

Overview

HPE Apollo 4200 Gen10 Server

Are you looking for a 2U ultra-dense and rack-scale system providing the right balance of capacity, performance, and security for your data storage intensive workloads?

The HPE Apollo 4200 Gen10 Server offers an architecture optimized for Big Data Analytics, Software-Defined Storage, backup and archive, and other data storage intensive workloads. Its unique, easily serviceable 2U design saves data center space with up to 28 LFF or 54 SFF hot-plug drives. It delivers accelerated performance with a superior bandwidth and balanced architecture, Intel Xeon Scalable Processor Family, and NVMe connected SSDs. The focus on security extends from FIPS 140-2 Level 1 validated storage controllers down to the system silicon level, taking full advantage of HPE innovations in firmware protection, malware detection, and recovery. With HPE GreenLake Flex Capacity and HPE Financial Services, you can combine the economic agility benefits of consumption-based IT with the performance and security of on-premise.



HPE Apollo 4200 Gen10 Server

Overview



24 LFF Front View

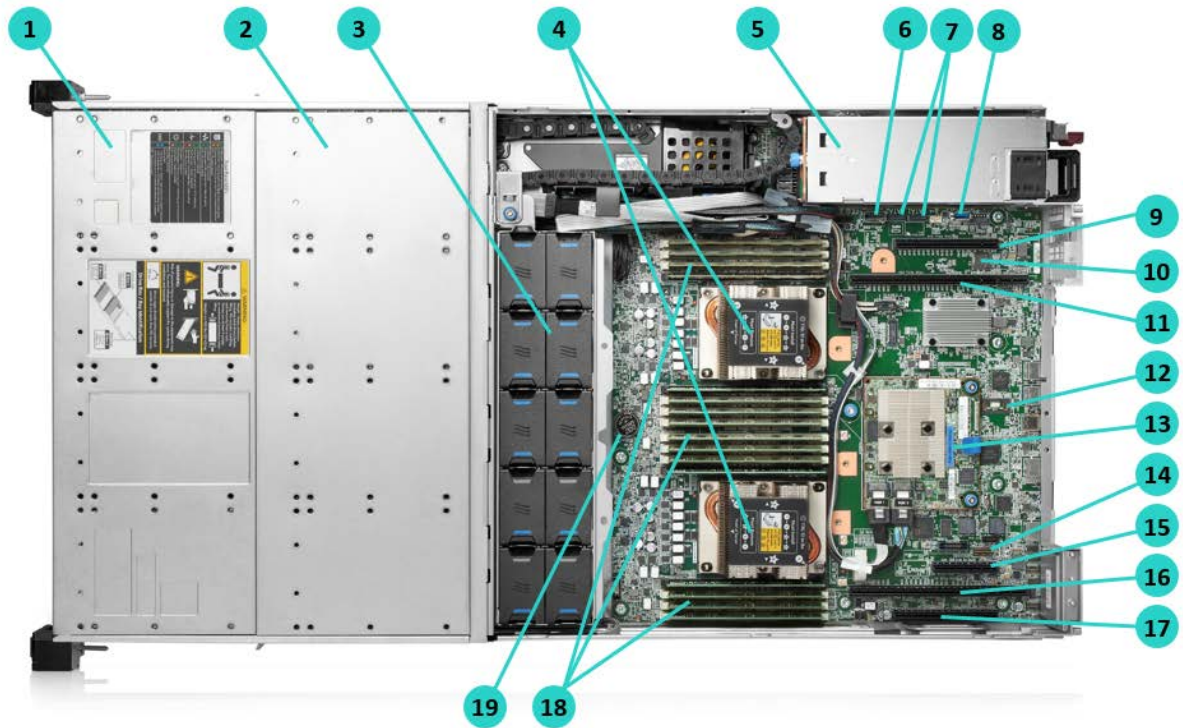
- | | |
|---|---|
| 1. Drive support label | 6. UID button/LED |
| 2. Power On/Standby button and system power LED | 7. USB 2.0 connector |
| 3. Health LED | 8. iLO Service Port |
| 4. NIC status LED | 9. Front LFF SAS/SATA/SSD hot-plug drive bays |
| 5. Front drive health/thermal LED | |



48 SFF Front View

- | | |
|---|---|
| 1. Drive support label | 6. UID button/LED |
| 2. Power On/Standby button and system power LED | 7. USB 2.0 connector |
| 3. Health LED | 8. iLO Service Port |
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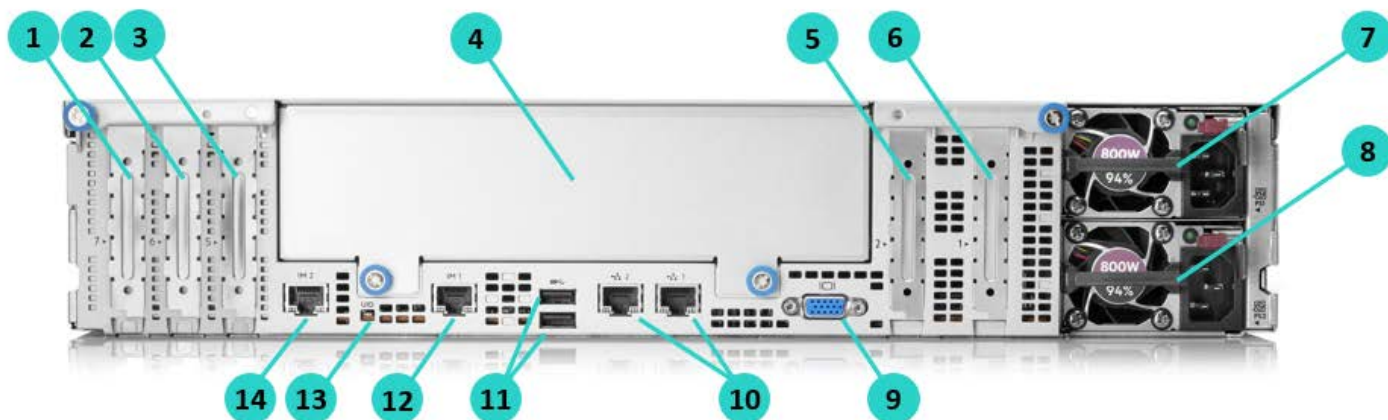
Overview



