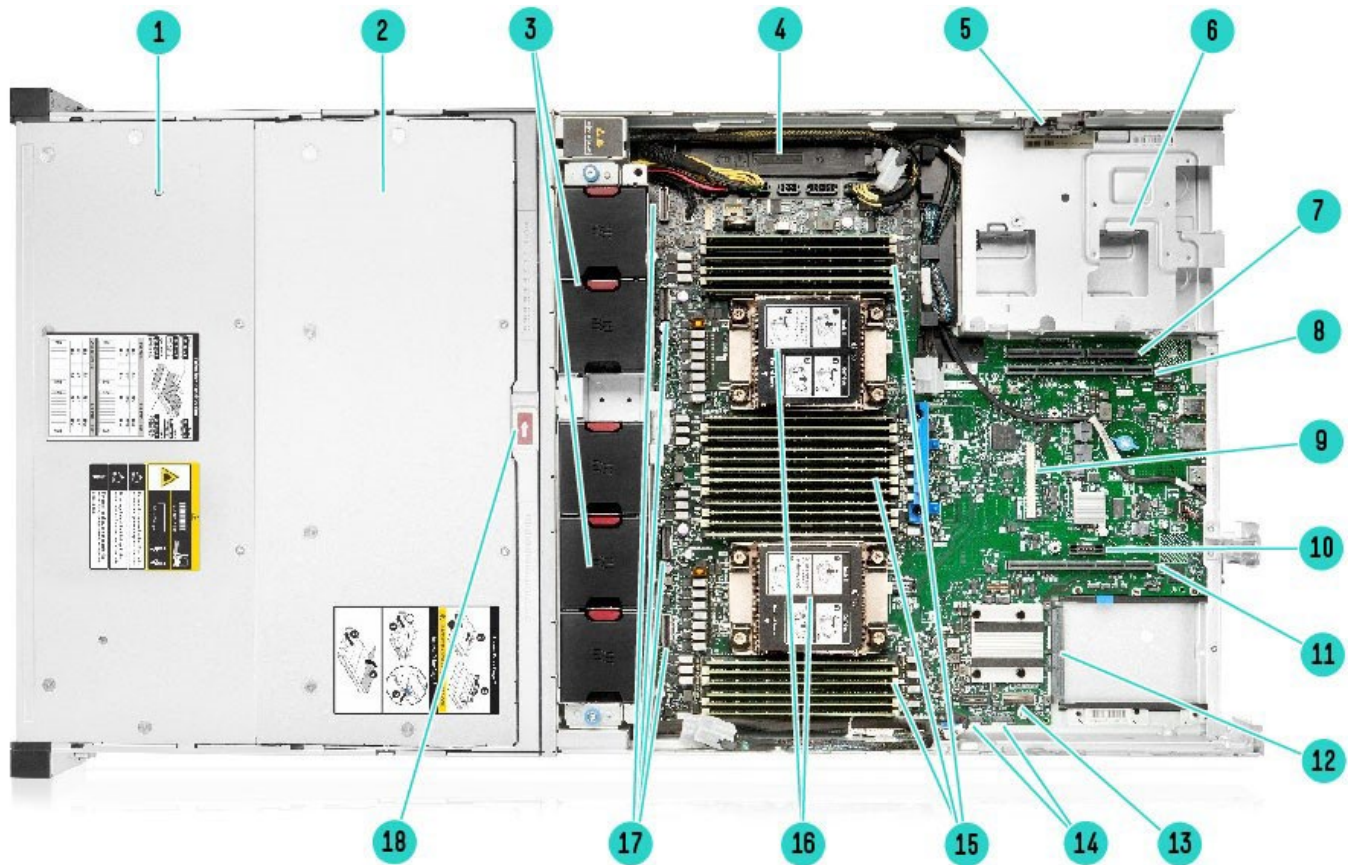
## Overview



**HPE Apollo 4200 Gen10 Plus 48SFF TAA-compliant Configure-to-order System Front View**

- |    |   |     |   |
|----|---|-----|---|
| 1. | Drive support label                               | 6.  | Front drive health/thermal LED                    |
| 2. | iLO Service Port                                  | 7.  | Power On/Standby button and system power LED      |
| 3. | Drive Cage 2 SFF SAS/SATA/SSD hot-plug drive bays | 8.  | UID LED/button                                    |
| 4. | Health LED  | 9.  | USB 3.0 port                                      |
| 5. | NIC status LED                                    | 10. | Drive Cage 1 SFF SAS/SATA/SSD hot-plug drive bays |

Overview



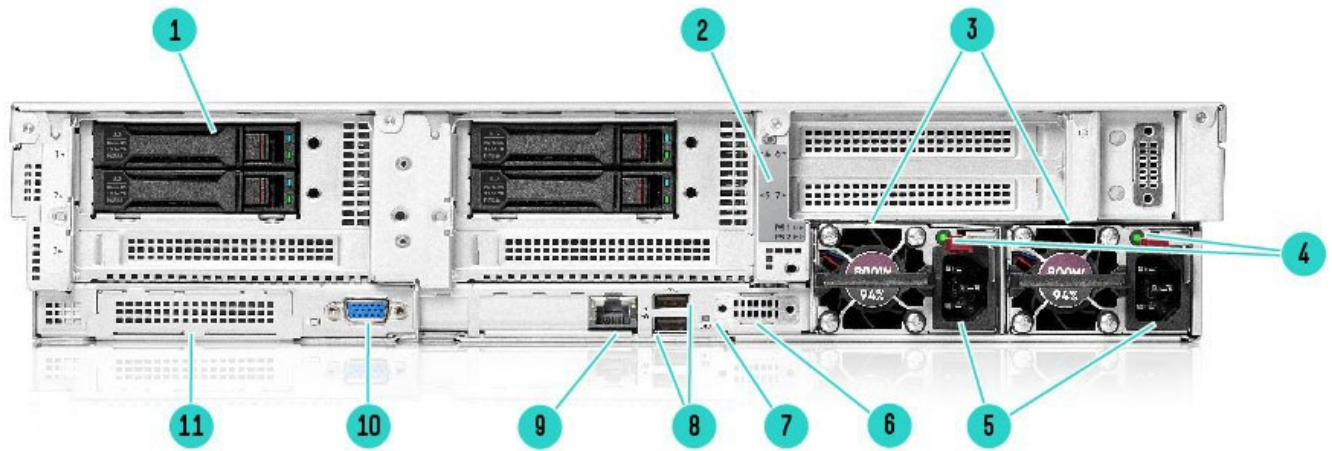
HPE Apollo 4200 Gen10 Plus System - Internal View

- |   |  |
|---|--|
| 1. Drive Cage 1   | 10. TPM 2.0 connector)   |
| 2. Drive Cage 2   | 11. Primary PCIe Gen4 riser connector (CPU 1)                                    |
| 3. System Hot-plug fans   | 12. OCP NIC 3.0 connector  |
| 4. System Battery slot (no battery installed shown)                             | 13. OCP NIC 3.0 x16 upgrade connector  |
| 5. Chassis Intrusion Detection connector  | 14. SATA ports   |
| 6. Up to 2 power supplies for redundant power (no power supply installed shown) | 15. DDR4 DIMM slots (Fully populated 24 DIMMs shown)                             |
| 7. Tertiary PCIe Gen4 riser connector (CPU 2)                                   | 16. Up to 2 processors (2 processors installed with performance heat sink shown) |
| 8. Secondary PCIe Gen4 riser connector (CPU 2)                                  | 17. NVMe drive ports   |
| 9. Flexible Smart Array Controller connector                                    | 18. Drive Cage 2 handle  |





## Overview



**HPE Apollo 4200 Gen10 Plus System - Rear View**

- |   |                        |
|---|------------------------|
| 1. Primary Riser. PCI Slots (Slots 1-3 top to bottom, not shown) <sup>1</sup>       | 7. UID LED             |
| 2. Secondary and Tertiary Risers kit. PCI Slots (Slots 4-7, not shown) <sup>2</sup> | 8. USB 3.0 ports       |
| 3. Flex Slot power supply 1 and 2   | 9. iLO Management Port |
| 4. Power supply LED 1 and 2   | 10. Video port         |
| 5. Power supply connector 1 and 2   | 11. OCP NIC 3.0 slot   |
| 6. Serial Port slot (optional)  |                        |

**Notes:**

- <sup>1</sup>Optional 2SFF rear drive cage 4 and slot 3 shown
- <sup>2</sup>Optional 2SFF rear drive cage 5 and slot 6-7 shown



## Overview

### What's New

- HPE 20TB SAS/SATA 12G Business Critical 7.2K LFF LP Helium 512e ISE Multi Vendor HDD SKUs make total 640 TB in 2U with HPE Apollo 4200 Gen10 Plus 32 LFF offering.
- HPE Apollo 4200 Gen10 Plus 32 LFF drive bays offering: single Smart Array controller to host all 32 LFF drives.
- Ideal for deeper data lakes and larger archive or backup repositories through higher data storage capacity and density in a serviceable 2U rackmount chassis.
- Designed for throughput-intensive, cache-intensive, and tiering-intensive workloads with a superior balanced system architecture with more and faster I/O.
- Satisfy data-heavy hyperconverged infrastructure (HCI) environments with higher performance, 3rd generation Intel® Xeon® Scalable processors and more memory.
- Unlock data insights faster using machine learning and data analytics through planned upgrade support for select GPU and FPGA accelerators.

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## Platform Information

### Form Factor

- 2U rack

### Chassis Types

- 24 LFF SAS 12Gb/SATA 6Gb
- 48 SFF SAS 12Gb/SATA 6Gb

### Notes:

- Optional Drive Cages:
  - 4 LFF SAS 12Gb/SATA 6Gb Drive Cage 3 (only for 24LFF chassis),
  - 8 SFF SAS 24Gb/SATA 6Gb/NVMe U.3 x4 Tri-mode Drive Cage 3,
  - 2 SFF SAS 24Gb/SATA 6Gb/NVMe U.3 x4 Tri-mode Drive Cage 4,
  - 2 SFF SAS 24Gb/SATA 6Gb/NVMe U.3 x4 Tri-mode Drive Cage 5

### System Fans

- 5 system dual-fan modules shipped as standard
- 



## Standard Features

### Processors

Up to 2 of the following depending on model.

#### Notes:

- The 2nd digit of the processor model number “x3xx” is used to denote the processor generation (i.e. 3=13rd generation)
- For more information regarding Intel Xeon processors, please see the following <http://www.intel.com/xeon>.
- This table covers the public Intel offering only.

