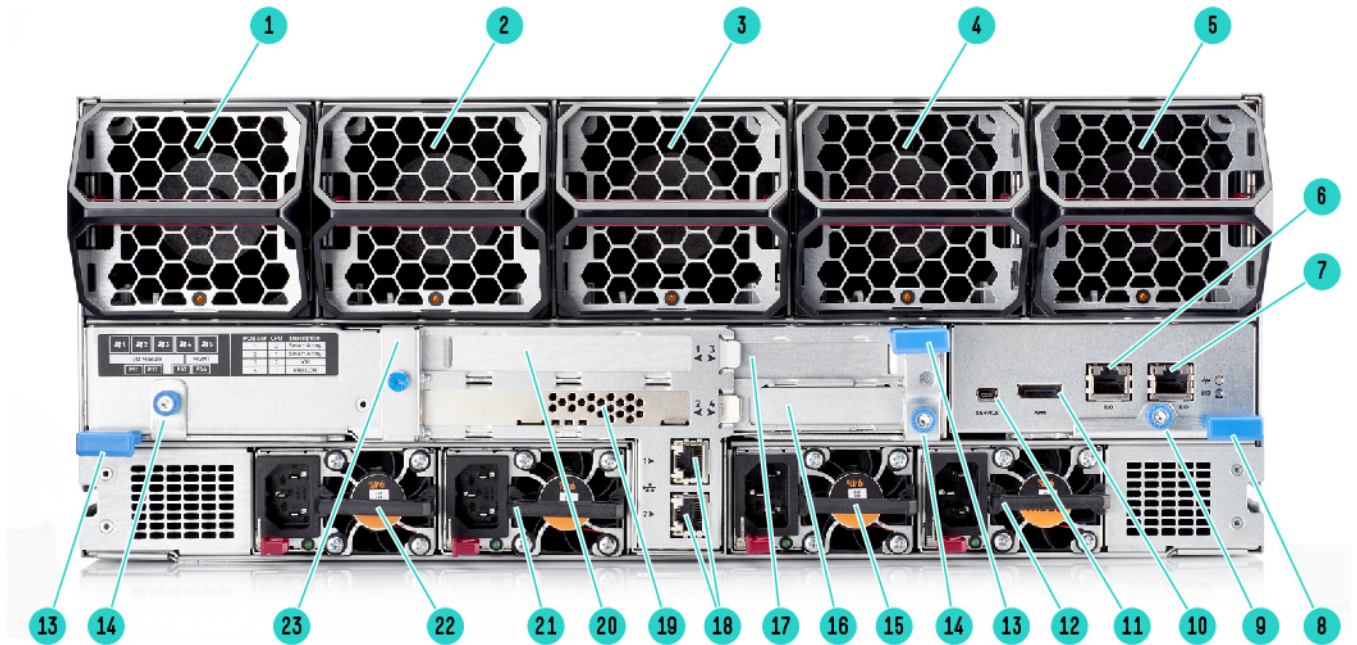## Overview

HPE Apollo 4510 Gen10 System

The HPE Apollo 4510 Gen10 System offers revolutionary storage density in a 4U form factor fitting in HPE Standard 1075 mm Racks, with one of the highest storage capacities in any 4U server with standard server depth. When you are running Big Data solutions, such as object storage, data analytics, content delivery, or other data-intensive workloads, the HPE Apollo 4510 Gen10 System allows you to save valuable data center space. Its unique, density-optimized 4U form factor holds up to 60 Large Form Factor (LFF) and additional 2 Small Form Factor (SFF) or M.2 drives. For configurability, the drives can be NVMe, SAS, or SATA disk drives or solid state drives.

HPE Apollo 4510 Gen10 System Front View

1. Bezel ear screws (2)
2. Drive drawer LEDs
3. Drive drawer 1
4. Drive drawer release button
5. Drive drawer release levers
6. Serial label pull tab
7. Server bay
8. Server node SFF drive bays (2)
9. Server ejector button
10. Drive drawer 2
11. Quick-release levers (2)

12. Backplane health LED
13. Drive health LED
14. UID LED
15. Server release lever
16. iLO Service Port
17. Server backup LED
18. SUV cable connector
19. Server health LED
20. UID LED/button
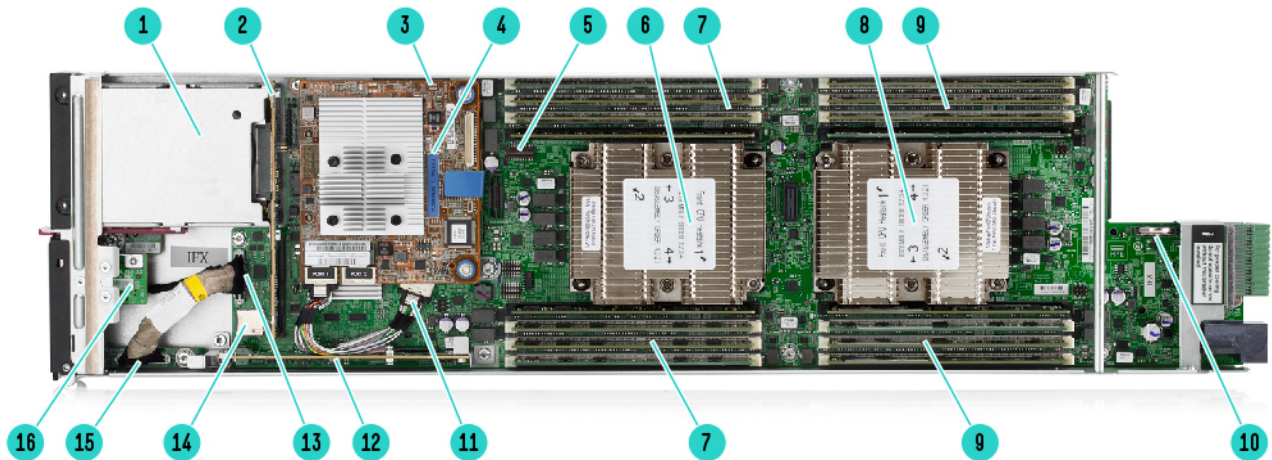21. Power On/Standby button and system power LED