Standard for all Apollo 4200 Gen10 - Internal View

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|--|--|
| 1. Front drive bay 1 | 11. PCIe3 x24 slot 2 for low-profile, standup expansion board, riser cage option, or NVMe pass-through board (Processor 1) |
| 2. Front drive bay 2 | 12. TPM 2.0 connector |
| 3. System fans (10 fans shipped as default) | 13. Flexible Smart Array Controller slot (type –a shown) |
| 4. Up to 2 processors (2 processors installed shown) | 14. System maintenance switch |
| 5. Up to 2 power supplies for redundant power | 15. PCIe3 x8 slot 5 for low-profile, standup expansion board (Processor 2) |
| 6. Mini SAS connector | 16. PCIe3 x24 slot 6 for low-profile, standup expansion board or NVMe pass-through board (Processor 2) |
| 7. SATA connectors | 17. PCIe3 x16 slot 7 for low-profile, standup expansion board (Processor 2) |
| 8. Internal USB 3.0 connector | 18. DDR4 DIMM slots (Fully populated 16 DIMMs shown) |
| 9. PCIe3 x16 slot 1 for low-profile, standup expansion board (Processor 1) | 19. System Battery |
| 10. microSD card slot | |

Overview



Standard for all Apollo 4200 Gen10 - Rear View

- | | |
|---|---|
| 1. PCIe3 x16 slot 7 for low-profile, standup expansion board (Processor 2) | 8. Hot-plug power supply bay 2 (800W shown) |
| 2. PCIe3 x24 slot 6 for low-profile, standup expansion board or NVMe pass-through board (Processor 2) | 9. Video connector |
| 3. PCIe3 x8 slot 5 for low-profile, standup expansion board (Processor 2) | 10. NIC ports (2x 1GbE) |
| 4. Rear drive cage blank (space for rear drive cages upgrade) | 11. USB 3.0 ports |
| 5. PCIe3 x24 slot 2 for low-profile, standup expansion board, riser cage option, or NVMe pass-through board (Processor 1) | 12. iLO Management Port |
| 6. PCIe3 x16 slot 1 for low-profile, standup expansion board (Processor 1) | 13. UID LED |
| 7. Hot-plug power supply bay 1 (800W shown) | 14. iLO Management Port |

NOTE: Optional Rear Drive Cages: 6 NVMe SSD (SFF), 4 LFF (only for 24LFF), or 2 SFF + 2 FHHL Riser kit

What's New

- Supports Intel® Xeon® Scalable Processor Family.
- Optional rear storage upgrade to support up to 6 SFF NVMe solid state drives (SSDs).
- Higher bandwidth and more balanced system architecture design, and without trade-offs between drive bays and I/O slots.
- Firmware-level security and optional chassis intrusion options.
- Flexible HPE Smart Array Gen10 Controllers support and encryption features to meet different performance requirements for storage solutions.
- Sort for daisy-chaining of out-of-band management network ports.

Platform Information

Form Factor

2U rack

Chassis Types

24 LFF

48 SFF

NOTE: Optional Rear Drive Cages: 6 NVMe SSD (SFF), 4 LFF (only for 24LFF), or 2 SFF + 2 FHHL Riser kit

System Fans

10 system fans shipped as default

Standard Features

Standard Features

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

NOTE: For more information regarding Intel Xeon processors, please see the following <http://www.intel.com/xeon>.

NOTE: This table covers the public Intel offering only.

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Platinum 8160 Processor	2.1 GHz	24	33.00 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB

NOTE: Platinum Processors:

2 and 4 socket capable, 2S - 2UPI, 4S - 3UPI, 8S - 3UPI @ 10.4 GT/s.

6-Channel DDR4 @ 2666 MT/s.

768 GB max memory capacity (1.5 TB on select skus).

Intel Turbo Boost Technology, Intel Hyper-Threading Technology Intel AVX-512 (2x 512-bit FMA).

48 lanes PCIe 3.0, advanced RAS.

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Gold 6148 Processor	2.4 GHz	20	27.50 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6140 Processor	2.3 GHz	18	24.75 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6134 Processor	3.2 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6132 Processor	2.6 GHz	14	19.25 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6130 Processor	2.1 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5118 Processor	2.3 GHz	12	16.50 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB

NOTE: Gold Processors:

2 and 4 socket capable, 2S - 2UPI, 4S - 3UPI @ 10.4 GT/s.

6-Channel DDR4 @ 2400 MT/s (SKU 5122 - supports 2666 MT/s).

768 GB max memory capacity (1.5 TB on select skus).

Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (SKU 5122 - supports 2x 512 bit FMA).

48 lanes PCIe 3.0, advanced RAS.

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Silver 4116 Processor	2.1 GHz	12	16.50 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4114 Processor	2.2 GHz	10	13.75 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4110 Processor	2.1 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB

NOTE: Silver Processors:

2 socket capable, 2S - 2UPI @ 9.6 GT/s.

6-Channel DDR4 @ 2400 MT/s, 768 GB max memory capacity.

Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA).

48 lanes PCIe 3.0, standard RAS.

Chipset

Intel C621 Chipset

NOTE: 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

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

Standard Features

Memory

Type		HPE DDR4 SmartMemory Registered (RDIMM), Load Reduced (LRDIMM)
DIMM Slots Available	16	8 DIMM slots per processor, 6 channels per processor, 2-1-1 deployment
Maximum capacity (LRDIMM)	1.0 TB	16 x 64 GB LRDIMM @ 2666 MT/s
Maximum capacity (RDIMM)	512 GB	16 x 32 GB RDIMM @ 2666 MT/s

NOTE: Maximum memory per socket is dependent on processor selection. Processors supporting 1.5 TB per CPU is indicated by the "M" in the processor model names (i.e. 8160M).