Platinum Processors							
Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Platinum 8352Y Processor	2.2 GHz	32	48.00 MB	205 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Platinum 8352M Processor	2.3 GHz	32	48.00 MB	185 W	3 @ 11.2 GT/s	3200 MT/s	6TB
	2.4 GHz	28					
	2.6 GHz	24					

#### Notes:

- 2 socket capable, 2S - 3UPI @ 11.2 GT/s.
- 3<sup>rd</sup> Generation: 8-Channel DDR4 @ 3200 MT/s.
- 64 lanes PCIe 4.0, standard RAS.
- Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP).
- Intel® Optane™ Persistent Memory Supported
- Platinum 8352M Processor: Supports Intel® Speed Select Performance Profile (SST-P), even though not being a “Y” processor. Does not support Intel Speed Select Technology – Base Frequency (SST-BF). Default Speed Select Performance Profile value is 2.3GHz, 32 Cores.

Gold Processors							
Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Gold 6354 Processor	3.0 GHz	18	39.00 MB	205 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6346 Processor	3.1 GHz	16	36.00 MB	205 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6338 Processor	2.0 GHz	32	48.00 MB	205 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6336Y Processor	2.4 GHz	24	36.00 MB	185 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6334 Processor	3.6 GHz	8	18.00 MB	165 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6330 Processor	2.0 GHz	28	42.00 MB	205 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6326 Processor	2.9 GHz	16	24.00 MB	185 W	3 @ 11.2 GT/s	3200 MT/s	6TB
Gold 6314U Processor	2.3 GHz	32	48.00 MB	205 W	N/A	3200 MT/s	6TB
Gold 6312U Processor	2.4 GHz	24	36.00 MB	185 W	N/A	3200 MT/s	6TB
Gold 5320 Processor	2.2 GHz	26	39.00 MB	185 W	3 @ 11.2 GT/s	2933 MT/s	6TB
Gold 5318Y Processor	2.1 GHz	24	36.00 MB	165 W	3 @ 11.2 GT/s	2933 MT/s	6TB
Gold 5317 Processor	3.0 GHz	12	18.00 MB	150 W	3 @ 11.2 GT/s	2933 MT/s	6TB
Gold 5315Y Processor	3.2 GHz	8	12.00 MB	140 W	3 @ 11.2 GT/s	2933 MT/s	6TB

#### Notes:

- 2 socket capable, 2S - 3UPI @ 11.2 GT/s, except U SKUs
- 3<sup>rd</sup> Generation: 8-Channel DDR4 @ 3200 MT/s.
- 64 lanes PCIe 4.0, standard RAS.
- Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP).
- U Supported in one-socket configurations only.
- Intel® Optane™ Persistent Memory Supported



## Standard Features

Silver Processors							
Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Silver 4316 Processor	2.3 GHz	20	30.00 MB	150 W	2 @ 10.4 GT/s	2666 MT/s	6TB
Silver 4314 Processor	2.4 GHz	16	24.00 MB	135 W	2 @ 10.4 GT/s	2666 MT/s	6TB
Silver 4310 Processor	2.1 GHz	12	18.00 MB	120 W	2 @ 10.4 GT/s	2666 MT/s	6TB
Silver 4309Y Processor	2.8 GHz	8	12.00 MB	105 W	2 @ 10.4 GT/s	2666 MT/s	6TB

### Notes:

- 2 socket capable, 2S - 2UPI @ 10.4 GT/s.
- 3rd Generation: 8-Channel DDR4 @ 2666 MT/s.
- 64 lanes PCIe 4.0, standard RAS.
- Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP).
- Silver SKUs do not support Intel Optane persistent memory DIMMs, except 4314 SKU

## Chipset

Intel C621A Chipset

**Notes:** For more information regarding Intel® chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

## On System Management Chipset

HPE iLO 5 ASIC

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

## System Board

HPE ProLiant XL420 Gen10 Plus Server

### Notes:

- As a reminder that the Apollo 4200 Gen10 Plus Server offers familiar management tools, the motherboard carries a ProLiant name.
- In boot-up, the “HPE ProLiant XL420 Gen10 Plus Server” name will appear.
- The official product name remains HPE Apollo 4200 Gen10 Plus System, while the motherboard name is “HPE ProLiant XL420 Gen10 Plus Server”

## Memory

One of the following depending on model.

<b>Type</b>	HPE DDR4 SmartMemory Registered (RDIMM), Load Reduced (LRDIMM)
<b>DIMM Slots Available</b>	24 12 DIMM slots per processor, 8 channels per processor, 2-2-1-1 deployment
<b>Maximum capacity (LRDIMM)</b>	3.072 TB 24 x 128 GB LRDIMM @ 3200 MT/s
<b>Maximum capacity (RDIMM)</b>	1.536 TB 24 x 64 GB RDIMM @ 3200 MT/s
<b>Maximum capacity (HPE Persistent Memory)</b>	4.0 TB 8 x 512 GB Memory Modules

**Notes:** The maximum memory speed is limited by the processor selection.





## Standard Features

### Expansion Slots

#### Primary Riser

##### Notes:

- Bus width indicates the number of physical electrical lanes running to the connector.
- There are 2 types of risers supported on Primary Slot, and one is required.
- PCIe Primary Riser Kit Slot 3 is reserved for non-PCIe function options

PCIe Primary Riser Kit					
Slot#	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
1	PCIe 4.0	X16	X16	Full-height,half-length slot	Proc1
2	PCIe 4.0	X8	X8	Full-height,half-length slot	Proc1
3	Power only	Power only	X8	Full-height,half-length slot	

2SFF x4 Tri-Mode U.3 BC Primary Drive Cage 4 Kit					
Slot#	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
2 SFF x4 Tri-Mode U.3 BC Primary Drive Slots (Drive Cage 4)					
3	PCIe 4.0	X16	X16	Full-height,half-length slot	Proc1

### Secondary and Tertiary Riser kits

##### Notes:

- Bus width indicates the number of physical electrical lanes running to the connector.
- There are 2 types of riser bundles supported on Secondary and Tertiary Slots, and one is required.
- PCIe Secondary and Tertiary Riser Kit is suggest for single processor configurations.

PCIe Secondary and Tertiary Riser Kit					
Slot#	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
4 (Secondary)	PCIe 4.0	X16	X16	Full-height,half-length slot	Proc2
5 (Secondary)	PCIe 4.0	X8	X8	Full-height,half-length slot	Proc2
6 (Tertiary)	PCIe 4.0	X16	X16	Full-height,half-length slot	Proc2
7 (Tertiary)	PCIe 4.0	X8	X8	Full-height,half-length slot	Proc2

2SFF x4 Tri-Mode U.3 BC Secondary Drive Cage5 and PCIe Tertiary Riser Kit					
Slot#	Technology	Bus Width	Connector Width	Slot Form Factor	Notes
2 SFF x4 Tri-Mode U.3 BC Secondary Drive Slots (Drive Cage 5)					
6 (Tertiary)	PCIe 4.0	X16	X16	Full-height,half-length slot	Proc2
7 (Tertiary)	PCIe 4.0	X8	X8	Full-height,half-length slot	Proc2

## Graphics

### Integrated Video Standard

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

### HPE iLO 5 on system management memory

- 32 MB Flash
- 4 Gbit DDR 3 with ECC protection



## Standard Features

### Maximum Internal Storage

Maximum Storage		
Storage	Capacity	Configuration
Standard Cage 1/2 Hot Plug 24LFF SAS HDD	480 TB	24 x 20 TB
Standard Cage 1/2 Hot Plug 24LFF SATA HDD	480 TB	24 x 20 TB
Standard Cage 1/2 Hot Plug 24LFF SAS SSD	38.4 TB	24 x 1.6 TB
Standard Cage 1/2 Hot Plug 24LFF SATA SSD	184.32 TB	24 x 7.68 TB
Standard Cage 1/2 Hot Plug 48SFF SAS HDD	115.2 TB	48 x 2.4 TB
Standard Cage 1/2 Hot Plug 48SFF SATA HDD	96 TB	48 x 2 TB
Standard Cage 1/2 Hot Plug 48SFF SAS SSD	734.4 TB	48 x 15.3 TB
Standard Cage 1/2 Hot Plug 48SFF SATA SSD	368.64 TB	48 x 7.68 TB
Optional Cage 3 Hot Plug 4LFF SAS HDD	80 TB	4 x 20 TB
Optional Cage 3 Hot Plug 4LFF SATA HDD	80 TB	4 x 20 TB
Optional Cage 3 Hot Plug 4LFF SAS SSD	6.4 TB	4 x 1.6 TB
Optional Cage 3 Hot Plug 4LFF SATA SSD	30.72 TB	4 x 7.68 TB
Optional Cage 3 Hot Plug 8SFF SAS HDD	19.2 TB	8 x 2.4 TB
Optional Cage 3 Hot Plug 8SFF SATA HDD	16 TB	8 x 2 TB
Optional Cage 3 Hot Plug 8SFF SAS SSD	122.4 TB	8 x 15.3 TB
Optional Cage 3 Hot Plug 8SFF SATA SSD	61.44 TB	8 x 7.68 TB
Optional Cage 3 Hot Plug 8SFF NVMe SSD	122.88 TB	8 x 15.36 TB
Optional Cage 4 Hot Plug 2SFF SAS HDD	4.8 TB	2 x 2.4 TB
Optional Cage 4 Hot Plug 2SFF SATA HDD	4 TB	2 x 2 TB
Optional Cage 4 Hot Plug 2SFF SAS SSD	30.6 TB	2 x 15.3 TB
Optional Cage 4 Hot Plug 2SFF SATA SSD	15.36 TB	2 x 7.68 TB
Optional Cage 4 Hot Plug 2SFF NVMe SSD	30.72 TB	2 x 15.36 TB
Optional Cage 4 Hot Plug 2LFF SAS HDD	40 TB	2 x 20 TB
Optional Cage 4 Hot Plug 2LFF SATA HDD	40 TB	2 x 20 TB
Optional Cage 5 Hot Plug 2SFF SAS HDD	4.8 TB	2 x 2.4 TB
Optional Cage 5 Hot Plug 2SFF SATA HDD	4 TB	2 x 2 TB
Optional Cage 5 Hot Plug 2SFF SAS SSD	30.6 TB	2 x 15.3 TB
Optional Cage 5 Hot Plug 2SFF SATA SSD	15.36 TB	2 x 7.68 TB
Optional Cage 5 Hot Plug 2SFF NVMe SSD	30.72 TB	2 x 15.36 TB
Optional Cage 5 Hot Plug 2LFF SAS HDD	40 TB	2 x 20 TB
Optional Cage 5 Hot Plug 2LFF SATA HDD	40 TB	2 x 20 TB

#### Notes:

- SFF NVMe PCIe SSD is only supported in the optional SFF Drive Cage 3, 4, or 5
- SFF Drive Cage 3, 4, and 5 support SSD only
- Only 1 optional drive cage can be installed in Cage 3 location
- The core options for the rear drive cage 4/5, necessary controller(s), and controller cable kit selection are suggested to be configured at the factory. Customers can upgrade or change the rear drive cage 4 /5 core option or cable kit after they are installed and cabled in the factory, but these changes may require added service costs and new parts to complete this upgrade.
- Customers swapping between the PCIe riser and the rear SFF drive cage 4/5 kit(s) will incur new parts cost but no added service cost. Swapping from any other configurations will require additional parts cost and added HPE service cost.
- Additionally, customers can still install, upgrade, or swap the SFF, LFF or NVMe drives for Cage 4 /5 after the systems have left the factory if the new drives are supported by the drive cage 4/5, proper controller(s), and cable kit selection.