Overview

HPE Apollo 4510 Gen10 System Rear View

1. System fan 1
2. System fan 2
3. System fan 3
4. System fan 4
5. System fan 5
6. iLO port 2 (RJ-45)
7. iLO port 1 (RJ-45)
8. Management module release lever
9. Management module thumbscrew
10. APM connector
11. Reserved
12. Power Supply 4

13. I/O module release levers (2)
14. I/O module thumbscrews (2)
15. Power Supply 3
16. FlexLOM slot
17. PCIe slot 3
18. NIC ports (2)
19. PCIe slot 2
20. PCIe slot 1
21. Power Supply 2
22. Power Supply 1
23. I/O Module (shown as HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module 882020-B21)

Overview

HPE Apollo 4510 Gen10 System Internal View

1. Drive cage	9. Processor 2 DIMMs (8)
2. Drive backplane	10. System battery
3. TPM 2.0 connector	11. SFF drive cage data cable connector
4. Controller connector	12. M.2 riser board
5. System maintenance switch	13. Front panel I/O board cable connector
6. Processor 1	14. microSD card slot
7. Processor 1 DIMMs (8)	15. Front panel I/O board
8. Processor 2	16. iLO Service Port board

Overview

HPE Apollo 4510 Gen10 System

What's New

- Up to 60 hot-plug large form factor (LFF) drivers support in the front driver drawers with side loaded design
- 4U form factor fitting in HPE Standard 1075mm Racks
- HPE Scalable Persistent Memory
- Front 2 hot-plug small form factor (SFF) in the HPE ProLiant XL450 Gen10 Server supports SAS/SATA/NVMe/SSD drivers with optional HPE Smart Array Gen10 Controllers
- Additional boot/drive options: SATA M.2; dual uFF SSD (2x M.2 cartridges)
- Intel® Xeon® Processor Scalable Family from 4 - 26 Cores; 85 - 150W; 1.8 - 3.6 GHz
- HPE DDR4 SmartMemory up to 2666 MT/s
- Security features: iLO 5 (Security Root of Trust); Chassis Intrusion Detection; TPM 2.0; digitally signed FW
- HPE Flexible Slot Power Supplies, 800W and 1600W, options of AC/DC/277VAC up to 96% efficiency

Standard Features

Standard Features

Processors – Up to 2 of the following

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

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	DDR4	Memory per socket
Platinum Processors						
Platinum 8164 Processor	2.0 GHz	26	35.75 MB	150W	2666 MT/s	768 GB
Platinum 8160 Processor	2.1 GHz	24	33.00 MB	150W	2666 MT/s	768 GB
Platinum 8158 Processor	3.0 GHz	12	24.75 MB	150W	2666 MT/s	768 GB
Platinum 8156 Processor	3.6 GHz	4	16.50 MB	105W	2666 MT/s	768 GB
Platinum 8153 Processor	2.0 GHz	16	22.00 MB	125W	2666 MT/s	768 GB
Gold Processors						
Gold 6152 Processor	2.0 GHz	26	35.75 MB	150W	2666 MT/s	768 GB
Gold 6148 Processor	2.4 GHz	20	27.50 MB	150W	2666 MT/s	768 GB
Gold 6142 Processor	2.6 GHz	16	22.00 MB	150W	2666 MT/s	768 GB
Gold 6140 Processor	2.3 GHz	18	24.75 MB	140W	2666 MT/s	768 GB
Gold 6138 Processor	2.0 GHz	20	27.50 MB	125W	2666 MT/s	768 GB
Gold 6136 Processor	3.0 GHz	12	24.75 MB	150W	2666 MT/s	768 GB
Gold 6134 Processor	3.2 GHz	8	24.75 MB	130W	2666 MT/s	768 GB
Gold 6132 Processor	2.6 GHz	14	19.25 MB	140W	2666 MT/s	768 GB
Gold 6130 Processor	2.1 GHz	16	22.00 MB	125W	2666 MT/s	768 GB
Gold 6128 Processor	3.4 GHz	6	19.25 MB	115W	2666 MT/s	768 GB
Gold 6126 Processor	2.6 GHz	12	19.25 MB	125W	2666 MT/s	768 GB
Gold 5122 Processor	3.6 GHz	4	16.50 MB	105W	2666 MT/s	768 GB
Gold 5120 Processor	2.2 GHz	14	19.25 MB	105W	2400 MT/s	768 GB
Gold 5118 Processor	2.3 GHz	12	16.50 MB	105W	2400 MT/s	768 GB
Gold 5115 Processor	2.4 GHz	10	13.75 MB	85W	2400 MT/s	768 GB
Silver Processors						
Silver 4116 Processor	2.1 GHz	12	16.50 MB	85W	2400 MT/s	768 GB
Silver 4114 Processor	2.2 GHz	10	13.75 MB	85W	2400 MT/s	768 GB
Silver 4112 Processor	2.6 GHz	4	8.25 MB	85W	2400 MT/s	768 GB
Silver 4110 Processor	2.1 GHz	8	11.00 MB	85W	2400 MT/s	768 GB
Silver 4108 Processor	1.8 GHz	8	11.00 MB	85W	2400 MT/s	768 GB

NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

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 DIMM slots available with 2 processors, 6 channels per processor, Up to 2 DIMMs per channel
	Maximum capacity (LRDIMM)	1024 GB (16 x 64GB LRDIMM)
	Maximum capacity (RDIMM)	512 GB (16 x 32GB RDIMM)

NOTE: Mixing of RDIMM and LRDIMM memory is not supported. **NOTE:** The maximum memory by socket is limited by the processor selection.