NOTE: Mixing of RDIMM and LRDIMM memory is not supported.

NOTE: For General Server Memory Population Rules and Guidelines for Gen10 see details here:

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

Memory Protection

Advanced ECC

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

Online Spare

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

Expansion Slots

Default Expansion Slots	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
	1	PCIe 3.0	x16	x16	CPU1	Low Profile
	2	PCIe 3.0	x24	x24	CPU1	Low Profile
	5	PCIe 3.0	x8	x8	CPU2	Low Profile
	6	PCIe 3.0	x24	x24	CPU2	Low Profile
	7	PCIe 3.0	x16	x16	CPU2	Low Profile
2 SFF + 2FHHL Riser Kit	Expansion Slots #	Technology	Bus Width	Connector Width	Processor	Slot Form Factor
	3	PCIe 3.0	x16	x16	CPU 1	Full-height; half length
	4	PCIe 3.0	x8	x8	CPU 1	Full-height; half length

NOTE: If 2 SFF + 2 FHHL Riser Kit is installed, the Pcie slot 2 will be unavailable due to occupation of the riser.

Storage Controllers

Software RAID

HPE Smart Array S100i SR Gen10 SW RAID

NOTE: HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed, and for CTO orders please also select the Legacy mode settings part, 758959-B22.

NOTE: HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled.

NOTE: The S100i supports windows only.

NOTE: For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume. For more information visit: <https://downloads.linux.hpe.com/SDR/project/lsrrb/>

Standard Features

Essential RAID Controllers

HPE Smart Array E208i-a SR G10 LH 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 LH Controller
 HPE Smart Array P408i-p SR Gen10 Controller
 HPE Smart Array P408e-p SR Gen10 Controller
 HPE Smart Array P816i-a SR G10 LH Controller

NOTE: For additional details, please see [HPE Smart Array Gen10 Controllers Data Sheet](#).

Internal Storage Devices

Hard Drives
 None ship standard

Maximum Storage

Storage	Capacity	Configuration
Hot Plug SFF SAS HDD	120 TB	48+2 x 2.4 TB (with rear drive cage option)
Hot Plug SFF SATA HDD	100 TB	48+2 x 2.0 TB (with rear drive cage option)
Hot Plug SFF SAS SSD	384 TB	48+2 x 7.68 TB (with rear drive cage option)
Hot Plug SFF SATA SSD	384 TB	48+2 x 7.68 TB (with rear drive cage option)
Hot Plug LFF SAS HDD	336 TB	24 + 4 x 12 TB (with rear drive cage option)
Hot Plug LFF SATA HDD	336 TB	24 + 4 x 12 TB (with rear drive cage option)
Hot Plug LFF SAS SSD	44.4 TB	24 + 4 x 1.6 GB (with rear drive cage option)
Hot Plug LFF SATA SSD	53.76 TB	24 + 4 x 1.92 TB (with rear drive cage option)
Hot Plug SFF NVMe PCIe SSD	46.08 TB	6 x 7.68 TB NVMe

(Rear drive cage only)

NOTE: SFF NVMe PCIe SSD is only supported in the optional rear drive cage

NOTE: Only 1 optional rear drive cage can be installed per server

Power Supply

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

NOTE: Available in 94% efficiency.

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

NOTE: Available in 94% efficiency.

NOTE: 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 (AOK02A). 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](#).

Standard Features

Interfaces

Video	1 Rear - VGA port
Network Ports	2x 1GbE embedded NIC
iLO Remote Mgmt Port	2x 1 Gb Dedicated
MicroSD Slot	1 MicroSD slot
NOTE: The MicroSD slot is not hot-pluggable, please power down server before removal.	
USB 2.0	1 front (standard on all chassis types)
USB 3.0	Up to 3 total: 2 rear, 1 internal

Operating Systems and Virtualization Software

Windows Server 2016 (Most Recent Version)

VMware ESXi 6.0 U3

VMware ESXi 6.5 and U2 upon release

VMware ESXi 6.7 and U1 upon release

Red Hat Enterprise Linux (RHEL) 7.6

SUSE Linux Enterprise Server (SLES) 12 SP3 and 15 SP1

Ubuntu 16.04 and 18.04

Oracle Linux ver. 7.6

ClearOS

NOTE: ClearOS allows you to build a fully functional server that is just right for you at no upfront cost. For more information on ClearOS, please visit <http://www.hpe.com/servers/clearos>.

CentOS

NOTE: 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>

Standard Features

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

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

Graphics

Integrated video standard

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

HPE iLO 5 on system management memory

- 32 MB Flash
 - 4 Gbit DDR3 with ECC protection
-

Standard Features

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.

NOTE: 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

NOTE: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.

NOTE: 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>.

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>.

Standard Features

Server Utilities

Active Health System

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

Active 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 <http://www.hpe.com/info/smartupdate>.

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/stk> or <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>.

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

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.

NOTE: 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://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/>.

Optional Features

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. Learn more about HPE iLO Advanced at <http://www.hpe.com/servers/iloadvanced>.

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: <http://www.hpe.com/servers/ilopremium>.

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>.

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>.

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](#).

SMB Models

HPE Pointnext - Service and Support

Protect your business beyond warranty with HPE Pointnext Operational Service

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. Hewlett Packard Enterprise is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%¹ reduction in down time, near 100%² diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

1- IDC

2- HP CSC reports 2014 – 2015

Learn more about getting connected at <http://www.hpe.com/services/getconnected>.

Recommended Services

HPE Proactive Care* with 6 hour call-to-repair commitment, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years' proactive reporting and advice with our highest level of hardware support – the HPE 24x7, six hour hardware call-to-repair. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HPE Proactive Care* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HPE Proactive Care* - Next Business Day service, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to Hewlett Packard Enterprise, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years of Hardware Support where a Hewlett Packard Enterprise authorized representative will arrive at the Customer's site during the onsite coverage window to begin hardware maintenance service the next coverage day after the service request has been logged. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

SMB Models

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf>

HPE Installation and Startup Service

Provides for the installation of your HPE hardware according to product specifications including options. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also includes the installation of one supported operating system type (Windows® or Linux).