## Standard Features

### Internal Storage Devices

- Hard Drives
- None ship standard.

### Storage Controllers

#### Essential RAID Controllers

- HPE Smart Array E208i-a SR G10 Controller
- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Smart Array E208e-p SR Gen10 Controller

#### Performance RAID Controllers

- HPE Smart Array P408i-a SR G10 Controller
- HPE Smart Array P408i-p SR Gen10 Controller
- HPE Smart Array P408e-p SR Gen10 Controller
- HPE Smart Array P816i-a SR Gen10 Controller

**Notes:** Performance RAID Controllers require the HPE Smart Hybrid Capacitor (P02377-B21) or the HPE Smart Storage Battery (P01366-B21) which are sold separately.

### NVMe OS Boot Device

- HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device

### Tri-Mode Controller

- HPE SR932i-p Gen10 Plus Controller

**Notes:** PE80xx NVMe drives are not supported

**Notes:** For additional details, please see [HPE Smart Array Gen10 Controllers Data Sheet](#) Or [HPE Smart Array Gen10 Plus SmartRAID Controllers Data Sheet](#)

### Interfaces

<b>Front iLO Service Port</b>	1 standard, front
<b>VGA Port</b>	1 standard, rear
<b>iLO Remote Mgmt Port</b>	1x 1 Gb Dedicated
<b>Serial</b>	optional, rear
<b>USB 3.0</b>	4 total: 1 front, 2 rear, 1 internal (standard on all chassis types)



## Standard Features

### Power Supply

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

#### Notes:

- Available in 94% and 96% efficiency.
- Also available in -48VDC and 227VAC/380VDC power inputs.

- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit

#### Notes:

- Available in 94% efficiency.
- 1600W Power supplies only support high line voltage (200 VAC to 240 VAC).

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

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

To review the power requirements for your selected system, please use the [HPE Power Advisor Tool](#).

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

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## Operating Systems and Virtualization Software

- [Windows Server 2016](#) and 2019
- [VMware vSphere 6.7 U3 w/P03, 7.0 U1, 7.0 U2](#)
- [Red Hat Enterprise Linux \(RHEL\) 7.9](#) and 8.2
- [SUSE Linux Enterprise Server \(SLES\) 12 SP5](#) and 15 SP2
- [Ubuntu 20.04 LTS](#)

**Notes:** For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server. <http://www.hpe.com/info/ossupport>

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## Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant
- USB 2.0 Compliant
- SMBIOS 3.1
- UEFI 2.6 (Unified Extensible Firmware Interface Forum)
- Redfish API
- IPMI 2.0
- Secure Digital 4.0
- TPM 2.0 support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)
- SNMP v3
- TLS 1.2

## Standard Features

- DMTF Systems Management Architecture for Server Hardware Command Line (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4

**Notes:** For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: <http://www.hpe.com/servers/ashrae>

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### HPE Server UEFI/Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant Gen10 servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

**Notes:** The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit <http://www.hpe.com/servers/uefi>.

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

- Secure Boot and Secure Start enable for enhanced security
- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization
- UEFI Boot Mode only:
- TPM 2.0 Support
- NVMe Boot Support
- Platform Trust Technology (PTT) can be enabled.
- 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 installations should be configured properly to support UEFI.
  - UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant Gen10 Server.
- 

## 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). Learn more at <http://www.hpe.com/servers/uefi>.

### Intelligent Provisioning

Hassle free server and OS provisioning for one or more servers with Intelligent Provisioning. Learn more at <http://www.hpe.com/servers/intelligentprovisioning>.





## Standard Features

### iLO RESTful API

iLO RESTful API is Redfish API conformance 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>.

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## 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 Health System Viewer

Use the Active Health System Viewer, a web-based portal, to easily read AHS logs and speed problem resolution with HPE self-repair recommendations, to learn more visit: <http://www.hpe.com/servers/ahsv>

### 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 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities. Learn more at <http://www.hpe.com/servers/iLOamplifierpack>.

### HPE iLO Mobile Application

Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <http://www.hpe.com/info/ilo/mobileapp>.

### 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 Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. It can monitor multiple HPE server generations. The user interface is similar to the HPE OneView Advanced version, but the software-defined functionality is not available. Learn more at <http://www.hpe.com/info/oneview>.

### HPE Systems Insight Manager (HPE SIM)

Ideal for environments already using HPE SIM, it allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers. Also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at <http://www.hpe.com/info/hpesim>.

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## Standard Features

### Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- iLO Security Modes including a New iLO Advanced Premium Security License
- Granular control over iLO interfaces
- Smart card (PIV/CAC) and Kerberos based 2-factor Authentication
- Tamper-free updates – components digitally signed and verified
- Secure Recovery – recover critical firmware to known good state on detection of compromised FW
- Ability to rollback firmware
- Secure erase of NAND
- TPM (Trusted Platform Module) 2.0 option
- Bezel Locking Kit

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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 is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext 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, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

<http://www.hpe.com/support/ProLiantServers-warranties>

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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 full 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 iLO Advanced Premium Security Edition

HPE iLO Advanced Premium Security Edition for iLO 5 includes iLO Advanced License plus high-end security modes, unique security capabilities, like Automatic FW recovery; Runtime FW verification, and Secure erase. Learn more about HPE iLO Advanced Premium Security Edition at: <https://h20195.www2.hpe.com/v2/default.aspx?cc=us&lc=en&oid=1010025876>

#### HPE OneView Advanced

HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing Gen8, Gen9 and Gen10 servers. To learn more visit <http://www.hpe.com/info/oneview>.



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## Standard Features

### HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at <http://www.hpe.com/info/cmu>.

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### 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 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°, 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 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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## Service and Support

### HPE Pointnext - Service and Support

**Get the most from your HPE Products.** Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services** focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

### Consume IT on your terms

**HPE GreenLake** 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 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

### Managed services to run your IT operations

**HPE GreenLake Management Services** provides 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.

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### Recommended Services

#### HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care 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 Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care 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>

#### HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care 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/completecure>

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## Service and Support

### HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers.

Learn more <http://www.hpe.com/support/hpesc>

The HPE Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

#### Notes:

- \*HPE Support Center Mobile App is subject to local availability. For more information: <http://www.hpe.com/services>.
- HPE Apollo 4200 Gen10 Plus is covered under the HPE Service Contract applied to the HPE ProLiant Server. No separate HPE support services need to be purchased.

### Warranty and Support Services

Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed.

To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fibre switches, InfiniBand and UPS batteries over 12KVA. See the specific high value options that require additional support [here](#).

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### Parts and Materials

Hewlett Packard Enterprise 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 QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

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## Configuration Information

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

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

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

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

CTO Models	HPE Apollo 4200 Gen10 Plus 24LFF TAA-compliant Configure-to-order System	HPE Apollo 4200 Gen10 Plus 48SFF TAA-compliant Configure-to-order System
SKU Number	P28700-B21	P28701-B21
Processor	Not included as standard	
DIMM Slots	24-DIMM slots	
Storage Controller	At least one type i-a controller needs to be installed for the Cage 1 and Cage 2 drives Choice of HPE modular Smart Array and PCIe plug-in controller up to four per server	
PCIe	Up to 6 PCIe slots depending on riser kits selection	
Drive Cage - included	24 LFF - SAS/SATA	48 SFF - SAS/SATA
Network Controller	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:</b> No embedded networking	
Fans	5 dual-rotor fan modules	
Management	HPE iLO with Intelligent Provisioning (standard), iLO Advances and OneView (optional)	
USB	Front: 1 USB 3.0 + iLO service port Rear: 2 USB 3.0 Internal: 1 USB 3.0	

### Step 2: Choose Required Options

Please select up to two processors required below.

#### Notes:

- Maximum memory capacity per processor is dependent on processor models. All processors support up to 6 TBmax memory per processor.
- Mixing of 2 different processor models are NOT allowed.
- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

#### Step 2a: Choose Processor Options

**Processor Option Kits** (Required Processor)

**Notes:** Field upgrades from 1<sup>st</sup> generation processors (x1xx) or 2<sup>nd</sup> generation processors (x2xx) to 3<sup>rd</sup> generation processors (x3xx) not supported.