Memory Protection	For details on the HPE Server Memory Options RAS feature, visit: **http://www.hpe.com/docs/memory-ras-feature**.

Expansion Slots

HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module	Expansion Slots #	Technology	Bus Width*	Connector Width	Form Factor	Notes
	1	PCIe 3.0	X16	X16	Full-height, half-length slot	Proc 2; SA
	2	PCIe 3.0	X16	X16	Full-height, half-length slot	Proc 1; SA
	3	PCIe 3.0	X16	X16	Low profile slot	Proc 2
	4	PCIe 3.0	X8	N/A	FlexLOM	Proc 1
HPE Apollo 4500 Gen10 CPU0 x3/CPU1 x1 FIO I/O Module	Expansion Slots #	Technology	Bus Width*	Connector Width	Form Factor	Notes
	1	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1; SA
	2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1; SA
	3	PCIe 3.0	X16	X16	Low profile slot	Proc 2
	4	PCIe 3.0	X8	N/A	FlexLOM	Proc 1

NOTE: Indicates the number of physical electrical lanes running to the connector.

NOTE: The slots supported by Proc 2 will work when the second processor is installed.

Storage Controllers	The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the **HPE Smart Array Gen10 Controllers Data Sheet**.

Storage Controllers Dedicated to server node

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.

HPE Smart Array E208i-a SR Gen10 Controller

Standard Features

HPE Smart Array P408i-a SR Gen10 Controller
NOTE: Performance RAID Controllers (P series) require the HPE Smart Storage Battery (875241-B21) which is sold separately.
NOTE: The E208i-a and P408i-a may be used for hardware RAID/HBA of the 2 SFF drives in server node.
NOTE: If SAS drive is selected, E208i-a or P408i-a is required.
NOTE: E208i-a and P408i-a connect to the 2 SFF drives in the node and provide capability for up to 12G SAS or 6G SATA.
NOTE: When the 2 SFF slots are installed with SFF NVMe SSD, the HPE Smart Array is not required.

Storage Controllers Dedicated to Bulk LFF drives

For hardware RAID/HBA of bulk storage LFF drives, one of the following controlled is required:
HPE Smart Array E208i-p SR Gen10 Controller
HPE Smart Array P408i-p SR Gen10 Controller
NOTE: Minimum one or maximum two PCIe stand-up internal controller is required to support up to 60 bulk LFF drives.
NOTE: Performance RAID Controllers (P series) require the HPE Smart Storage Battery (875241-B21) which is sold separately.

SAS Controllers for External bulk drives:
HPE Smart Array E208e-p SR Gen10 Controller
HPE Smart Array P408e-p SR Gen10 Controller
NOTE: Performance RAID Controllers (P series) require the HPE Smart Storage Battery (875241-B21) which is sold separately.
NOTE: SAS controllers for internal bulk drives reside in I/O module in the system.

HPE Smart Storage Battery

Optional HPE 96W Smart Storage Battery (up to 20 Devices/145mm Cable) Kit (875241-B21)
NOTE: The Smart Storage Battery is required if one of the following controllers has been selected on a server node:
HPE Smart Array P408i-a SR Gen10 Controller
HPE Smart Array P408i-p SR Gen10 Controller
HPE Smart Array P408e-p SR Gen10 Controller

Internal Bulk Storage Controller Options by Model

The following table shows supported controller choices for Apollo 4510 Gen10 with one I/O module.

	1x E208i-p	2x E208i-p	1x P408i-p	2x P408i-p	
Apollo 4510 Gen10	X	X	X	X	

Internal Storage Devices

Hard Drives	None ship standard
Drive Bays	2 SFF drive bays total in the HPE ProLiant XL450 Gen10 Server
	60 LFF drive bays total in the HPE Apollo 4510 Gen10 Chassis

Maximum Internal Storage

Apollo 4510 Gen10: 1x60 Model - 60 LFF Drives per node
NOTE: The default bulk drive support is 60 LFF drives.

Hot Plug LFF SAS	720 TB	60 x 12TB
Hot Plug LFF SATA	720 TB	60 x 12TB
Hot Plug LFF SAS SSD	460.8 TB	60 x 7.68TB
Hot Plug LFF SATA SSD	230.4 TB	60 x 3.84TB
Hot Plug SFF SATA SSD	7.68TB	2 x 3.84TB
Hot Plug SFF SAS SSD	15.36 TB	2 x 7.68TB
Hot Plug SFF SATA	4 TB	2 x 2TB

Standard Features

Hot Plug SFF SAS	4.8 TB	2 x 2.4TB	
Hot Plug SFF NVMe PCIe SSD	8 TB NVMe	2 x 4TB NVMe	
UFF Dual M.2	3.68TB	4 x 1.92TB	

NOTE: The node consists of two SFF (2.5") hard drive bays on the front of the server node

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

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

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
NOTE: Available in 94% efficiency.

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.

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**.

Interfaces	Network RJ-45	Two 1GbE NIC ports

NOTE: Customers can elect to use a FlexibleLOM, which enables customers to increase I/O capacity

Management Network Port	Two 1GbE Dedicated

NOTE: Management port is shared (located on management module)

Front iLO Service Port	1 front
Health LED	1 front
Power	1 front
UID for node	1 front
UID for storage	1 per display board
SUV	Serial + USB + video (all in one)

NOTE: HPE 36pin SUV Dongle Cord Kit P/N is 676277-B21

Micro SD Slot	1 Micro SD

NOTE: The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.

System Fans	System ships standard with 5 hot-plug fan modules.