HPE Datacenter Care service

HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services “building blocks.” You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others’ products. For more information, visit

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

HPE GreenLake Flex Capacity

With HPE GreenLake Flex Capacity, you get the speed, scalability, and economics of the public cloud in the privacy of your data center. Gain the advantages of the public cloud—consumption-based payment, rapid scalability without worrying about capacity constraints. Reduce the “heavy lifting” needed to operate a data center. And retain the advantages that IT provides the business (i.e., control, security). Deliver the right user experience, choose the right technology for the business, manage privacy and compliance, and manage the cost of IT. And, you have the option to use the public cloud when needed.

DC for Hyperscale

Datacenter Care for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture can take advantage of this environment support tailored to their operating model.

HPE Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAXXX3PAR suite, XP, rackable tape libraries and configurable network switches.

HPE Service Credits

HPE Service Credits offers flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment.

<http://www.hpe.com/ww/learn>

SMB Models

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.

*HPE Support Center Mobile App is subject to local availability. For more information: <http://www.hpe.com/services>.

NOTE:HPE Apollo 4200 Gen10 Server 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 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](#).

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 quick-specs, 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.

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 Server	24 LFF	48 SFF
SKU Number	P07244-B21	P07246-B21
Processor	Not included as standard	
DIMM Slots	16-DIMM slots	
Storage Controller	At least one type i-a controller needs to be installed for the front drives Choice of HPE modular Smart Array and PCIe plug-in controller up to three per server Embedded SW RAID (S100i) for M.2 or rear drive cages only	
PCIe	5 PCIe slots (2 x24 LP / 2 x16 LP / 1 x8 LP)	
Drive Cage - included	24 LFF - SAS/SATA Optional: 6 NVMe, 4 LFF, or 2 SFF + 2 FHHL Riser rear drive cage kits	48 SFF - SAS/SATA Optional: 6 NVMe or 2 SFF + 2 FHHL Riser rear drive cage kits
Network Controller	HPE 1Gb Ethernet 2-Port 331i Adapter plus stand up card	
Network Controller	HPE 1Gb Ethernet 2-Port 331i Adapter plus stand up card	
Fans	10 system fans shipped as default	
Management	HPE iLO with Intelligent Provisioning (standard) Optional: iLO Advance and OneView	
USB	Front: 1 USB 2.0 + iLO service port Rear: 2 USB 3.0 Internal: 1 USB 3.0	

Configuration Information

Step 2a: Choose Processor Options

Please select one –L21 processor required below.

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

For example: first processor, select P08054-L21 then for second processor, select P08054-B21.

NOTE: Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GB max memory per processor except “M” model processors will support up to 1.5 TB max memory per processor.

NOTE: Mixing of 2 different processor models are NOT allowed.

NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Processor Option Kits

Required Processor

Intel Xeon-Platinum

HPE Apollo 4200 Gen10 Intel Xeon-Platinum 8160 (2.1GHz/24-core/150W) FIO Processor Kit	P08054-L21
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Intel Xeon-Gold

HPE Apollo 4200 Gen10 Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) FIO Processor Kit	P08053-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) FIO Processor Kit	P08052-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) FIO Processor Kit	P08051-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) FIO Processor Kit	P08050-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/125W) FIO Processor Kit	P08049-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) FIO Processor Kit	P08048-L21
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Intel Xeon-Silver

HPE Apollo 4200 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) FIO Processor Kit	P08047-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) FIO Processor Kit	P08046-L21
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HPE Apollo 4200 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit	P08045-L21
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Step 2b: Choose Memory Options

Please select one or more memory from below.

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

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

For Gen10 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>.

NOTE: Maximum memory capacity per processor is dependent on processor model selection or limitation.

NOTE: Maximum memory speed is dependent on processor model selection or limitation.

Registered DIMMs (RDIMMs)

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
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HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
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Load Reduces DIMMs (LRDIMMs)

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit	815101-B21
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Step 2c: Choose Power Supplies

Please select one or two power supplies from below.

NOTE: Mixing of 2 different power supplies are NOT allowed.

HPE Flex Slot Power Supplies

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
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HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
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NOTE: 1600W Power supplies only support high line voltage (200 VAC to 240 VAC).

Configuration Information

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 Option 864279-B21

NOTE: HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.

NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Legacy FIO Mode Setting 758959-B22

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

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

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

Core Options

NOTE: 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.

HPE Unique Options

Rear Storage Upgrades

HPE Apollo 4200 Gen10 4LFF Rear Drive Cage Kit P07943-B21

NOTE: 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)

HPE Apollo 4200 Gen10 2SFF Rear Drive Cage and 2 Full Height Half Length Riser Kit P07248-B21

NOTE: When this kit is installed, the PCIe slot 2 will be unavailable due to occupation of the riser

NOTE: 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)

HPE Apollo 4200 Gen10 6SFF NVMe Rear Drive Cage Kit P07250-B21

NOTE: When this SKU is selected, one of the following 2 FIO controller modes can be selected: HPE NVMe CPU2 x6 FIO Controller Mode for Rear Storage (P09657-B21) or HPE NVMe CPU1 x4/CPU2 x2 FIO Controller Mode for Rear Storage (P09658-B21)

NOTE: When no controller mode is selected, all 6 SFF NVMe will be connected to processor 1 through PCIe slot 2.

NOTE: When HPE NVMe CPU2 x6 FIO Controller Mode for Rear Storage (P09657-B21) is selected, all 6 SFF NVMe SSDs will be connected to processor 2 through PCIe slot 6.

NOTE: When HPE NVMe CPU1 x4/CPU2 x2 FIO Controller Mode for Rear Storage (P09658-B21) is selected, 4 SFF NVMe SSDs will be connected to processor 1 through PCIe slot 2 and 4 SFF NVMe SSDs will be connected to processor 1 through PCIe slot 2.