## Configuration Information

Description	SKU
<b>3<sup>rd</sup> Generation Intel Xeon-Platinum</b>	
Intel Xeon-Platinum 8352M 2.3GHz 32-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus	P45886-B21
Intel Xeon-Platinum 8352Y 2.2GHz 32-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42917-B21
<b>Notes:</b>	
– Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP)	
– Platinum 8352M Processor: Supports Intel® Speed Select Performance Profile (SST-P), even though not being a “Y” processor. Does not support Intel Speed Select Technology – Base Frequency (SST-BF). Default Speed Select Performance Profile value is 2.3GHz, 32 Cores.	
Description	SKU
<b>3<sup>rd</sup> Generation Intel Xeon-Gold</b>	
<b>Notes:</b> Field upgrades from 1 <sup>st</sup> generation processors (x1xx) or 2 <sup>nd</sup> generation processors (x2xx) to 3 <sup>rd</sup> generation processors (x3xx) not supported.	
Intel Xeon-Gold 6354 3.0GHz 18-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42923-B21
Intel Xeon-Gold 6346 3.1GHz 16-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42922-B21
Intel Xeon-Gold 6338 2.0GHz 32-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42916-B21
Intel Xeon-Gold 6336Y 2.4GHz 24-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42914-B21
Intel Xeon-Gold 6334 3.6GHz 8-core 165W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42921-B21
Intel Xeon-Gold 6330 2.0GHz 28-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42915-B21
Intel Xeon-Gold 6326 2.9GHz 16-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42920-B21
Intel Xeon-Gold 6314U 2.3GHz 32-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42924-B21
Intel Xeon-Gold 6312U 2.4GHz 24-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42925-B21
Intel Xeon-Gold 5320 2.2GHz 26-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42913-B21
Intel Xeon-Gold 5318Y 2.1GHz 24-core 165W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42912-B21
Intel Xeon-Gold 5317 3.0GHz 12-core 150W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42919-B21
Intel Xeon-Gold 5315Y 3.2GHz 8-core 140W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42918-B21
<b>Notes:</b>	
– Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP).	
– U Supported in one-socket configurations only.	
<b>3<sup>rd</sup> Generation Intel Xeon -Silver</b>	
<b>Notes:</b> Field upgrades from 1 <sup>st</sup> generation processors (x1xx) or 2 <sup>nd</sup> generation processors (x2xx) to 3 <sup>rd</sup> generation processors (x3xx) not supported.	
Intel Xeon-Silver 4316 2.3GHz 20-core 150W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42911-B21
Intel Xeon-Silver 4314 2.4GHz 16-core 135W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42910-B21
Intel Xeon-Silver 4310 2.1GHz 12-core 120W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42909-B21
Intel Xeon-Silver 4309Y 2.8GHz 8-core 105W Processor Kit for HPE Apollo 4200 Gen10 Plus	P42908-B21
<b>Notes:</b>	
– Y Supports Intel Speed Select Technology – Performance Profile 2.0 (Intel SST-PP).	
– Silver SKUs do not support Intel Optane persistent memory DIMMs, except 4314 SKU	

## Configuration Information

### Step 2b: Choose Memory Options

Please select one or more memory from below.

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

**[SERVER MEMORY AND PERSISTENT MEMORY POPULATION RULES FOR HPE GEN10 PLUS SERVERS WITH INTEL 3RD GEN XEON SCALABLE PROCESSORS](#)**

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

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: <http://www.hpe.com/docs/memory-ras-feature>

#### Notes:

- The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- DDR4-3200 Memory Kits are only supported with 3rd Generation Intel Xeon Scalable Series Processors.

#### Description

#### SKU

#### Registered DIMMs (RDIMMs)

HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06029-K21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06031-K21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06033-K21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06035-K21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07525-K21
HPE 32GB (1x32GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P40007-K21

#### Notes:

- The transfer rate of 3200 MT/s memory SKUs will depend on processor selection
- Mixing of LRDIMM and RDIMM is not supported
- Mixing of x4 and x8 memory is not supported
- Mixing of 3DS memory and non-3DS memory is not supported

#### Load Reduces DIMMs (LRDIMMs)

HPE 128GB (1x128GB) Quad Rank x4 DDR4-3200 CAS-22-22-22 Load Reduced Smart Memory Kit	P06037-K21
HPE 256GB (1x256GB) Octal Rank x4 DDR4-3200 CAS-26-22-22 Load Reduced 3DS Smart Memory Kit	P06039-K21

#### Notes:

- 24LFF model (P28700-B21) supports up to four 256GB LRDIMMs
- 48SFF model (P28701-B21) supports up to six 256GB LRDIMMs
- Recommended system Ambient temperature: 25C

#### HPE Persistent Memory (Intel Optane)

Intel Optane 512GB persistent memory 200 Series for HPE	P23538-B21
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#### Notes:

- A maximum of 4 Intel Optane Persistent Memory for HPE supported with 1P 3rd Generation Intel XeonProcessors
- A maximum of 8 Intel Optane Persistent Memory for HPE supported with 2P 3rd Generation Intel Xeon Processors
- Mixing of different capacity Persistent memory is not allowed. Only one Persistent Memory kit capacity is allowed per server/configuration. Cannot be selected with any single rank x8 DDR4 3200AA memory kit. (i.e 1Rx8 PC4-3200AAR or L).
- This option requires the selection of High Performance Heat Sink (P41668-B21).
- Cannot be selected with Drive Cage 3 kits.
- Cannot be selected with HPE 800W FS 48VDC Ht Plg LH Pwr Sply Kit and HPE 1600W FS -48VDC Ht Plg PS Kit.
- Intel Optane Persistent Memory for HPE (PMEM) require either an RDIMM or LRDIMM to be configured. The number of
- RDIMMs or LRDIMMs required is based on the processor configuration and number of Intel Optane Persistent Memory for
- HPE (PMEM) selected:
  - o For 1P Configuration:
    - Qty. 1 PMEM requires Qty.= 6 or 8 RDIMMs or LRDIMMs



## Configuration Information

- Qty. 4 PMEM requires Qty.= 4 or 8 RDIMMs or LRDIMMs
- o For 2P Configuration:
  - Qty. 2 PMEM requires Qty.= 12 or 16 RDIMMs or LRDIMMs
  - Qty. 8 PMEM requires Qty.= 8 or 16 RDIMMs or LRDIMMs
- Additional Intel Optane Persistent Memory for HPE(PMEM) cannot be selected beyond the provided configurations above.
- Additional HPE Smart Memory kits (RDIMM or LRDIMM) cannot be selected beyond the provided configurations above.
- For information regarding Intel Optane Persistent Memory for HPE visit: <http://www.hpe.com/info/persistentmemory>

### Step 2c: Choose Power Supplies

Please select one or two power supplies from below.

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

#### Description

#### SKU

#### HPE Flex Slot Power Supplies

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38997-B21
HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit	P17023-B21
HPE 1600W -48VDC Power Cable Lug Kit	P36877-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38995-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21

#### Notes:

- Select a minimum (1), maximum (2) power supplies.
- 1600W Power supplies only support high line voltage (200VAC to 240VAC).
- Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: <http://www.hpe.com/info/hppoweradvisor>.
- All power supplies in a server should match. Mixing Power Supplies is not supported.
- HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit [HPE power cords](#) for a full list of optional power cords.

### Step 3: Choose Additional (FIO) Factory Integratable Options

Each of the following may be selected if desired at time of factory integration

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

- This option to be defaulted for all CTO Servers. However option can be deselected.
- The TPM 2.0 Gen10 Option is compatible with the following Operating Systems:
  - In TPM 1.2 Mode
    - Windows Server 2012 R2
    - Redhat RHEL 6.9, RHEL 7.0, and later.
    - SUSE SLES 12 SP2, SLES 15 GA and newer
    - VMware vSphere 6.0U3, 6.5U1, 6.5U2, 6.5U3, 6.7, 6.7U1, 6.7U2 and 6.7U3
  - In TPM 2.0 Mode
    - Windows Server 2016 and Windows Server 2019
    - Redhat RHEL 7.2, RHEL 8.0, and later.
    - SUSE SLES 12 SP2, SLES 15 GA and newer
    - VMware vSphere 6.7, 6.7U1, 6.7U2, 6.7U3, 7.0U1 and newer



## Configuration Information

HPE Legacy FIO Mode Setting

758959-B22

**Notes:** UEFI is the default, this FIO part can be used for CTO to enable Legacy mode.

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

Description	SKU
HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A
HPE OneView Standard 1yr 9x5 Support Flexible Quantity E-RTU	K6F98AAE
HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
HPE OneView Upgrade from Insight Management 3yr 24x7 Support 1-server LTU	F6Q91A
HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Track 1-server LTU	E5Y36A
HPE OneView for ProLiant DL Server including 3yr 24x7 Support Bundle Track 1-server LTU	E5Y44A
HPE OneView Upgrade from Insight Management including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y45AAE

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## Core Options

### HPE Apollo 4200 Unique Options

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

#### Processor Heat Sink Kits

##### Description

	<b>SKU</b>
HPE Apollo 4200 Gen10 Plus Standard Heat Sink Kit	P41666-B21
HPE Apollo 4200 Gen10 Plus High Performance Heat Sink Kit	P41668-B21

##### Notes:

- Each processor requires one heat sink kit
- Processors over 165W require High Performance Heat Sink Kit (P41668-B21)
- When Intel Optane DC Persistent Memory DIMM(s) is (are) installed, High Performance Heat Sink Kit(s) (P41668-B21) is (are) required for processor(s).
- When 256GB LRDIMM(s) (P06039-K21) is (are) installed, High Performance Heat Sink Kit(s) (P41668-B21) is (are) required for processor(s).
- When GPU is installed, High Performance Heat Sink Kits (P41668-B21) are required for processors.
- When this SKU is selected, one of the following 3 FIO controller modes must be selected: HPE 2nd Cage FIO Controller Mode for Rear Storage (813546-B21), HPE Software RAID FIO Controller Mode for Rear Storage (P09655-B21), or HPE Smart Array E/P SR FIO Controller Mode for Rear Storage (P09656-B21)
- Mixing of 2 different heat sinks are NOT allowed.
- The optional Drive Cage 3 is supported only with Standard Heat Sink Kit.

#### System Air Baffle

HPE Apollo 4200 Gen10 Plus High Performance Air Baffle Kit	P41660-B21
HPE Apollo 4200 Gen10 Plus Standard Air Baffle Kit	P41662-B21
HPE Apollo 4200 Gen10 Plus Standard Middle Air Baffle Kit	P41664-B21

##### Notes:

- When High Performance Heat Sink(s) is (are) installed, High Performance Air Baffle Kit is required.
- When Standard Heat Sink(s) is (are) installed, Standard Air Baffle Kit is required.
- When neither Drive Cage 3 nor High Performance Heat Sink is installed, Standard Middle Air Baffle Kit is required.

#### Drive Cage 3 Storage Upgrades

HPE Apollo 4200 Gen10 Plus 4LFF SAS/SATA LP Drive Cage 3 Upgrade Kit	P28702-B21
HPE Apollo 4200 Gen10 Plus 8SFF x4 Tri-Mode U.3 BC Drive Cage 3 Upgrade Kit	P28703-B21

##### Notes:

- The 4LFF Drive Cage 3 can only be installed in 24LFF CTO SKU (P28700-B21).
- The 8SFF Drive Cage 3 can be installed in 24LFF CTO SKU (P28700-B21) or 48SFF CTO SKU (P28701-B21).
- The Drive Cage 3 cannot be installed with processors over 165W, Intel DC Persistent Memory DIMMs, 256GB LRDIMM, or GPU.