Operating Systems and Virtualization Software Support for ProLiant Servers	**Microsoft Windows Server** **Canonical Ubuntu** **Red Hat Enterprise Linux (RHEL)** **SUSE Linux Enterprise Server (SLES)** **VMware**

NOTE: Only 64-bit versions of these operating systems are supported.
NOTE: For more information on Hewlett Packard Enterprise's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from Hewlett Packard Enterprise, please visit our OS Support Site at:

Standard Features

https://www.hpe.com/us/en/servers/server-operating-systems.html and our **driver download page**.

Graphics	Integrated Video Standard • Video modes up to 1920 x 1200@60Hz (32 bpp)

Form Factor	4U form factor

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 1 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**.
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**.

Standard Features

	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 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**.

Security

UEFI Secure Boot and Secure Start support
Immutable Silicon Root of Trust
FIPS 140-2 validation (iLO 5 certification in progress)
Common Criteria certification (iLO 5 certification in progress)
Tamper-free updates – components digitally signed and verified
Secure Recovery – recover critical firmware to known good state on detection of compromised firmware
Ability to rollback firmware
Secure erase of NAND/User data
TPM (Trusted Platform Module) 2.0 option

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	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 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°C, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.
	HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so you're 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**.

Optional Features

One Config Simple (SCE)   SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. **https://h22174.www2.hpe.com/SimplifiedConfig/Welcome#**

Service and Support

HPE Pointnext - Service and Support

Protect your business beyond warranty with HPE Support Services
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. HPE 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. Reduce down time and improve diagnostic accuracy with a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, 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.

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

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 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**

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 HPE experts, access support resources or collaborate with peers. Learn more **http://www.hpe.com/support/hpesc**

HPE's 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**

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.

Service and Support

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 - Factory Integrated Models

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

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 the number of initial hard drives ordered with the server.

4. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

NOTE: Rack chosen is required to have 1075mm to provide space for cable management arm at the rear of the chassis and host PDU in the rear of the rack.

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

HPE Apollo 4510 Gen10 Chassis	HPE Apollo 4510 Gen10 Configure-to-Order Chassis	864668-B21
	NOTE: Standard 5 hot-plug fan modules included in the chassis.	
	NOTE: Supports up to 60 LFF drives and one node.	

Step 1A: Select required Chassis Options (only one of the following from each category unless otherwise noted)

HPE Power Supplies	**NOTE:** A minimum of three power supplies per chassis is required when two processors are selected.	
	NOTE: 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: **HPE Power Advisor Tool**.	
	HPE Flex Slot Titanium Power Supply Kits	
	NOTE: The following power supplies offer up to 96% efficiency.	
	HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
	HPE Flex Slot Slot Power Supplies	
	NOTE: The following power supplies offer up to 94% efficiency.	
	HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
	HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
	HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
	HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
	NOTE: Kits contain optional power supply, an IEC power cable and PDU IEC cables.	
HPE Rail Kits	HPE 4U Server Rail Kit	878571-B21
	NOTE: One Rail Kit is required for every chassis in a rack.	

Step 1B: Select Nodes

HPE Server Node - Apollo 4510 Gen10	HPE ProLiant XL450 Gen10 Configure-to-order Server Node for Apollo 4510 Gen10 Chassis	864625-B21
	NOTE: Select quantity of one.	

Configuration Information - Factory Integrated Models

Step 2: Choose Required Node Options (only one of the following from each list unless otherwise noted)

HPE Processor Option Kits	**NOTE:** If 2 processor servers are desired, select one xxxxx-L21 and one corresponding xxxxxx-B21 for every processor option chosen per node **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.	
	HPE XL450 Gen10 Intel Xeon-Platinum 8164 (2.0GHz/26-core/150W) FIO Processor Kit	872561-L21
	HPE XL450 Gen10 Intel Xeon-Platinum 8160 (2.1GHz/24-core/150W) FIO Processor Kit	872558-L21
	HPE XL450 Gen10 Intel Xeon-Platinum 8158 (3.0GHz/12-core/150W) FIO Processor Kit	877035-L21
	HPE XL450 Gen10 Intel Xeon-Platinum 8156 (3.6GHz/4-core/105W) FIO Processor Kit	872563-L21
	HPE XL450 Gen10 Intel Xeon-Platinum 8153 (2.0GHz/16-core/125W) FIO Processor Kit	872554-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) FIO Processor Kit	872564-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) FIO Processor Kit	872562-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6142 (2.6GHz/16-core/150W) FIO Processor Kit	872560-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) FIO Processor Kit	872559-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) FIO Processor Kit	872550-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6136 (3.0GHz/12-core/150W) FIO Processor Kit	874656-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) FIO Processor Kit	874655-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) FIO Processor Kit	872546-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/120W) FIO Processor Kit	872557-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6128 (3.4GHz/6-core/115W) FIO Processor Kit	872556-L21
	HPE XL450 Gen10 Intel Xeon-Gold 6126 (2.6GHz/12-core/120W) FIO Processor Kit	872555-L21
	HPE XL450 Gen10 Intel Xeon-Gold 5122 (3.6GHz/4-core/105W) FIO Processor Kit	877033-L21
	HPE XL450 Gen10 Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) FIO Processor Kit	872553-L21
	HPE XL450 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) FIO Processor Kit	872552-L21
	HPE XL450 Gen10 Intel Xeon-Gold 5115 (2.4GHz/10-core/85W) FIO Processor Kit	872551-L21
	HPE XL450 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) FIO Processor Kit	872545-L21
	HPE XL450 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) FIO Processor Kit	872549-L21
	HPE XL450 Gen10 Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) FIO Processor Kit	877032-L21
	HPE XL450 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit	872547-L21
	HPE XL450 Gen10 Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) FIO Processor Kit	872548-L21
HPE Memory	Please select one or more memory from below. **NOTE:** For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: **https://www.hpe.com/docs/memory-population-rules**. **NOTE:** For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**. **NOTE:** 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:** Memory DIMM availability with a server platform is dependent upon completion of certification testing.	