HPE Apollo 4200 Rear Drive Blank FIO Kit P08010-B21

Rear Storage Upgrade (Rear Drive Cages) Support Matrix		P07250-B21	P07943-B21	P07248-B21
		HPE Apollo 4200 Gen10 6SFF NVMe Rear Drive Cage Kit	HPE Apollo 4200 Gen10 4LFF Rear Drive Cage Kit	HPE Apollo 4200 Gen10 2SFF Rear Drive Cage and 2 Full Height Half Length Riser Kit
P07244-B21	HPE Apollo 4200 Gen10 24LFF Configure-to-order Server	Supported	Supported	Supported
P07246-B21	HPE Apollo 4200 Gen10 48SFF Configure-to-order Server	Supported	Not supported	Supported

Rear Drive Cage Controller Mode

HPE 2nd Cage FIO Controller Mode for Rear Storage 813546-B21

NOTE: When this SKU is selected, the rear drive cage will be connected to front 2nd drive bay and under the same controller as the front 2nd drive bay.

NOTE: Mixed drive form factor is not supported. When this SKU is selected, the form factor of the rear drive and the front 2nd drive bay has to be the same (all SFF or all LFF).

HPE Software RAID FIO Controller Mode for Rear Storage P09655-B21

NOTE: When this SKU is selected, the rear drive cage will be connected to onboard S100i SW RAID controller.

HPE Smart Array E/P SR FIO Controller Mode for Rear Storage P09656-B21

NOTE: When this SKU is selected, the rear drive cage will be connected to independent type i-p controller.

HPE NVMe CPU2 x6 FIO Controller Mode for Rear Storage P09657-B21

NOTE: When this SKU is selected, all 6 SFF NVMe SSDs will be connected to processor 2 through PCIe slot 6.

HPE NVMe CPU1 x4/CPU2 x2 FIO Controller Mode for Rear Storage P09658-B21

Core Options

NOTE: When this SKU is selected, 4 SFF NVMe SSDs will be connected to processor 1 through PCIe slot 2 and 4 SFF NVMe SSDs will be connected to processor 1 through PCIe slot 2.

Security

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
HPE Gen10 2U Bezel Kit	867809-B21
HPE Bezel Lock Kit	875519-B21

HPE Processors

Please select one –L21 processor required above.

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

For example: first processor, select 876099-L21 then for second processor, select 876099-B21.

NOTE: Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GB max memory per processor except “M” model processors will support up to 1.5 TB max memory per processor.

NOTE: Mixing of 2 different processor models are NOT allowed.

NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Intel Xeon-Platinum

HPE Apollo 4200 Gen10 Intel Xeon-Platinum 8160 (2.1GHz/24-core/150W) Processor Kit	P08054-B21
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Intel Xeon-Gold

HPE Apollo 4200 Gen10 Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) Processor Kit	P08053-B21
HPE Apollo 4200 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) Processor Kit	P08052-B21
HPE Apollo 4200 Gen10 Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) Processor Kit	P08051-B21
HPE Apollo 4200 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit	P08050-B21
HPE Apollo 4200 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/125W) Processor Kit	P08049-B21
HPE Apollo 4200 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) Processor Kit	P08048-B21
HPE Apollo 4200 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) Processor Kit	P08047-B21
HPE Apollo 4200 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) Processor Kit	P08046-B21
HPE Apollo 4200 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit	P08045-B21

HPE Memory

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

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

For Gen10 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>

NOTE: Maximum memory capacity per processor is dependent on processor model selection or limitation.

NOTE: Maximum memory speed is dependent on processor model selection or limitation.

HPE DDR4 Memory

Registered DIMMs (RDIMMs)

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21

Load Reduced DIMMs (LRDIMMs)

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit	815101-B21
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NOTE: For General Server Memory Population Rules and Guidelines for Gen10 see details here: <http://www.hpe.com/docs/memory-population-rules>

Core Options

HPE Drives

Enterprise - 12G SAS - SFF Drives

HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21

Enterprise - 12G SAS - LFF Drives

HPE 900GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	870761-B21
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Midline - 6G SATA - LFF Drives

HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881787-B21
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857650-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834028-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861742-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861744-B21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861683-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861681-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861686-B21

Midline 6G SATA - SFF Drives

HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-B21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	655710-B21

Midline - 12G SAS - LFF Drives

HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881787-B21
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857650-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834031-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861746-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861748-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833928-B21
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833926-B21
HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	846526-B21

Midline - 12G SAS - SFF Drives

HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765464-B21

SSD Selection

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

Core Options

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

HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04523-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04521-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04519-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04517-B21

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

HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04539-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04537-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04533-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04527-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04525-B21

Write Intensive - 12G SAS - SFF - Solid State Drives

HPE 3.2TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04547-B21
HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04545-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04543-B21
HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04541-B21

Mixed Use - 12G SAS - LFF - Solid State Drives

HPE 1.6TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04535-B21
HPE 800GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04531-B21

Read Intensive - PCIe/NVMe - SFF - Solid State Drives

HPE 7.68TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10218-B21
HPE 3.84TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10216-B21
HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10214-B21

Read Intensive - SATA - SFF - Solid State Drives

HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04482-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04480-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04478-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04570-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06200-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06198-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04566-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04476-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06196-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04564-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04474-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06194-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04560-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04556-B21

Read Intensive - SATA - LFF - Solid State Drives

HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04501-B21
HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P09691-B21
HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04499-B21

Core Options

Mixed Use - PCIe/NVMe - SFF - Solid State Drives

HPE 6.4TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10226-B21
HPE 3.2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10224-B21
HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	P10222-B21
HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	878014-B21

Mixed Use - SATA - SFF - Solid State Drives

HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P00896-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07930-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09722-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07926-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09716-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07922-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09712-B21

Mixed Use - SATA - LFF - Solid State Drives

HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P09726-B21
HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P07934-B21

Dual SATA 6G M.2 – UFF SCM

HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	P06607-B21
HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	P06609-B21

Internal Dual M.2 Kit

HPE Universal SATA HHHH 3yr Wty M.2 Kit	878783-B21
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NOTE: The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.