#### Drive Cage 3 Cables and Controller Mode

**Notes:** One of the Drive Cage 3 Cables and Controller mode must be selected when any Drive Cage 3 Upgrade SKU is selected.

HPE Apollo 4200 Gen10 Plus 8SFF Cage 3 Balanced NVMe Direct Attach Cable Kit	P28704-B21
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**Notes:** When this SKU is selected, the 8SFF Cage 3 is directly attached under CPU(s). Four NVMe drives are connected to CPU 1 and the other four NVMe drives are connected to CPU 2.



## Core Options

Description	SKU
HPE Apollo 4200 Gen10 Plus 8SFF Cage 3 CPU1 Tri-Mode Controller Cable Kit	P28705-B21
<b>Notes:</b> When this SKU is selected, all 8SFF drive bays will be connected to a Tri-Mode controller under CPU 1. It requires one dedicated Tri-mode controller to be installed.	
HPE Apollo 4200 Gen10 Plus 8SFF Cage 3 CPU2 Tri-Mode Controller Cable Kit	P28706-B21
<b>Notes:</b> When this SKU is selected, all 8SFF drive bays will be connected to a Tri-Mode controller under CPU 2. It requires one dedicated Tri-mode controller to be installed.	
HPE Apollo 4200 Gen10 Plus 8SFF Cage 3 Balanced Tri-Mode Controller Cable Kit	P28707-B21
<b>Notes:</b> When this SKU is selected, four bays are connected to one Tri-mode controller under CPU 1, and the other four bays are connected to one Tri-Mode controller under CPU 2. It requires two dedicated Tri-mode controllers to be installed.	
HPE Apollo 4200 Gen10 Plus 8SFF Cage 3 Balanced SAS/SATA Controller Cable Kit	P28710-B21
<b>Notes:</b> When this SKU is selected, four bays are connected to one SAS/SATA controller under CPU 1, and the other four bays are connected to one SAS/SATA controller under CPU 2. It requires two dedicated SAS/SATA controllers to be installed.	
HPE Apollo 4200 Gen10 Plus 4LFF Cage 3 Type-p Controller Cable Kit	P43539-B21
<b>Notes:</b> When this SKU is selected, four LFF bays in Cage 3 are connect to one i-p SAS/SATA controller. It requires one dedicated SAS/SATA controller to be installed	
HPE Apollo 4200 4LFF Cage 3 to Cage 2 P3 FIO Controller Mode	P43619-B21
<b>Notes:</b> When this SKU is selected, four LFF bays are connect to Drive Cage 2 Expander.	
<b>Primary Riser</b>	
HPE Apollo 4200 Gen10 Plus PCIe Primary Riser Kit	P28711-B21
HPE Apollo 4200 Gen10 Plus 2SFF x4 Tri-Mode U.3 BC Primary Drive Cage 4 Kit	P28712-B21
HPE Apollo 4200 Gen10 Plus 2LFF SAS/SATA LP Primary Drive Cage 4 Kit	P44987-B21
<b>Notes:</b>	
<ul style="list-style-type: none"> <li>– One of the Primary Kits is required per system.</li> <li>– The PCIe Primary Riser Kit (P28711-B21) include one X16 FHHL slot 1, one X8 FHHL slot 2, and one power only slot 3 for non-PCIe options (SATA M.2 or OCP Thermal Enhancement Kit)</li> <li>– The Primary Drive Cage 4 Kit (P28712-B21) includes 2SFF Drive Cage 4 and one X16 FHHL slot 3.</li> <li>– The rear LFF Cage4 and Cage5 are bundled, quantity one of the following SKUs are required when configure rear LFF Drive Cages: P44987-B21, P44984-B21, P44990-B21, and 869083-B21.</li> <li>– The core options for the rear drive cage 4/5, necessary controller(s), and controller cable kit selection are suggested to be configured at the factory. Customers can upgrade or change the rear drive cage 4 /5 core option or cable kit after they are installed and cabled in the factory, but these changes may require added service costs and new parts to complete this upgrade.</li> <li>– Customers swapping between the PCIe riser and the rear SFF drive cage 4/5 kit(s) will incur new parts cost but no added service cost. Swapping from any other configurations will require additional parts cost and added HPE service cost.</li> <li>– Additionally, customers can still install, upgrade, or swap the SFF, LFF or NVMe drives for Cage 4 /5 after the systems have left the factory if the new drives are supported by the drive cage 4/5, proper controller(s), and cable kit selection.</li> </ul>	



## Core Options

### Secondary and Tertiary Riser

HPE Apollo 4200 Gen10 Plus PCIe Secondary and Tertiary Riser Kit	P28717-B21
HPE Apollo 4200 Gen10 Plus 2SFF x4 Tri-Mode U.3 BC Secondary Drive Cage5 and PCIe Tertiary Riser Kit	P28718-B21
HPE Apollo 4200 Gen10 Plus 2LFF SAS/SATA LP Secondary Drive Cage 5 and PCIe Tertiary Riser Kit	P44984-B21

#### Notes:

- One of the Secondary and Tertiary Kits is required per system.
- The PCIe Secondary and Terriary Riser Kit (P28717-B21) include one X16 FHHL slot 4, one X8 FHHL slot 5, one X16 FHHL slot 6, and one X8 FHHL slot 7.
- The Secondary Drive Cage 5 and PCIe Tertiary Riser Kit (P28718-B21) includes 2SFF Drive Cage 5, one X16 FHHL slot 6, and one x8 FHHL slot 7.
- HPE Apollo 4200 Gen10 Plus PCIe Secondary and Tertiary Riser Kit (P28717-B21) is suggested for single processor configurations
- The rear LFF Cage4 and Cage5 are bundled, quantity one of the following SKUs are required when configure rear LFF Drive Cages: P44987-B21, P44984-B21, P44990-B21, and 869083-B21.
- The core options for the rear drive cage 4/5, necessary controller(s), and controller cable kit selection are suggested to be configured at the factory. Customers can upgrade or change the rear drive cage 4 /5 core option or cable kit after they are installed and cabled in the factory, but these changes may require added service costs and new parts to complete this upgrade.
- Customers swapping between the PCIe riser and the rear SFF drive cage 4/5 kit(s) will incur new parts cost but no added service cost. Swapping from any other configurations will require additional parts cost and added HPE service cost.
- Additionally, customers can still install, upgrade, or swap the SFF, LFF or NVMe drives for Cage 4 /5 after the systems have left the factory if the new drives are supported by the drive cage 4/5, proper controller(s), and cable kit selection.

### Drive Cage 4 and Cage 5 Cables

**Notes:** Each Cage requires one of the Drive Cage 4 and Cage 5 Cables.

#### Description

	SKU
HPE Apollo 4200 Gen10 Plus 2SFF Cage 4 CPU1 Tri-Mode Controller Cable Kit	P28713-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 4 bays are connected to a Tri-Mode controller under CPU 1. It requires one dedicated Tri-mode controller to be installed.	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 4 CPU1 SAS/SATA Controller Cable Kit	P28714-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 4 bays are connected to a SAS/SATA controller under CPU 1. It requires one dedicated SAS/SATA controller to be installed.	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 4 CPU2 Tri-Mode Controller Cable Kit	P28715-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 4 bays are connected to a Tri-Mode controller under CPU 2. It requires one dedicated Tri-mode controller to be installed..	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 4 CPU2 SAS/SATA Controller Cable Kit	P29052-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 4 bays are connected to a SAS/SATA controller under CPU 2. It requires one dedicated SAS/SATA controller to be installed.	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 4/5 NVMe Direct Attach Cable Kit	P28716-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 4 or Cage 5 bays are directly attached under CPU.	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 5 Tri-Mode Controller Cable Kit	P28720-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 5 bays are connected to a Tri-Mode controller either under CPU 1 or CPU 2. It requires one dedicated Tri-mode controller to be installed.	
HPE Apollo 4200 Gen10 Plus 2SFF Cage 5 SAS/SATA Controller Cable Kit	P28721-B21
<b>Notes:</b> When this SKU is selected, 2SFF Drive Cage 5 bays are connected to a SAS/SATA controller either under CPU 1 or CPU 2. It requires one dedicated SAS/SATA controller to be installed.	



## Core Options

Description	SKU
HPE Apollo 4200 Gen10 Plus LFF Cage 4/5 SAS/SATA Controller Cable Kit	P44990-B21
<b>Notes:</b> The rear LFF Cage4 and Cage5 are bundled, quantity one of the following SKUs are required when configure rear LFF Drive Cages: P44987-B21, P44984-B21, P44990-B21, and 869083-B21.	
<b>Front Drive Cage 1 and Cage 2 Controller Mode</b>	
<b>Notes:</b> Each Cage requires one controller Mode.	
HPE Apollo 4200 Cage 1 to Type-a P1/P2 FIO Controller Mode	P43598-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 1 bays are connected to i-a controller port 1 and port 2.	
HPE Apollo 4200 Cage 1 to Type-a P1 FIO Controller Mode	P43601-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 1 bays are connected to i-a controller port 1.	
HPE Apollo 4200 Cage 2 to Type-a P2 FIO Controller Mode	P43607-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 2 bays are connected to i-a controller port 2.	
HPE Apollo 4200 Cage 2 to Type-a P3/P4 FIO Controller Mode	P43610-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 2 bays are connected to i-a controller port 3 and port 4.	
HPE Apollo 4200 Cage 2 to Secondary Riser FIO Controller Mode	P43613-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 2 bays are connected to i-p controller in Secondary Riser. It requires one dedicated SAS/SATA controller to be installed	
HPE Apollo 4200 Cage 2 to Tertiary Riser FIO Controller Mode	P43616-B21
<b>Notes:</b> When this SKU is selected, The Drive Cage 2 bays are connected to i-p controller in Tertiary Riser. It requires one dedicated SAS/SATA controller to be installed	
<b>System OCP Options</b>	
HPE OCP Thermal Enhancement Kit	P28727-B21
<b>Notes:</b> This SKU is required for OCP options requiring better thermal condition.	
HPE Apollo 4200 Gen10 Plus OCP Upgrade Cable Kit	P36607-B21
<b>Notes:</b> This SKU can improve the OCP slot bandwidth from X8 to X16 PCIe Gen4.	
<b>System Racking Options</b>	
HPE Apollo 4200 Gen10 Plus Rail Kit	P28725-B21
HPE Apollo 4200 Gen10 Plus Cable Management Arm	P28726-B21
<b>System Security Options</b>	
HPE Apollo 4200 Gen10 Plus Bezel Kit	P28723-B21
<b>System Cable Options</b>	
HPE Apollo 4200 Gen10 Plus Universal AIC HHHL SATA M.2 Cable Kit	P37638-B21
<b>Notes:</b> This SKU is required when HPE Universal SATA AIC HHHL M.2 SSD Kit (878783-K21) is installed.	
HPE Apollo 4200 Gen10 Plus Rear Serial Port Cable and Enablement Kit	P41658-B21
<b>Security</b>	
HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21
HPE Apollo 4200 Gen10 Plus Bezel Kit	P28723-B21
HPE Bezel Lock Kit	875519-B21

## Core Options

### HPE Processors

#### Processor Option Kits

##### 3<sup>rd</sup> Generation Intel Xeon-Platinum

###### Notes:

- Field upgrades from 1<sup>st</sup> generation processors (x1xx) to 2<sup>nd</sup> generation processors (x2xx) not supported.
- All the below models ship with Performance Heatsink unless otherwise noted.