Configuration Information - Factory Integrated Models

	NOTE: The maximum memory speed is a function of the memory type, memory configuration, and processor model.	
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-B21
	HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit	815101-B21
I/O Module	HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module	882020-B21
	NOTE: HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module (882020-B21) contains one FlexLOM and one x16 PCIe slot from Proc 1 and two x16 PCIe slots from Proc 2.	
	HPE Apollo 4500 Gen10 CPU0 x3/CPU1 x1 I/O Module	P00416-B21
	NOTE: One I/O module is needed for each node. **NOTE:** HPE Apollo 4500 Gen10 CPU0 x3/CPU1 x1 I/O Module (P00416-B21) contains one FlexLOM and two x8 PCIe slot from Proc 1 and one x16 PCIe slots from Proc 2.	

Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)

HPE Storage Controllers	**NOTE:** The controllers below control the 2 SFF drives in the HPE ProLiant XL450 Gen10 Server. If SFF SAS drives are selected.	
	Essential RAID Controllers for 2 SFF boot drives	
	HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller	804326-B21
	NOTE: This controller does not consume a PCIe slot.HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller. **NOTE:** This controller does not consume a PCIe slot.	
	Performance RAID Controllers for 2 SFF boot drives **NOTE:** All performance RAID controllers are supported by the HPE Smart Storage Battery (875241-B21), which supports multiple devices and is sold separately.	
	HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller	804331-B21
	NOTE: This controller does not consume a PCIe slot.	
BIOS Mode	HPE Legacy FIO Mode Setting	758959-B22
	NOTE: Selecting this option will change the default UEFI BIOS setting into Legacy BIOS setting.	
Controller State	HPE FIO Enable Smart Array SW RAID	784308-B21

Configuration Information - Factory Integrated Models

NOTE: If not selecting an HPE Storage Controller, this option may be selected to support RAID and Hot-plug capabilities for SATA hard drives. The S100i does not support SAS hard drives.

HPE Manufacturing FIO Enable HBA Mode Setting   792962-B21

NOTE: This option can only be selected with HPE Smart Array E208i-a SR Gen10 Controller SA card and cannot be selected with HPE Legacy FIO Mode Setting.

Core Options

HPE Processors	**Processor Option Kits**	
	HPE XL450 Gen10 Intel Xeon-Platinum 8164 (2.0GHz/26-core/150W) Processor Kit	872561-B21
	HPE XL450 Gen10 Intel Xeon-Platinum 8160 (2.1GHz/24-core/150W) Processor Kit	872558-B21
	HPE XL450 Gen10 Intel Xeon-Platinum 8158 (3.0GHz/12-core/150W) Processor Kit	877035-B21
	HPE XL450 Gen10 Intel Xeon-Platinum 8156 (3.6GHz/4-core/105W) Processor Kit	872563-B21
	HPE XL450 Gen10 Intel Xeon-Platinum 8153 (2.0GHz/16-core/125W) Processor Kit	872554-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) Processor Kit	872564-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) Processor Kit	872562-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6142 (2.6GHz/16-core/150W) Processor Kit	872560-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) Processor Kit	872559-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) Processor Kit	872550-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6136 (3.0GHz/12-core/150W) Processor Kit	874656-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) Processor Kit	874655-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit	872546-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/120W) Processor Kit	872557-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6128 (3.4GHz/6-core/115W) Processor Kit	872556-B21
	HPE XL450 Gen10 Intel Xeon-Gold 6126 (2.6GHz/12-core/120W) Processor Kit	872555-B21
	HPE XL450 Gen10 Intel Xeon-Gold 5122 (3.6GHz/4-core/105W) Processor Kit	877033-B21
	HPE XL450 Gen10 Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) Processor Kit	872553-B21
	HPE XL450 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) Processor Kit	872552-B21
	HPE XL450 Gen10 Intel Xeon-Gold 5115 (2.4GHz/10-core/85W) Processor Kit	872551-B21
	HPE XL450 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) Processor Kit	872545-B21
	HPE XL450 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) Processor Kit	872549-B21
	HPE XL450 Gen10 Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor Kit	877032-B21
	HPE XL450 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit	872547-B21
	HPE XL450 Gen10 Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) Processor Kit	872548-B21

NOTE: Up to two processors supported.
NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
NOTE: The xxxxxx-L21 is the first processor shipped, the xxxxxx-B21 is the 2nd processor.
NOTE: Maximum memory capacity per socket depends on the processor selected.

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

HPE Memory	HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-B21
	HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21

Core Options

	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit	815101-B21

HPE Drives	**NOTE:** The following HPE Hard Drive bundles are Factory Integration Only options. They must be purchased at time of configuration and are not available for field integration.	
	6-pack SATA Hot Plug LFF (3.5-inch) Low Profile Hard Drive Bundles	
	HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LPC 1yr Wty Helium 512e DS 6-pack FIO HDD Bundle	878566-B21
	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LPC 1yr Wty DS 6-pack FIO HDD Bundle	878564-B21
	6-pack SAS Hot Plug LFF (3.5-inch) Low Profile Hard Drive Bundles	
	HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LPC 1yr Wty Helium 512e DS 6-pack FIO HDD Bundle	878562-B21
	HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LPC 1yr Wty DS 6-pack FIO HDD Bundle	878560-B21
	Enterprise - 12G SAS - SFF Drives	
	HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
	HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21
	HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
	HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-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 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
	HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
	HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21
	Enterprise - 12G SAS - LFF Drives	
	HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	870755-B21
	HPE 900GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	870761-B21
	Midline - 12G SAS - SFF Drives	
	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
	HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21
	Midline - 12G SAS - LFF Drives	
	HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	846526-B21
	HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833926-B21

Core Options

HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833928-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861748-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861746-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834031-B21
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857646-B21
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881781-B21

Midline - 6G SATA - SFF Drives

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

Midline - 6G SATA - LFF Drives

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

To further assist with configuration, HPE also offers an SSD Selector Tool located here:
http://ssd.hpe.com.