Mixed Use - M.2 - Solid State Drives (2280 type)

HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	875488-B21
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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

100 Gigabit Ethernet adapters

HPE Ethernet 100Gb 1-port 842QSFP28 Adapter	874253-B21
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25 Gigabit Ethernet adapters

HPE Ethernet 10/25Gb 2-port 64QSFP28 Adapter	817753-B21
HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter	817718-B21
HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter	867328-B21

10 Gigabit Ethernet adapters

HPE Ethernet 10Gb 2-port 562T Adapter	817738-B21
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
HPE Ethernet 10Gb 2-port 535T Adapter	813661-B21
HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
HPE Ethernet 10Gb 2-port 521T Adapter	867707-B21

Core Options

HPE InfiniBand

HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	872726-B21
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand EDR 100Gb 1-port 841QSFP28 Adapter	872725-B21
HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter	825110-B21
HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	825111-B21
HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21

NOTE: 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 (AOK02A). 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](#).

HPE Flex Slot Platinum Hot-plug Power supplies

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
NOTE: 1600W Power supplies only support high line voltage (200 VAC to 240 VAC).	
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21

Additional Options

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

Embedded Management

HPE iLO Advanced

HPE iLO Advanced 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 Advanced Premium Security Edition License with 1yr Support on Licensed Features	Q7E31A
HPE iLO Advanced Premium Security Flex Qty License with 1yr Support on Licensed Features	Q7E32A
HPE iLO Advanced Premium Security Edition Electronic License with 1yr Support on Licensed Features	Q7E32AAE
HPE iLO Advanced Premium Security Edition License with 3yr Support on Licensed Features	Q7E33A
HPE iLO Advanced Premium Security Flex Qty License with 3yr Support on Licensed Features	Q7E34A
HPE iLO Advanced Premium Security Edition Electronic License with 3yr Support on Licensed Features	Q7E34AAE
HPE iLO Advanced Premium Security Upgrade Electronic License with 3yr Support on Licensed Features	Q7E12AAE
HPE iLO Advanced Premium Security AKA Tracking License with 1yr Support on Licensed Features	Q7E35A
HPE iLO Advanced Premium Security AKA Tracking License with 3yr Support on Licensed Features	Q7E36A

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
HPE OneView Physical Media Kit LTU	E5Y37A

NOTE: 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>.

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: 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 PCIe Workload Accelerator Options

HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	878038-B21
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NOTE: Please see the [HPE PCIe Workload Accelerators for ProLiant Servers QuickSpecs](#) for Technical Specifications and additional information.

Additional Options

HPE Security

HPE Gen10 2U Bezel Kit	867809-B21
HPE Bezel Lock Kit	875519-B21
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

NOTE: HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.

NOTE: HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Storage Controllers

NOTE: For additional details, please see HPE Smart Array Gen10 Controllers Data Sheet at:

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

HPE Flexible Smart Array Controllers

HPE Smart Array P816i-a SR Gen10 (16 Int Lanes/4GB Cache/SmartCache) 12G SAS Modular LH Controller	869083-B21
HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular LH Controller	869081-B21
HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller	869079-B21

NOTE: The Low Height (LH) controller is required when a PCIe card that exceeds half-length is used in slots 2 or 3".

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller	804326-B21
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HPE Smart Array 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 96W Smart Storage Battery (up to 20 Devices) with 260mm Cable Kit	P01367-B21

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/Single Server) LTU	D7S26A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU	D7S27A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU	D7S27AAE

NOTE: 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 Rack Options

Rail Kits

HPE 2U Gen9 Hardware Rail Kit 822731-B21

Shipping Bracket

HPE Apollo 4200 Gen9 FIO Strap Shipping Bracket 822640-B21

NOTE: This SKU is used for shipping servers that are integrated in a rack.

HPE Racks

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

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

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

HPE Power Distribution Units (PDUs)

NOTE: Please see the [HPE Basic Power Distribution Units \(PDU\) QuickSpecs](#) for information on these products and their specifications.

NOTE: Please see the [HPE Metered Power Distribution Units \(PDU\) QuickSpecs](#) for information on these products and their specifications.

NOTE: Please see the [HPE Intelligent Power Distribution Unit \(PDU\) QuickSpecs](#) for information on these products and their specifications.

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

HPE Uninterruptible Power Systems (UPS)

NOTE: To learn more, please visit the [HPE Uninterruptible Power Systems \(UPS\) web page](#).

NOTE: Please see the [HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs](#) for information on these products and their specifications.

NOTE: Please see the [HPE Line Interactive Single Phase UPS QuickSpecs](#) for information on these products and their specifications.

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

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 (UDIMM, 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](#).

DIMM Type	Register DIMM (RDIMM)			
HPE SKU	815097-B21	815098-B21	835955-B21	815100-B21
SKU Description	HPE 8GB (1x8GB) Single Rank x8 DDR4- 2666 CAS-19-19-19 Registered Smart Memory Kit	HPE 16GB (1x16GB) Single Rank x4 DDR4- 2666 CAS-19-19-19 Registered Smart Memory Kit	HPE 16GB (1x16GB) Dual Rank x8 DDR4- 2666 CAS-19-19-19 Registered Smart Memory Kit	HPE 32GB (1x32GB) Dual Rank x4 DDR4- 2666 CAS-19- 19-19 Registered Smart Memory Kit
DIMM Rank ->	Single Rank (1R)	Single Rank (1R)	Dual Rank (2R)	Dual Rank (2R)
DIMM Capacity ->	8GB	16GB	16GB	32GB
Voltage	1.2V	1.2V	1.2V	1.2V
DRAM depth [bit]	1G	2G	1G	2G
DRAM Width [bit]	x8	x4	x8	x4
DRAM Density	8Gb	8Gb	8Gb	8Gb
CAS Latency	19-19-19	19-19-19	19-19-19	19-19-19
DIMM Native Speed (MT/s)	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
Intel Xeon®Platinum/Gold 81xx/61xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
2 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
Intel Xeon®Gold/Silver 51xx/41xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
2 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
Intel Xeon®Bronze 31xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
2 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
HPE Server Memory Speed (MT/s): Intel Xeon®Platinum/Gold 81xx/61xx Processors *				
1 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s
2 DIMM Per Channel	2666 MT/s	2666 MT/s	2666 MT/s	2666 MT/s