Intel Xeon-Platinum 8352Y 2.2GHz 32-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus P42917-B21

##### 3<sup>rd</sup> Generation Intel Xeon-Gold

**Notes:** Field upgrades from 1<sup>st</sup> generation processors (x1xx) to 2<sup>nd</sup> generation processors (x2xx) not supported.

Intel Xeon-Gold 6354 3.0GHz 18-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus P42923-B21

Intel Xeon-Gold 6346 3.1GHz 16-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus P42922-B21

Intel Xeon-Gold 6338 2.0GHz 32-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus P42916-B21

Intel Xeon-Gold 6336Y 2.4GHz 24-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus P42914-B21

Intel Xeon-Gold 6334 3.6GHz 8-core 165W Processor Kit for HPE Apollo 4200 Gen10 Plus P42921-B21

Intel Xeon-Gold 6330 2.0GHz 28-core 205W Processor Kit for HPE Apollo 4200 Gen10 Plus P42915-B21

Intel Xeon-Gold 6326 2.9GHz 16-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus P42920-B21

Intel Xeon-Gold 5320 2.2GHz 26-core 185W Processor Kit for HPE Apollo 4200 Gen10 Plus P42913-B21

Intel Xeon-Gold 5318Y 2.1GHz 24-core 165W Processor Kit for HPE Apollo 4200 Gen10 Plus P42912-B21

Intel Xeon-Gold 5317 3.0GHz 12-core 150W Processor Kit for HPE Apollo 4200 Gen10 Plus P42919-B21

Intel Xeon-Gold 5315Y 3.2GHz 8-core 140W Processor Kit for HPE Apollo 4200 Gen10 Plus P42918-B21

#### Description

**SKU**

##### 3<sup>rd</sup> Generation Intel Xeon-Silver

**Notes:** Field upgrades from 1<sup>st</sup> generation processors (x1xx) to 2<sup>nd</sup> generation processors (x2xx) not supported.

Intel Xeon-Silver 4316 2.3GHz 20-core 150W Processor Kit for HPE Apollo 4200 Gen10 Plus P42911-B21

Intel Xeon-Silver 4314 2.4GHz 16-core 135W Processor Kit for HPE Apollo 4200 Gen10 Plus P42910-B21

Intel Xeon-Silver 4310 2.1GHz 12-core 120W Processor Kit for HPE Apollo 4200 Gen10 Plus P42909-B21

Intel Xeon-Silver 4309Y 2.8GHz 8-core 105W Processor Kit for HPE Apollo 4200 Gen10 Plus P42908-B21

### HPE Memory

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

<https://www.hpe.com/docs/memory-population-rules>

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

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: <http://www.hpe.com/docs/memory-ras-feature>

###### Notes:

- The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.
- DDR4-3200 Memory Kits are only supported with 3<sup>rd</sup> Generation Intel Xeon Scalable Series Processors.



## Core Options

### HPE DDR4 Memory

#### Registered DIMMs (RDIMMs)

HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06029-K21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06031-K21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06033-K21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06035-K21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07525-K21
HPE 32GB (1x32GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P40007-K21

#### Notes:

- 3200 MT/s memory SKUs offer a transfer rate of 3200 MT/s at 1 DIMM per channel and 2933 MT/s at 2 DIMMs per channel
- Mixing of LRDIMM and RDIMM is not supported
- Mixing of x4 and x8 memory is not supported
- Mixing of 3DS memory and non-3DS memory is not supported

#### Load Reduced DIMMs (LRDIMMs)

HPE 128GB (1x128GB) Quad Rank x4 DDR4-3200 CAS-22-22-22 Load Reduced Smart Memory Kit	P06037-K21
HPE 256GB (1x256GB) Octal Rank x4 DDR4-3200 CAS-26-22-22 Load Reduced 3DS Smart Memory Kit	P06039-K21

#### Notes:

- 24LFF model (P28700-B21) supports up to four 256GB LRDIMMs
- 48SFF model (P28701-B21) supports up to six 256GB LRDIMMs

### HPE Persistent Memory (Intel Optane)

Intel Optane 512GB persistent memory 200 Series for HPE	P23538-B21
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#### Notes:

- A maximum of 4 Intel Optane Persistent Memory for HPE supported with 1P 3rd Generation Intel Xeon Processors
- A maximum of 8 Intel Optane Persistent Memory for HPE supported with 2P 3rd Generation Intel Xeon Processors
- Mixing of different capacity Persistent memory is not allowed. Only one Persistent Memory kit capacity is allowed per server/configuration. Cannot be selected with any single rank x8 DDR4 3200AA memory kit. (i.e 1Rx8 PC4-3200AAR or L).
- This option requires the selection of High Performance Heat Sink (P41668-B21).
- Cannot be selected with Drive Cage 3 upgrade kits.
- Cannot be selected with HPE 800W FS 48VDC Ht Plg LH Pwr Sply Kit and HPE 1600W FS -48VDC Ht Plg PS Kit.
- Intel Optane Persistent Memory for HPE (PMEM) require either an RDIMM or LRDIMM to be configured. The number of RDIMMs or LRDIMMs required is based on the processor configuration and number of Intel Optane Persistent Memory for HPE (PMEM) selected:
  - o For 1P Configuration:
    - Qty. 1 PMEM requires Qty.= 6 or 8 RDIMMs or LRDIMMs
    - Qty. 4 PMEM requires Qty.= 4 or 8 RDIMMs or LRDIMMs
  - o For 2P Configuration:
    - Qty. 2 PMEM requires Qty.= 12 or 16 RDIMMs or LRDIMMs
    - Qty. 8 PMEM requires Qty.= 8 or 16 RDIMMs or LRDIMMs
- Additional Intel Optane Persistent Memory for HPE (PMEM) cannot be selected beyond the provided configurations above.
- Additional HPE Smart Memory kits (RDIMM or LRDIMM) cannot be selected beyond the provided configurations above.

For information regarding Intel Optane Persistent Memory for HPE visit: <http://www.hpe.com/info/persistentmemory>

## HPE Drives



## Core Options

### Midline - 12G SAS - LFF Drives

HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53553-K21
HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37669-K21
HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23608-K21
HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09155-K21
HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-K21
HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53556-K21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-K21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-K21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-K21
HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-K21

### Midline - 6G SATA - LFF Drives

HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P53554-K21
HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37678-K21
HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P23449-K21
HPE 14TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	P09165-K21
HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-K21
HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53557-K21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-K21
HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-K21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-K21
HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-K21
HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-K21

### Enterprise - 12G SAS - SFF Drives

HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P40432-K21
HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P28028-K21
HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P28352-K21
HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P28586-K21
HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P40430-K21
HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	P53560-K21
HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	P53561-K21
HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	P53562-K21

### Midline - 12G SAS - SFF Drives

HPE 2TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	P28505-K21
HPE 1TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty HDD	P53563-K21

### Midline 6G SATA - SFF Drives

HPE 2TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	P28500-K21
HPE 1TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty HDD	P28610-K21





## Core Options

### SSD Selection

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

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

<http://www.hpe.com/products/recommend>

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

HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40509-K21
HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40508-K21
HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40507-K21
HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	P40506-K21
HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	P41398-K21
HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	P41399-K21
HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Self-encrypting HDD	P28618-K21
HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Self-encrypting HDD	P28622-K21
HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49029-K21
HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49031-K21
HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49035-K21
HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49041-K21
HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	P49045-K21

#### Mixed Use - 12G SAS - SFF - Solid State Drives

HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40512-K21
HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40511-K21
HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	P40510-K21
HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	P41400-K21
HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	P41401-K21
HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49047-K21
HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49049-K21
HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49053-K21
HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	P49057-K21

#### Read Intensive - 6G SATA - SFF - Solid State Drives

HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40501-K21
HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40500-K21
HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40499-K21
HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40497-K21
HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40498-K21
HPE 480GB SATA 6G Read Intensive SFF BC PM893 SSD	P44007-K21
HPE 960GB SATA 6G Read Intensive SFF BC PM893 SSD	P44008-K21
HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD	P44009-K21
HPE 3.84TB SATA 6G Read Intensive SFF BC PM893 SSD	P44010-K21
HPE 1.92TB SATA 6G Read Intensive SFF BC S4520 SSD	P47320-K21
HPE 3.84TB SATA 6G Read Intensive SFF BC S4520 SSD	P47322-K21
HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5400 SSD	P58228-K21



## Core Options

### Mixed Use - 6G SATA - SFF - Solid State Drives

HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40505-K21
HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40504-K21
HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40503-K21
HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	P58244-K21
HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	P40502-K21
HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD	P44011-K21
HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD	P44012-K21
HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD	P44013-K21
HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD	P47324-K21
HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	P47327-K21
HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	P58236-K21
HPE 1.92TB SATA MU SFF BC SED 5400M SSD	P58248-K21

### Read Intensive - 24G SAS - LFF -Solid State Drives

HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	P49040-K21
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### Mixed Use - 12G SAS - LFF -Solid State Drives

HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	P37009-K21
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### Read Intensive - 6G SATA - LFF - Solid State Drives

HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	P47808-K21
HPE 7.68TB SATA 6G Very Read Optimized LFF LPC 5400 SSD	P58232-K21
HPE 1.92TB SATA RI SFF BC SED 5400P SSD	P58240-K21

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

HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	P41402-K21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	P41403-K21
HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47844-K21
HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47845-K21
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47846-K21
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	P47847-K21
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50216-K21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50219-K21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50222-K21
HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50224-K21
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50216-K21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50219-K21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50222-K21
HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	P50224-K21

### Mixed Use - NVMe - SFF - Solid State Drives

HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50227-K21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50230-K21
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50233-K21
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	P41404-K21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	P41405-K21
HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47837-K21



## Core Options

HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47838-K21
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47839-K21
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	P47840-K21
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50227-K21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50230-K21
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	P50233-K21

### Internal Dual M.2 Kit

HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	878783-K21
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**Notes:** The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.