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

HPE 480GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875311-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872390-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875313-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872392-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875326-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872394-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875330-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870144-B21

Core Options

HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870148-B21
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06584-B21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06586-B21
HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06588-B21
HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06590-B21
HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06592-B21

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

HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872374-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873359-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872376-B21
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873363-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872382-B21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873365-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872386-B21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873367-B21

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

HPE 800GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	872380-B21
HPE 1.6TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	872384-B21

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

HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873351-B21
HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873355-B21
HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	873357-B21

NOTE: HPE has qualified the NVMe drive portfolio using the Operating System inbox drivers, full detail on the **HPE Solid State Drive QuickSpecs**.

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

HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868818-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868822-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868826-B21
HPE 3.8TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	868830-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875503-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875509-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875511-B21

Core Options

HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875513-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877740-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877746-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877752-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877758-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877764-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04474-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04476-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	P04480-B21
HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04482-B21

Read Intensive - 6G SATA - LFF - Solid State Drives

HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	877756-B21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	877762-B21
HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04499-B21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04501-B21

Read Intensive - NVMe - SFF - Solid State Drives

HPE 480GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875587-B21
HPE 960GB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875589-B21
HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875591-B21
HPE 4TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	877988-B21

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

HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872344-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872348-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	872352-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875483-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875470-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875474-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	875478-B21
HPE 240GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	880295-B21

Core Options

HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877776-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877782-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	877788-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07922-B21
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07926-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P07930-B21

Mixed Use - 6G SATA - LFF - Solid State Drives

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

Mixed Use - NVMe - SFF - Solid State Drives

HPE 400GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875593-B21
HPE 800GB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875595-B21
HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	875597-B21

NOTE: HPE has qualified the NVMe drive portfolio using the Operating System inbox drivers, full detail on the **HPE Solid State Drive QuickSpecs**.
NOTE: Not supported by HPE Smart Array controllers.

HPE Networking	**1 Gigabit Ethernet Adapters**	
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HPE Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
	HPE Ethernet 1Gb 4-port 366T Adapter	811546-B21
	10 Gigabit Ethernet adapters	
	HPE Ethernet 10Gb 2-port 521T Adapter	867707-B21
	HPE Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HPE Ethernet 10Gb 2-port 535T Adapter	813661-B21
	HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
	25 Gigabit Ethernet adapters	
	HPE Ethernet 10Gb 2-port 562T Adapter	817738-B21
	HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter	867328-B21
	HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter	817718-B21
	HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter	817753-B21

NOTE: Total number of PCIe slots available is 3 with 2 processors. This is the total selection from any combination of PCIe options in the following categories: Infiniband, Networking, Controllers, PCIe Accelerators.
NOTE: The Apollo 4510 Gen10 ships with 2x 1 Gb Embedded.
NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information:
http://www.hpe.com/us/en/product-catalog/servers/server-adapters.hits-12.html.

HPE InfiniBand

Core Options

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter	825110-B21
HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	825111-B21
HPE InfiniBand EDR 100Gb 1-port 841QSFP28 Adapter	872725-B21

NOTE: Total number of PCIe slots available is 3 with 2 processors. This is the total selection from any combination of PCIe options in the following categories: Infiniband, Networking, Controllers, and PCIe Accelerators.

HPE Intel® Omni-Path Options

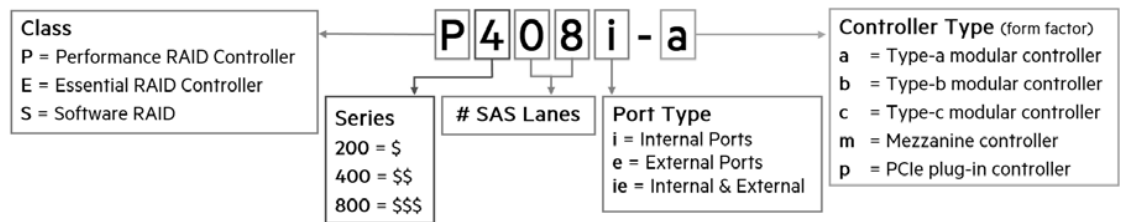|	
HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21

FlexibleLOM

HPE Ethernet 1Gb 4-port 331FLR Adapter	629135-B22
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HPE Ethernet 10Gb 2-port 522FLR-T Converged Network Adapter	867311-B21
HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HPE Ethernet 10Gb 2-port 535FLR-T Adapter	817721-B21
HPE FlexFabric 10Gb 4-port 536FLR-T Adapter	764302-B21
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	727054-B21
HPE Ethernet 10Gb 2-port 562FLR-T Adapter	817745-B21
HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter	867334-B21
HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter	817709-B21
HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter	817749-B21

NOTE: Does not consume a PCIe slot.
NOTE: Total number of FlexibleLOM slots available is 1. This is the total selection from a combination of FlexibleLOM options in the following categories: Infiniband and Networking.