Memory

HPE Server Memory Speed (MT/s): Intel Xeon®Gold/Silver 51xx/41xx Processors *				
1 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
2 DIMM Per Channel	2400 MT/s	2400 MT/s	2400 MT/s	2400 MT/s
HPE Server Memory Speed (MT/s): Intel Xeon®Bronze 31xx Processors *				
1 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
2 DIMM Per Channel	2133 MT/s	2133 MT/s	2133 MT/s	2133 MT/s
NOTE: 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				
DIMM Type	Load Reduced (LRDIMM)			
HPE SKU P/N	815101-B21		815102-B21	
SKU Description	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit		HPE 128GB (1x128GB) Octal Rank x4 DDR4-2666 CAS-22-19-19 3DS Load Reduced Memory Kit	
DIMM Rank ->	Quad Rank (4R)		Octal Rank (8R)	
DIMM Capacity ->	64GB		128GB	
Voltage	1.2V		1.2V	
DRAM depth [bit]	2G		2G	
DRAM Width [bit]	x4		x4	
DRAM Density	8Gb		8Gb	
CAS Latency	19-19-19		22-19-19	
DIMM Native Speed (MT/s)	2666 MT/s		2666 MT/s	
Intel Xeon® Platinum/Gold 81xx/61xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2666 MT/s		2666 MT/s	
2 DIMM Per Channel	2666 MT/s		2666 MT/s	
Intel Xeon® Gold/Silver 51xx/41xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2400 MT/s		2400 MT/s	
2 DIMM Per Channel	2400 MT/s		2400 MT/s	
Intel Xeon® Bronze 31xx Processors Officially Supported Memory Speed (MT/s)				
1 DIMM Per Channel	2133 MT/s		2133 MT/s	
2 DIMM Per Channel	2133 MT/s		2133 MT/s	
HPE Server Memory Speed (MT/s): Intel Xeon® Platinum/Gold 81xx/61xx Processors *				
1 DIMM Per Channel	2666 MT/s		2666 MT/s	
2 DIMM Per Channel	2666 MT/s		2666 MT/s	
HPE Server Memory Speed (MT/s): Intel Xeon® Gold/Silver 51xx/41xx Processors *				
1 DIMM Per Channel	2400 MT/s		2400 MT/s	
2 DIMM Per Channel	2400 MT/s		2400 MT/s	
HPE Server Memory Speed (MT/s): Intel Xeon® Bronze 31xx Processors *				
1 DIMM Per Channel	2133 MT/s		2133 MT/s	
2 DIMM Per Channel	2133 MT/s		2133 MT/s	
NOTE: 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				

Memory

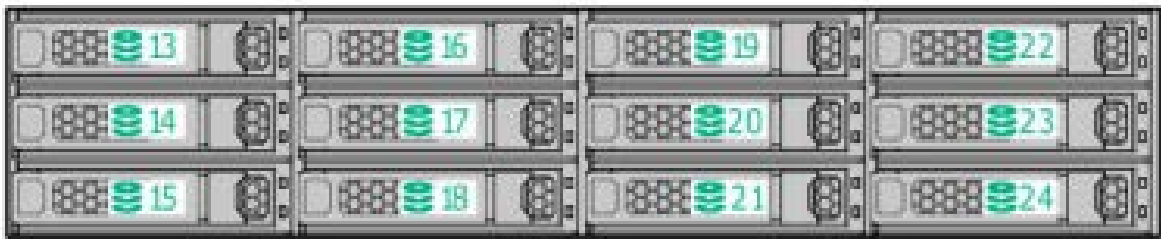
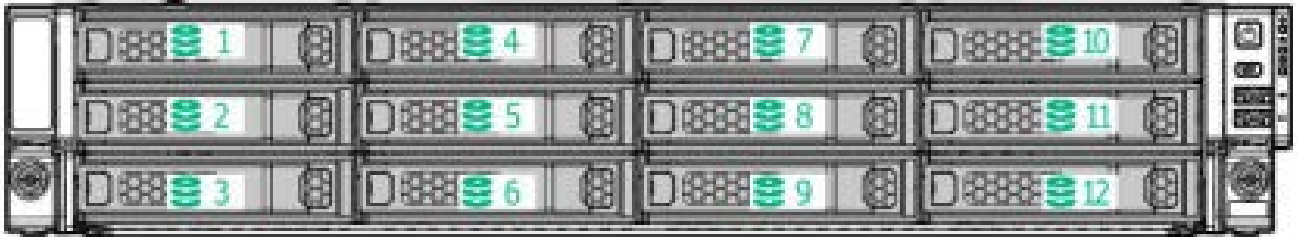
DDR4 memory options part number decoder

NOTE: Capacity references are rounded to the common gigabyte (GB) values.

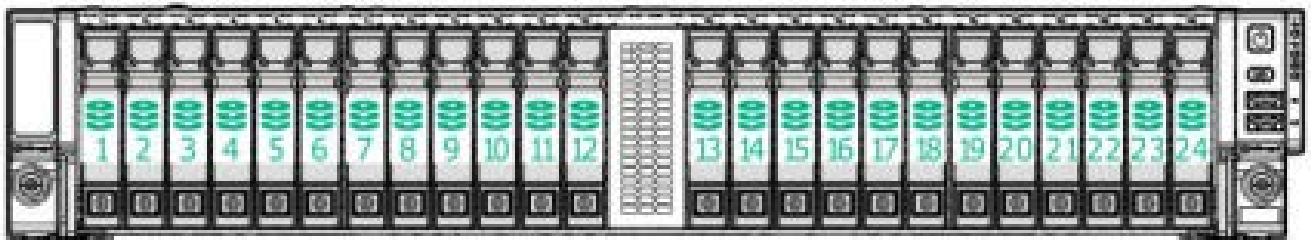
- 8GB = 8,192 MB
- 16GB = 16,384 MB
- 32GB = 32,768 MB
- 64GB = 65,536 MB