### Read Intensive - M.2 - Solid State Drives (2280 type)

HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47817-K21
HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47818-K21

### Hard Drive Blank Kits

HPE Gen9 LFF HDD Spade Blank Kit	807878-B21
HPE Small Form Factor Hard Drive Blank Kit	666987-B21

## HPE Networking

### 200 Gigabit Ethernet adapters

Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE	P10180-B21
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### 100 Gigabit Ethernet adapters

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

### 25 Gigabit Ethernet adapters

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P08443-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10106-B21

**Notes:** HPE OCP Thermal Enhancement Kit (P28727-B21) is required.

Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P08458-B21
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P42041-B21
Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P42044-B21
Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P13188-B21
Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10112-B21
Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P22702-B21
Marvell QL41232HVCU Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10118-B21
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P21109-B21

### 10 Gigabit Ethernet adapters

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE	P26253-B21
Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE	P08437-B21
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE	P26259-B21
Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter for HPE	P28787-B21
Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE	P21933-B21



## Core Options

### 1 Gigabit Ethernet adapters

Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE P21106-B21

### OCP 3.0 Adapters

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

Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE P10097-B21

Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE P10103-B21

Intel X710-DA2 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE P28778-B21

Marvell QL41132HQU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE P08452-B21

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

**Notes:** HPE OCP Thermal Enhancement Kit (P28727-B21) is required.

### Storage Offload Adapters

HPE NV60100M 100Gb 2-port Storage Offload Adapter R8M41A

### HPE InfiniBand

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter P31323-H21

**Notes:** HPE OCP Thermal Enhancement Kit (P28727-B21) is required.

HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter P31348-H21

**Notes:** HPE OCP Thermal Enhancement Kit (P28727-B21) is required. Recommended system Ambient temperature: 25C.

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter P23664-H21

HPE InfiniBand NDR200 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter P45642-H21

HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter P31324-H21

**Notes:** Recommended system Ambient temperature: 25C.

HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter P23665-H21

HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter P23666-H21

**Notes:** For additional InfiniBand information: <https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154440>.

### HPE Power Supplies

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

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

To review the power requirements for your selected system, please use the [HPE Power Advisor Tool](#).

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



## Core Options

### HPE Flex Slot Platinum Hot-plug Power supplies

Description	SKU
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit <b>Notes:</b> Flex Slot Titanium power supplies support power efficiency of up to 96% and include a standard C-14 power inlet connector.	865438-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit <b>Notes:</b> Flex Slot -48VDC power supplies support power efficiency of up to 94%.	865434-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit <b>Notes:</b> Flex Slot universal power supplies support power efficiency of up to 94% and support both 277VAC/380VDC power inputs.	865428-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit <b>Notes:</b> Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.	P38995-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit <b>Notes:</b> Flex Slot Platinum Plus power supplies support power efficiency of up to 94% and include a C-14 power inlet connector that can support HPE Power Discovery Services (blue connector).	P38997-B21
HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit <b>Notes:</b> Flex Slot -48VDC power supplies support power efficiency of up to 94%.	P17023-B21
HPE 1600W -48VDC Power Cable Lug Kit	P36877-B21

### HPE Computation and Graphics Accelerators

Description	SKU
NVIDIA A2 16GB PCIe Non-CEC Accelerator for HPE <b>Notes:</b> <ul style="list-style-type: none"> <li>– Shipment starts in Q3 CY2022.</li> <li>– The Drive Cage 3 is not supported when this SKU is selected.</li> <li>– This SKU can only be installed in PCIe Slot 6, so the 2<sup>nd</sup> processor is required.</li> <li>– Processors over 165W are not supported when this SKU is selected.</li> <li>– Memory DIMMs over 128GB are not supported when this SKU is selected.</li> <li>– Intel DC Persistent Memory DIMMs are not supported when this SKU is selected.</li> </ul>	R9H23C



## Additional Options

### Embedded Management

**Notes:** 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.

#### HPE iLO Advanced

##### SKU Description

	<b>SKU</b>
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
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 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 Common Password

HPE iLO Common Password FIO Setting	P08040-B21
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### HPE Converged Infrastructure Management Software

#### HPE OneView Advanced (with HPE iLO Advanced)

HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE

#### HPE OneView Advanced (without HPE iLO Advanced)

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE

#### Notes:

- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: <https://www.hpe.com/us/en/integrated-systems/software.html>.
- Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.
- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: <https://www.hpe.com/us/en/integrated-systems/software.html>.

### HPE Security

#### Description

	<b>SKU</b>
HPE Apollo 4200 Gen10 Plus Bezel Kit	P28723-B21
HPE Bezel Lock Kit	875519-B21
HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21

#### Notes:

- HPE Trusted Platform Module 2.0 option works with Gen10 Plus with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.
- HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.



## Additional Options

### HPE Smart Array Controllers

**Notes:** For additional details, please see [HPE Smart Array Gen10 Controllers Data Sheet](https://www.hpe.com/psnow/doc/a00047736enw.pdf?jumpid=in_lit-psnow-getpdf) at: [https://www.hpe.com/psnow/doc/a00047736enw.pdf?jumpid=in\\_lit-psnow-getpdf](https://www.hpe.com/psnow/doc/a00047736enw.pdf?jumpid=in_lit-psnow-getpdf)

### HPE Flexible Smart Array Controllers

#### Notes:

- All performance RAID controllers are supported by the HPE Smart Storage Hybrid Capacitor (P02377-B21) or HPE Smart Storage Battery (P01366-B21), which supports multiple devices and are sold separately.
- Flexible Smart Array controllers do not consume a PCIe slot.

HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller 804338-B21

HPE Smart Array P816i-a SR Gen10 (16 Int Lanes/4GB Cache/SmartCache) 12G SAS Modular LH Controller 869083-B21

**Notes:** This SKU is required and only supports the Rear LFF Cage4 and Cage5 configurations.

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller 804331-B21

### HPE Flexible Smart Array Essential Controllers

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller 804326-B21

### Performance RAID Controllers

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

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

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

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

### HPE Tri-Mode Controllers

Microchip SmartRAID SR932i-p x32 Lanes 8GB Wide Cache NVMe/SAS 24G Controller for HPE Gen10 Plus P04220-B21

**Notes:** HPE Tri-Mode Controllers are only supported for SFF Drive Cage 3, Cage 4, or Cage 5.

### HPE Smart Storage Battery

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

**Notes:** Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers.

#### Description

**SKU**

### HPE NVMe OS Boot Device

HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device P12965-B21

**Notes:** Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers.

## HPE Smart Array

For latest information on [HPE Smart Array Gen10 Controllers for HPE ProLiant DL, ML and Apollo Servers](#), please refer to their QuickSpecs. (E208i-a, E208i-p, E208e-p, P408i-a, P408i-p, P408e-p, P816i-a, P932i-p)

## Optional Software

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU Q2F26AAE

HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU D7S27A

HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU D7S27AAE

**Notes:** SmartCache is offered on HPE Smart Array performance RAID controllers and comes standard (no licensing is required) if the HPE Smart Array P816i-a SR Gen10 Controller is installed in the server.





## Additional Options

### HPE Storage Options

#### Emulex Fibre Channel HBAs

HPE SN1700E 64Gb 1-port Fibre Channel Host Bus Adapter	R7N77A
HPE SN1700E 64Gb 2-port Fibre Channel Host Bus Adapter	R7N78A
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter	R2J63A
HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter	R2J62A

#### QLogic Fibre Channel HBAs

HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	P9M75A
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A
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

**Notes:** For the complete listing of Fibre Channel Converged Network Adapters please see:

<https://www.hpe.com/us/en/product-catalog/servers/adapters/pip.models.hpe-storefabric-converged-networkadapters.4118472.html>

### HPE Rack Options

#### Rail Kits

HPE Apollo 4200 Gen10 Plus Rail Kit	P28725-B21
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#### Cable Management Arm

HPE Apollo 4200 Gen10 Plus Cable Management Arm	P28726-B21
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#### Description

**SKU**

#### HPE Optical Drives

HPE Mobile USB DVD-RW Optical Drive	701498-B21
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**Notes:** This is only supported on USB 3.0 ports.

### HPE Racks

- Please see the [HPE Advanced Series Racks QuickSpecs](#) for information on additional racks options and rack specifications.
- Please see the [HPE Enterprise Series Racks QuickSpecs](#) for information on additional racks options and rack specifications.
- Please see the [HPE Standard Series Racks QuickSpecs](#) for information on additional racks options and rack specifications.



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## 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.
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### 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.
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### HPE USB and SD Options

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

HPE 32GB microSD RAID 1 USB Boot Drive

P21868-B21

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## Memory

### Memory Population guidelines

#### General Memory Population Rules and Guidelines:

- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two-processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- When two processors are installed, balance the DIMMs across the two processors.
- White DIMM slots denote the first slot to be populated in a channel. Mixing of DIMM types (RDIMM and LRDIMM) is not supported.
- 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, the number and model of installed processors qualified on the platform.

For details on the HPE Server Memory Options Population Rules, visit: <http://www.hpe.com/docs/memory-population-rules>

To realize the performance memory capabilities listed in this document, HPE DDR4 SmartMemory is required. For additional information, please see the [HPE DDR4 SmartMemory QuickSpecs](#).

**Notes:** The maximum memory speed is a function of the memory type, memory configuration, and processor model.

For details on the HPE Server Memory speed, visit: <https://www.hpe.com/docs/memory-speed-table>

**Notes:** The maximum memory speed is a function of the memory type, memory configuration, and processor model.

For details on the HPE Server Memory speed, visit: <https://www.hpe.com/docs/memory-speed-table>

**Notes:** When HPE Persistent Memory for second-generation Intel Xeon Scalable processors is installed, the maximum supported memory speed is 2666 MT/s.