HPE Smart Array Controllers

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the **HPE Smart Array Gen10 Controllers Data Sheet.**

Performance RAID Controllers

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller NOTE: Does not occupy a PCIe expansion slot. NOTE: This controller controls the 2 SFF drives in the HPE ProLiant XL450 Gen10 Server, if SFF SAS drives are selected.	804331-B21
HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller NOTE: This controller controls the internal bulk drivers.	830824-B21

Core Options

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

Essential RAID Controllers

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller NOTE: Does not occupy a PCIe expansion slot. NOTE: This controller controls the 2 SFF drives in the HPE ProLiant XL450 Gen10 Server, if SFF SAS drives are selected.	804326-B21
HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller NOTE: This controller controls the internal bulk drivers.	804394-B21
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21

HPE Cable Options

HPE Apollo 4500 Gen10 Smart Array E208i-a/P408i-a SAS Cable Kit NOTE: The kit is needed if the HPE Smart Array for the ProLiant XL450 Gen10 Server is selected.	874779-B21
HPE Apollo 4500 Gen10 Smart Array E208i-p/P408i-p SAS Cable Kit NOTE: The kit is needed if one HPE Smart Array for internal bulk drivers is selected.	874777-B21
HPE Apollo 4500 Gen10 Dual Smart Array E208i-p/P408i-p SAS Cable Kit NOTE: The kit is needed if second HPE Smart Array for internal bulk drivers is selected.	874778-B21

HPE Storage Options

Emulex Fibre Channel HBAs

HPE StoreFabric SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE StoreFabric SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE StoreFabric SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A

QLogic Fibre Channel HBAs

HPE StoreFabric SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	P9M75A
HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A

Converged Network Adapters

HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A
HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter	N3U52A
HPE StoreFabric CN1200E 10Gb Converged Network Adapter	E7Y06A
HPE StoreFabric CN1200E 10GBASE-T Dual Port Converged Network Adapter	N3U51A

HPE Power Supplies

NOTE: 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: **HPE Power Advisor Tool**.
NOTE: For information on power specifications and technical content visit:
HPE Server power supplies.

HPE Flexible Slot Titanium Power Supply Kits

NOTE: The following power supplies offer up to 96% efficiency.

HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21

HPE Flexible Slot Power Supplies

Core Options

NOTE: The following power supplies offer up to 94% efficiency.

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21

Core Options

HPE Tape Options	HPE StoreEver LTO-8 Ultrium 30750 External Tape Drive	BC023A
	HPE StoreEver LTO-7 Ultrium 15000 External Tape Drive	BB874A
	HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
	HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
	HPE StoreEver MSL6480 Scalable Base Module	QU625A
	HPE StoreEver MSL2024 0-drive Tape Library	AK379A
	HPE StoreEver MSL4048 0-drive Tape Library	AK381A
	HPE StoreEver 1/8 G2 LTO-8 Ultrium 30750 FC Tape Autoloader	Q6Q65A
	HPE StoreEver 1/8 G2 LTO-8 Ultrium 30750 SAS Tape Autoloader	Q6Q66A
	HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 SAS Tape Autoloader	N7P35A
	HPE StoreEver 1/8 G2 LTO-7 Ultrium 15000 FC Tape Autoloader	N7P34A
	HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 SAS Tape Autoloader	C0H18A
	HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 Fibre Channel Tape Autoloader	C0H19A
	HPE StoreEver 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader	BL536B
	HPE StoreEver MSL LTO-8 Ultrium 30750 FC Drive Upgrade Kit	Q6Q67A
	HPE StoreEver MSL LTO-8 Ultrium 30750 SAS Drive Upgrade Kit	Q6Q68A
	HPE StoreEver MSL LTO-7 Ultrium 15000 FC Drive Upgrade Kit	N7P36A
	HPE StoreEver MSL LTO-7 Ultrium 15000 SAS Drive Upgrade Kit	N7P37A
	HPE StoreEver MSL LTO-6 Ultrium 6250 SAS Drive Upgrade Kit	C0H27A
	HPE StoreEver MSL LTO-6 Ultrium 6250 Fibre Channel Drive Upgrade Kit	C0H28A
	HPE StoreEver MSL LTO-5 Ultrium 3000 SAS Drive Upgrade Kit	BL540B
	HPE StoreEver MSL3040 Scalable Library Base Module	Q6Q62B
	HPE StoreFabric CN1200R 10GBASE-T Converged Network Adapter	Q0F26A
	HPE StoreFabric CN1300R 10/25Gb Dual Port Converged Network Adapter	Q0F09A

Additional Options

HPE Apollo Platform Manager	**NOTE:** The Apollo Platform Manager is an optional rack level solution for the HPE Apollo 4510 Gen10 Systems which enable server-level DC (or hardware) power on and off and server-level monitoring. In addition, the APM will automatically discover hardware components which are connected into the APM solution. The APM does not replace rack PDUs, but is designed to enable the utilization of basic, low cost, rack PDUs while providing the functionality of 'switched' PDUs (which provide hardware power on/off of individual servers by turning off the AC power to the power supplies of a given server). Because the servers share power supplies to optimize power efficiency, using 'switched' PDUs to turn off all the power supplies in the chassis will result in the loss of all server nodes in that chassis. The APM solves this by allowing server node-level hardware power on/off of the DC power to the individual server node motherboards.	
	HPE Advanced Power Manager Kit	741192-B21

Embedded Management	**HPE Integrated Lights-Out (iLO) Advanced**	
	HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
	HPE iLO Advanced 1-server License with 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

High Performance Clusters	**HPE Cluster Management Utility**	
	HPE Insight Cluster Management Utility 3yr 24x7 Flexible LTU	BD476A
	NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement.	

HPE PCIe Workload Accelerator Options	HPE 1.6TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877825-B21
	HPE 3.2TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877827-B21
	HPE 6.4TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877829-B21

HPE Security	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.	

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

Additional Options

	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.

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.