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

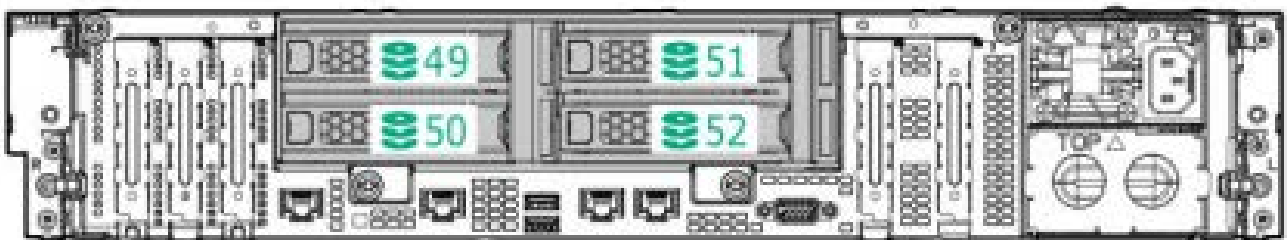
Storage



24LFF hot-plug front drive numbering

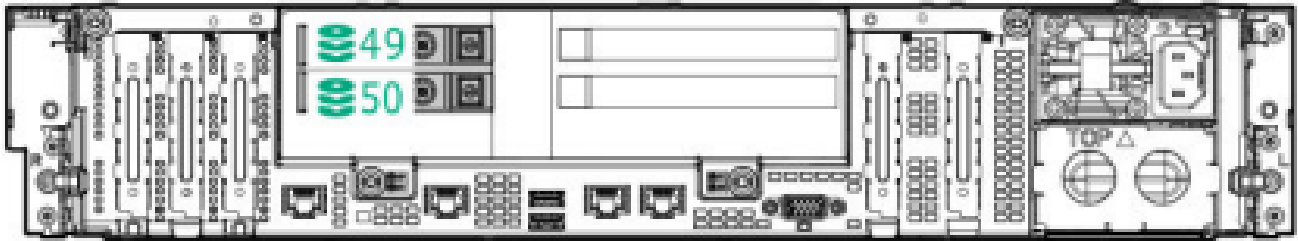


48SFF hot-plug front drive numbering

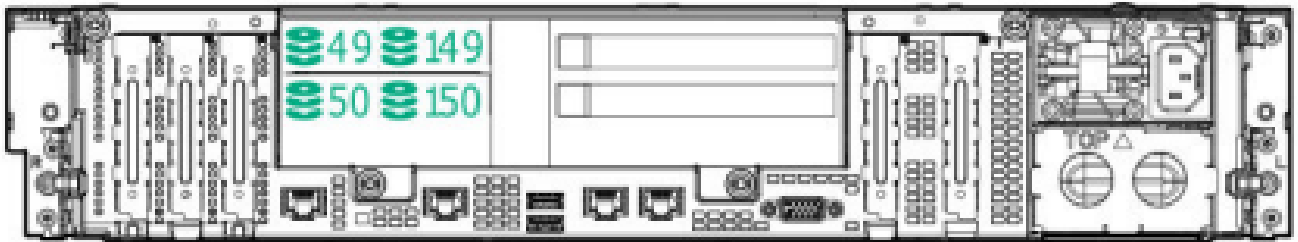


4LFF hot-plug rear drive numbering

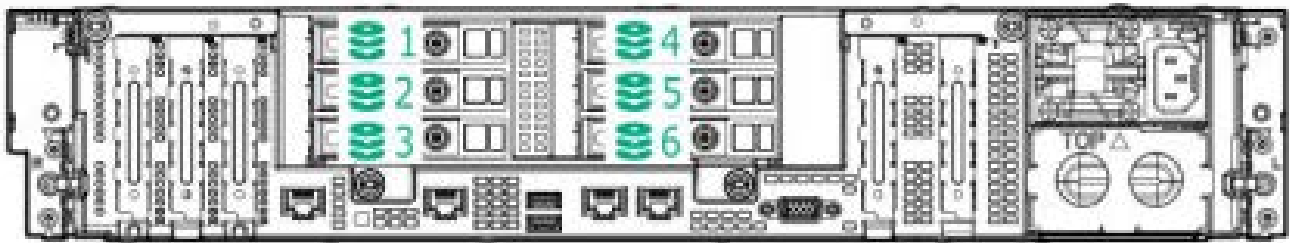
Technical Specifications



2SFF hot-plug rear drive numbering



2uFF hot-plug rear drive numbering



6SFF NVMe rear drive numbering

Technical Specifications

System Unit

Dimensions	8.75 x 44.80 x 82.55 cm
(Height x Width x Depth)	3.44 x 17.63 x 32.50 in

Weight (approximate)

Minimum	22.34 kg 49.25 lb
Maximum.	40.60 kg 89.51 lb

Input Requirements (per power supply)

Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
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BTU Rating

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
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Power Supply Output (per power supply)

Rated Steady-State Power	For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 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

System Inlet Temperature

Standard Operating Support

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.

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

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:

<http://www.hpe.com/servers/ashrae>

Extended Ambient Operating Support

For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:

<http://www.hpe.com/servers/ashrae>

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

Technical Specifications

Relative Humidity (non-condensing)

Operating	8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

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).

Acoustic Noise

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.

Configuration SKU	Entry	Base	Performance
Idle			
LWAd	5.1 B	5.1 B	5.2 B
LpAm	35 dBA	35 dBA	36 dBA
Operating			
LWAd	5.3 B	5.2 B	5.9 B
LpAm	36 dBA	38 dBA	45 dBA

NOTE: 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:

<http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

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)

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.

Summary of Changes

Date	Version History	Action	Description of Change
17-Dec-2018	Version 2	Change	SKUs in Additional Option section were updated.
26-Nov-2018	Version 1	New	New QuickSpecs



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

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