### DDR4 memory options part number decoder

#### Notes:

- Capacity references are rounded to the common gigabyte (GB) values.
  - o 8GB = 8,192 MB
  - o 16GB = 16,384 MB
  - o 32GB = 32,768 MB
  - o 64GB = 65,536 MB

For more information on memory, please see the Memory QuickSpecs: [HPE DDR4 SmartMemory](#)

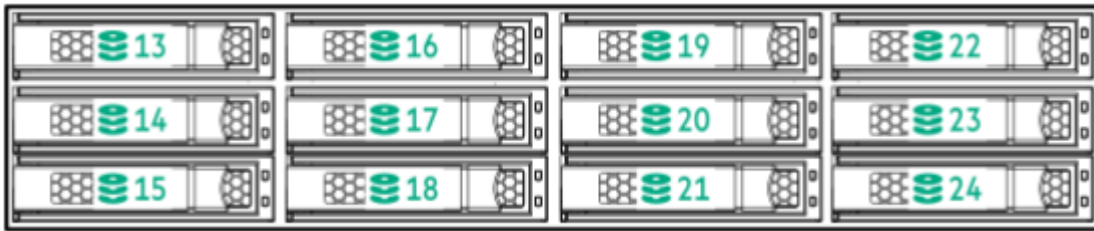
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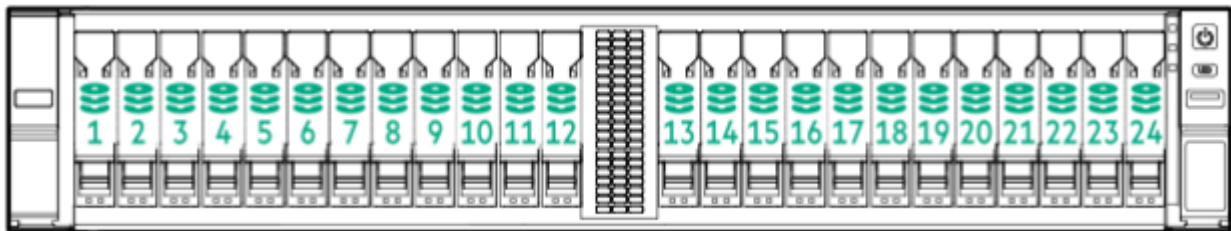
### Storage



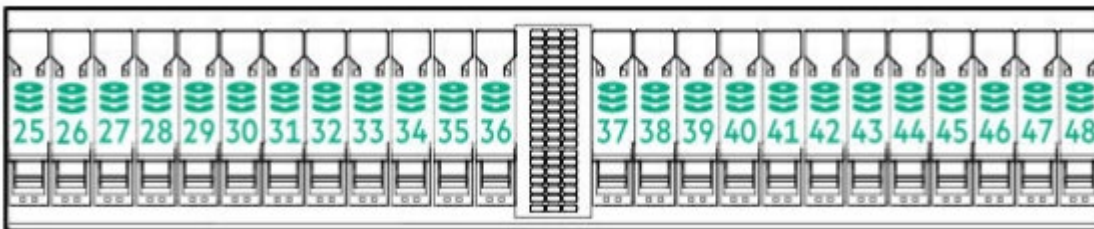
12-bay LFF hot-plug drive cage 1 numbering



12-bay LFF hot-plug drive cage 2 numbering



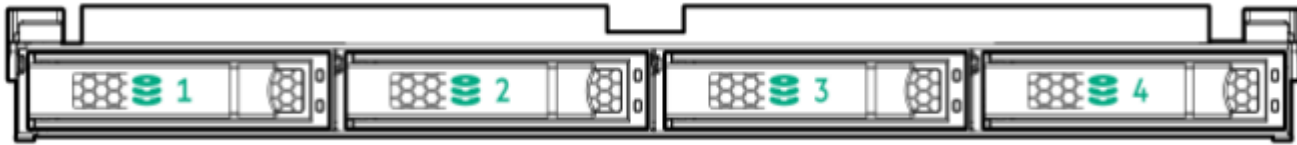
24-bay SFF hot-plug drive cage 1 numbering



24-bay SFF hot-plug drive cage 2 numbering



## Storage

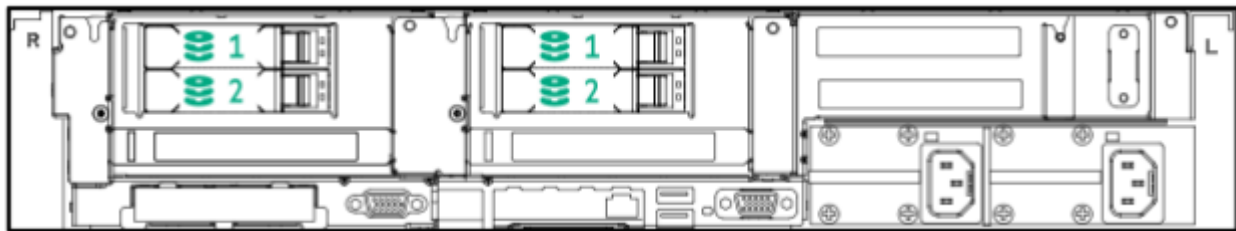


### Four-bay LFF hot-plug drive cage 3 numbering

(If there are LFF drives used in drive cage 1 and drive cage 2 in addition to drive cage 3, then these are numbered 49-52.)



### Eight-bay SFF hot-plug drive cage 3 numbering



### Four-bay SFF hot-plug drive cage 4 and drive cage 5 numbering

#### Notes:

- The core options for the rear drive cage 4/5, necessary controller(s), and controller cable kit selection are suggested to be configured at the factory. Customers can upgrade or change the rear drive cage 4 /5 core option or cable kit after they are installed and cabled in the factory, but these changes may require added service costs and new parts to complete this upgrade.
- Customers swapping between the PCIe riser and the rear SFF drive cage 4/5 kit(s) will incur new parts cost but no added service cost. Swapping from any other configurations will require additional parts cost and added HPE service cost.
- Additionally, customers can still install, upgrade, or swap the SFF, LFF or NVMe drives for Cage 4 /5 after the systems have left the factory if the new drives are supported by the drive cage 4/5, proper controller(s), and cable kit selection.



## Technical Specifications

<b>System Unit</b>	
<b>Dimensions</b> (Height x Width x Depth)	87.5 x 448.0 x 837.90 mm 3.44 x 17.63 x 33.00 in
<b>Weight</b> (approximate)	
Minimum	17.21 kg 37.95 lb
Maximum.	48.35 kg 106.61 lb
<b>Input Requirements</b> (per power supply)	
Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
<b>BTU Rating</b>	
Maximum	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
<b>Power Supply Output</b> (per power supply)	
Rated Steady-State Power	For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only
Maximum Peak Power	For 1600W Power Supply: 1600W (at 200 to 240 1VAC), 1600W (at 240 VDC) input for China only
<b>System Inlet Temperature</b>	
<b>Standard Operating Support</b>	<p>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. 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.</p> <p>System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).</p> <p>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: <a href="http://www.hpe.com/servers/ashrae">http://www.hpe.com/servers/ashrae</a></p>
<b>Extended Ambient Operating Support</b>	<p>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: <a href="http://www.hpe.com/servers/ashrae">http://www.hpe.com/servers/ashrae</a></p> <p>System performance may be reduced if operating in the extended ambient operating range or with a fan fault.</p>

## Technical Specifications

<b>Relative Humidity</b> (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.		
<b>Altitude</b>			
Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).		
Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).		
<b>Acoustic Noise</b>			
Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with 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>Configuration SKU</b>	<b>Entry</b>	<b>Base</b>	<b>Performance</b>
<b>Idle</b>			
LWAd	5.9 B	6.4 B	5.4 B
LpAm	35 dBA	35 dBA	36 dBA
<b>Operating</b>			
LWAd	6.0 B	7.1 B	6.3 B
LpAm	36 dBA	38 dBA	45 dBA
<b>Notes:</b> Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.			

### Emissions Classification (EMC)

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)

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

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs** in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

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

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

### TCO Certified

The HPE Apollo 4200 Gen10 Plus System has been TCO Certified. All HPE TCO Certified products can be found on **TCO Certified Product Finder**. More information on TCO Certified can be downloaded here:

<https://www.hpe.com/us/en/about/environment/eco-labels.html>





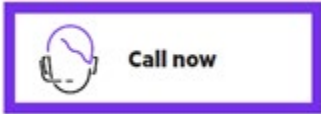
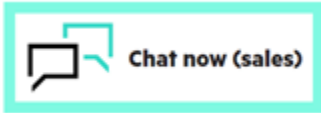
## Summary of Changes

Date	Version History	Action	Description of Change
05-Jun-2023	Version 16	Changed	Core Options section was updated, Obsolete SKUs were removed. & New SKUs were added
06-Mar-2023	Version 15	Changed	Standard Features, Configuration Information and Core Options Sections were Updated & New SKUs were added
06-Feb-2023	Version 14	Changed	Additional Options Section was Updated & New SKUs were added
10-Jan-2023	Version 13	Changed	Core Options section was updated, Obsolete SKUs were removed. & New SKUs were added
05-Dec-2022	Version 12	Changed	Core Options section was updated, Obsolete SKUs were removed. & New SKUs were added
01-Aug-2022	Version 11	Changed	Core Options section was updated. Obsolete SKUs were removed.
05-Jul-2022	Version 10	Changed	Core Options section was updated. Obsolete SKUs were removed.
20-Jun-2022	Version 9	Changed	Overview, Standard Features and Core Options sections were updated. Obsolete SKUs were removed.
02-May-2022	Version 8	Changed	Standard Features, Core Options and Storage sections were updated. Obsolete SKUs were removed.
07-Feb-2022	Version 7	Changed	Overview, Standard Features and Configuration Information sections were updated. Obsolete SKUs were removed.
06-Dec-2021	Version 6	Changed	Core Options sections was updated. Obsolete SKUs were removed
01-Nov-2021	Version 5	Changed	Standard Features, Service and Support and Technical Specifications sections were updated. Obsolete SKUs were removed
02-Aug-2021	Version 4	Changed	Service and Support and Core Options sections were updated. Obsolete SKUs were removed
06-Jul-2021	Version 3	Changed	Additional Options section was updated.
21-Jun-2021	Version 2	Changed	Standard Features, Configuration Information and Technical Specifications sections were updated.
07-Jun-2021	Version 1	New	New QuickSpecs



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