USB and SD Options   HPE 32GB microSD Flash Memory Card   700139-B21
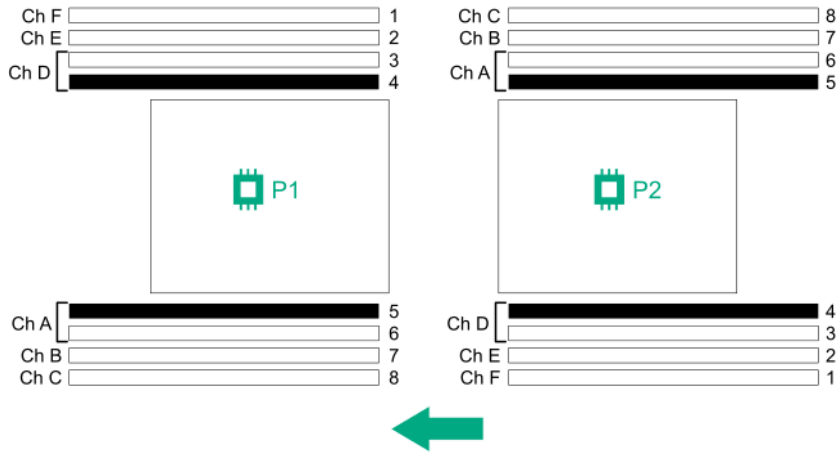
Additional Options

HPE Solutions Software	Hortonworks Data Platform (HDP) Enterprise Subscription 4 N/50TB Raw Strg 1yr 24x7 Supp E-LTU	F5Z52AAE
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 24x7 Support Physical LTU	G7M27A
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 24x7 Support E-LTU	G7M27AAE
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 8x5 Support Physical LTU	G7M28A
	Cloudera Enterprise Basic Edition 1 Year Subscription per Node 8x5 Support E-LTU	G7M28AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Support Physical LTU	G7M29A
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Support E-LTU	G7M29AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 8x5 Support Physical LTU	G7M30A
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 8x5 Support E-LTU	G7M30AAE
	Cloudera Enterprise Data Hub Edition 1 Year Subscription per Node 24x7 Premium E-LTU	G7M31AAE
	Hortonworks Data Platform (HDP) Enterprise Plus Subscription 4 N/50TB Raw Strg 1yr 24x7 Supp LTU	JP408A
	Hortonworks Data Platform (HDP) Enterprise Plus Subscription 4 N/50TB Raw Strg 1yr 24x7 Supp E-LTU	JP408AAE

HPE Support Services	HPE 3 year Foundation Care 24x7 Apollo 4510 Service	U8MS0E
	HPE 3 year Proactive Care Next business day Apollo 4510 Service	U8MR4E
	HPE 3 year Foundation Care Next business day Apollo 4510 Service	U8MR1E

NOTE: For more information, customer/resellers can contact:

http://www.hpe.com/services/carepack

Memory

HPE Apollo 4510 Gen10 Systems

DIMM slot and configuration diagrams

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

Memory

- 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**.

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**

DDR4 memory options part number decoder

NOTE: Capacity references are rounded to the common Gigabyte (GB) Values:

- 4GB = 4096 MB
- 8GB = 8192 MB
- 16GB = 16384 MB
- 32GB = 32768 MB

For more information on memory, please see the Memory QuickSpecs: **HPE DDR4 SmartMemory**

Technical Specifications

System Unit	Chassis Dimensions (H x W x D) (not including the fan, which sticks out past the chassis)		6.92 x 17.64 x 35.60in (17.58 x 44.80 x 90.43cm) **NOTE:** Rack chosen is required to have 1075mm depth to provide space at the rear of the chassis and host PDU in the rear of the rack.
	Weight (approximate)	Minimum (empty)	135 lbs (61kg)
		Maximum (full loaded)	225lb (102kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 to 127 VAC 200 to 240 VAC
		Rated Input Current	For 1600 W Power Supply: 8.7 A (at 200 VAC), 7.2 A (at 240 VAC) For 800 W Power Supply: 9.4 A (at 100 VAC), 4.5 A (at 240 VAC)
		Rated Input Frequency	50 Hz to 60 Hz
	Power Supply Output (per power supply)	Maximum Power	For 1600 W Power Supply: 2200 W (at 200 to 240 VAC) For 800W Power Supply: 800W (at 100-240VAC)
	Power Supply Output (per power supply)	Rated Steady-State Power	For 1600 W Power Supply: 1600 W (at 200 to 240 VAC) For 800W Power Supply: 800W (at 100-240VAC)
	System Inlet Temperature	Operating	50° to 95° F (10° to 35° C) at sea level with an altitude derating of 1.8°F per every 1000 ft (1.0°C per every 304.8 m) above sea level to a maximum of 10,000 ft (3048 m), no direct sustained sunlight. Maximum rate of change is 18°F/hr (10°C/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 86°F (30°C).
		Shipping	-40° to 158° F (-40° to 70° C) Maximum rate of change is 36°F/hr (20°C/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) 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	10,000 ft (3048 m). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
		Non-operating	30,000 ft (9144 m). Maximum allowable altitude change rate is 1500 ft/min (457 m/min).

Technical Specifications

	Emissions Classification (EMC) **– Regulatory Information**	To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center: **http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts**

Environment-friendly Products and Approach End-of-life Management and Recycling	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
01-Oct-2018	Version 4	Changed	Service and Support, Configuration Information, Core Options and Additional Options sections were updated. SKU descriptions were updated. Obsolete SKUs were removed.
04-Jun-2018	Version 3	Changed	Expansion Slots, Maximum Internal Storage, Configuration Information - Factory Integrated Models, Core Options, and Additional Options were updated.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
05-Feb-2018	Version 2	Changed	Processors, Configuration Information – Factory Integrated Models, Core Options and Additional Options were revised.
25-Sept-2017	Version 1	Created	Create QuickSpecs for HPE Apollo 4510 Gen10 System

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

Hewlett Packard Enterprise